Emergency Relief Items

Compendium of Basic Specifications

Volume 2

Medical Supplies and Equipment,
Selected Essential Drugs,
Guidelines for Drug Donations,
Guidelines for the Safe Disposal of
Unwanted Pharmaceuticals,
The New Emergency Health Kit

July 1999

REVISED VERSION

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FOREWORD

The common goal of emergency and disaster management is to protect lives and livelihoods in a sustainable way. It requires multisectorial cooperation and preparedness at the local, national and regional levels. It also requires readiness at the international level. Technical excellence is needed to achieve a seamless thread of action to prevent and prepare for emergencies, respond and reconstruct.

Every emergency, whatever the cause, has serious implications for health, which is one of the major concerns in emergency management. As the directing and coordination authority on international health work, WHO has developed guidelines and technical tools. It will continue its work to strengthen the capability of local, national and international communities for emergency management and make the best possible use of resources which are usually scarce. Resources include medical supplies, equipment and drugs.

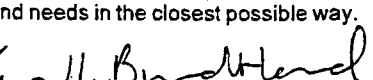
In 1998, some 700 major natural disasters were registered, with hundreds of millions of people affected (223 million of them in the China floods). During that year alone, the United Nations system and other humanitarian aid organizations distributed disaster relief items valued at nearly US$3 billion. Medical supplies are essential to prevent epidemics, support local health services and alleviate suffering during any emergency operation. Such items usually represent 15-20% of the total expenditure on emergency supplies. The standardization of health relief items helps to ensure the effectiveness and sustainablity of relief and rehabilitation measures and contributes to reduce costs.

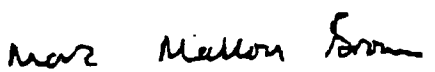
Serving as a lead agency, WHO has collaborated closely with UNDP/IAPSO, UNHCR, UNICEF, UNFPA, ICRC, IFRC and MSF to produce the first edition of the Compendium of Emergency Relief Items, volume 2, in 1996. It has assisted in selecting and helping to define the basic specifications for medical items required during the initial phase of an emergency. The present revision is the continuation of this joint effort, which has the following objectives:

- Identification of medical items and essential drugs required during the initial phase of emergencies
- Development of basic specifications of medical items to facilitate cost effective procurement
- Development of guidelines for donations of medical items

The volume on standardized health relief items is one component of the IAPSO compendium. The other volume of basic specifications relates to the remaining aspects of emergency management such as telecommunications, shelter, water, food, sanitation and logistics. The effort to produce the other catalogue has been led by UNDP/IAPSO, and WHO was more particularly involved in identifying and standardizing relief items related to water supply.

The international community has responded favourable to the first edition of the catalogue. Three thousand copies of the first edition were mailed. Most were sent to field offices, and around 200 to private companies. The feedback received showed that the manual is a useful instrument for planning and delivering medical relief in a rapid, concerted and cost-effective manner. Changes proposed by the users were incorporated in this new edition. We hope that the national emergency preparedness programmes will find that it reflects their own realities and needs in the closest possible way.





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PREFACE

1. The need for improved standardization of emergency relief items has been expressed at various meetings of the Inter-Agency Procurement Working Group (IAPWG *), as well as at the workshop attended by organizations operating stockpiles of disaster relief items, organized by UN/OCHA in Geneva from 4-5 March, 1993. A Sub-Working Group Meeting, to discuss updating of this catalogue was held in Geneva 7 October 1998. IAPSO, in close cooperation with various UN organizations as well as major international NGOs has coordinated the joint efforts towards this objective.

2. Various product groups were identified for which development of common specifications for individual emergency relief items would be particularly desirable. After consultations, the participating organizations agreed on lists of specific items required in each product group, notably for the first phase of an emergency, and finalized basic specifications for each item.

   The first phase of emergencies is accepted as being the first 72 hours after the onset but in the context of this catalogue is the period between the onset of the disaster and clear definition of needs after technical assessment.

3. This catalogue, which results from intensive collaborative inter-agency efforts led technically by WHO, is presented as Volume 2 covering a series of items for emergency relief and is intended to encourage the standardization of medical supplies and equipment.

4. To ensure incorporation of products most suitable for disaster relief, the product selection and technical specifications are based on experience gathered over the years by WHO, ICRC, IFRC, MSF, UNFPA, UNICEF, UNHCR and IAPSO. The inputs provided by other humanitarian aid organizations have also been incorporated.

5. The catalogue lists by product groups the complete basic specifications for all selected items, together with information on shipping weight/volume. The relevant UNCCS identification number (United Nations Common Coding System) has also been allotted to assist in the interchange of information and statistical reporting. The unique coding system used in this catalogue will eventually be adopted by all agencies. In addition it also includes the list of essential drugs required during the first phase of an emergency, along with guidelines for donations.

6. The catalogue is intended to facilitate the acquisition of suitable relief items from as many qualified suppliers as feasible, in a cost efficient manner. The catalogue aims at developing a common working platform through the creation of a neutral language between suppliers and buyers in UN and non-UN humanitarian aid organizations. In an emergency it is important to identify immediately the needs and to ensure quick delivery. The catalogue should serve as a guide and the specifications included represent minimum requirements and does not represent detailed specifications for the individual items, including all standards required for purchase of the products in questions.

7. The catalogue will provide guidance and assistance to:
   - Donor governments, as well as national governments and institutions in recipient countries concerned with the planning, budgeting and execution of emergency operations.
   - Procurement officials of the UN system and within NGOs and Donor Development Agencies involved in the acquisition of emergency relief items.

These meetings are organized by IAPSO to facilitate exchange of experience among various organizations of the UN system concerned with procurement.

8. The revised version of Guidelines for Drug Donations is included.

9. The New Emergency Health Kit 98, which has been endorsed by all organizations involved in the preparation of this compendium, is included in its entirety.

10. In addition, the NEHK 98 also lists a number of kits which have been developed under the responsibility of individual agencies. These kits cover immunization, reproductive health and nutrition and may be provided after assessment of needs.

11. Reproductive Health Kits for Emergencies (included in the NEHK) is also included as a new chapter (Chapter 16).

12. Guidelines for the Safe Disposal of Unwanted Pharmaceuticals in and after Emergencies has been included as a new Chapter (17).

13. A bracketed (a) has been included beside the UNCCS numbers to indicate which items have been updated. For new items "new" is stated beside the UNCCS number.

14. The Database of Emergency Relief Items (DIRE) which contains information on reliable suppliers of relief items identified by the participating organizations as a result of competitive bidding, was released in 1997, and should be available on the internet mid 1999. The selection of suppliers is based on conformity with specifications, lowest acceptable prices, past experience, stock levels and services provided.

According to the International Standard ISO 8402 (Quality management and quality assurance) **quality** is defined as *"the totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs"* As far as pharmaceutical preparations are concerned quality means a feature determined by its suitability for the intended use and compliance with all requirements of the marketing authorization. Quality assurance is defined as a wide ranging concept covering all matters that individually or collectively influence the quality of a product. With regard to pharmaceuticals and some other health care products, e.g. medical devices, quality assurance incorporates product design and development and Good Manufacturing Practices.

For many types of consumer goods e.g. ball-pens, clothes, computers etc., inadequate quality may cause consumer dissatisfaction. Serious quality defects of other types of products, e.g. cars, aircraft, chemicals, pharmaceutical preparations, medical devices etc., may be harmful or even lethal.

Drugs and many other health care products differ in other important aspects from the majority of consumer goods. Firstly the consumer is unable to protect himself from low quality products (the decision to use is typically taken not by the user, but by another person; the user is unable to estimate the quality of the goods offered for sale). Secondly the manufacturer/supplier cannot offer widely used after sales services to guarantee high quality goods, such as replacement or repair at their expense.

Therefore customers need to be protected from low quality health care products by special measures that are over and above normal industrial and commercial practices to control and to assure quality of consumer goods. The responsibility for these special measures stays with the manufacturer, with the distributor and the state. The most important of these measures are:

Pharmacopoeias: These establish official quality specifications for most commonly used pharmaceutical substances, excipients, dosage forms and packaging materials. Most important for international commerce are United States Pharmacopoeia/National Formulary, British and European Pharmacopoeias, which contain requirements for identity, purity, strength, as well as for certain physical and pharmaceutical characteristics together with relevant testing methods. WHO publishes the International Pharmacopoeia, which is offered to countries having no resources to maintain a national pharmacopoeia programme or wishing to use independent reference material for the development of their national drug standards.

GMP (Good Manufacturing Practices): GMP is that part of quality assurance which ensures that products are consistently produced and controlled to the quality standards appropriate with their intended use and as required by the marketing authorization. GMP establish official requirements in respect of premises, equipment, personnel, documentation, quality control etc. for drug manufacturers and recently for manufacturers of medical devices.

GDP (Good Distribution Practices): GDP is that part of quality assurance which ensures that the quality levels are maintained throughout the distribution network so that authorized medical products are distributed without any alterations of their properties.

Licensing of manufacturers, wholesalers, importers and retail outlets, allows control of national drug markets by the following:

Product licences (marketing authorizations). Product licences are official documents issued by a competent drug regulatory authority, within a country, for the purpose of marketing or free distribution of a product. It establishes, inter alia, the name of the product, the

pharmaceutical dosage form, the quantitative formula, specifications of its ingredients, its packaging, storage characteristics and shelf life.

Official inspections and independent quality control laboratories: These serve as enforcement arms of licensing authorities and verify compliance of pharmaceutical and biological products and manufacturing processes with all licensing provisions and official standards, such as pharmacopoeia specifications, GMP requirements etc.

WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce: This provides the importing country with authoritative, reliable and independent information on the product and its manufacturer, issued by the drug regulatory authority in the exporting country in the form of a product certificate (not a batch certificate). This information covers in particular, the licence status of the product in the exporting country and compliance of the manufacturer with the WHO/GMP rules.

For certain categories of health care products, pharmaceutical specifications, product licences, GMP rules and other above mentioned requirements and schemes are not applicable. In these cases usual industrial and commercial mechanism to ensure high quality have to be applied, in particular the following:

ISO standards issued by the International Organization of Standardization (ISO), in particular standards for Quality Management and Quality Systems (ISO 9000-9004 and related standards, such as ISO 8402 quoted above or ISO 1013), that describe modern quality assurance philosophy and recommended approaches to ensure the quality of products (or services) and clients satisfaction. ISO standards 9000-9004 series cover quality policy, manufacturing processes, design and development, construction, installation and services.

ISO standards exist for certain items of medical equipment.

It should be noted that ISO being a non-governmental organization, ISO standards do not have a status of official standards (unless they are adopted by a competent national authority).

European Norms such as EN 29000 which is identical with ISO 9000, or EN 45001, which expands the ISO 9001 standard and is seen to be particularly applicable to testing and certifications facilities.

CEN (The European Committee for Standardization):
CE symbol (CEN's seal of approval): Designates that products are manufactured in accordance with ISO 9001 and EN46001. (N.B. as and from from June 1998 in Europe all sterile medical devices and surgical products must bear the CE symbol).)

Quality certificates or Export certificates issued under various national and regional standards such as ISO 9000 or EN 29000.

Organizations

ICRC	International Committee of the Red Cross
IFRC	International Federation of the Red Cross and Red Crescent Societies
MSF	Médecins Sans Frontières
UN/OCHA	United Nations Office for the coordination of Humanitarian Affairs.
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Childrens Fund
WHO	World Health Organization
IAPSO	Inter-Agency Procurement Services Office

Standards / committees

CEN	European Committee for Standardization
IATA	International Air Transport Association
ISO	International Organization for Standardization

Measures

°C	degree Centigrade
°F	degree Fahrenheit
g	gram
kg	kilogram
mg	milligrams
l	litre
ml	millilitre
m	meter
cm	centimeter
dm	decimeter
mm	millimeter
m^2	square meter
m^3	cubic meter
dm^3	cubic decimeter
"	inches
s	second
dB	decibel
W	watt
V	volt
Hz	hertz
kPa	kilopascal
mbar	millibar
mm Hg	conventional millimeter of mercury
lbf/in^2	pound-force per square inch
HRC	hardness rockwell (scale C)

Multiples of SI units

k	kilo (10^3)
m	milli (10^{-3})
µ	micro (10^{-6})

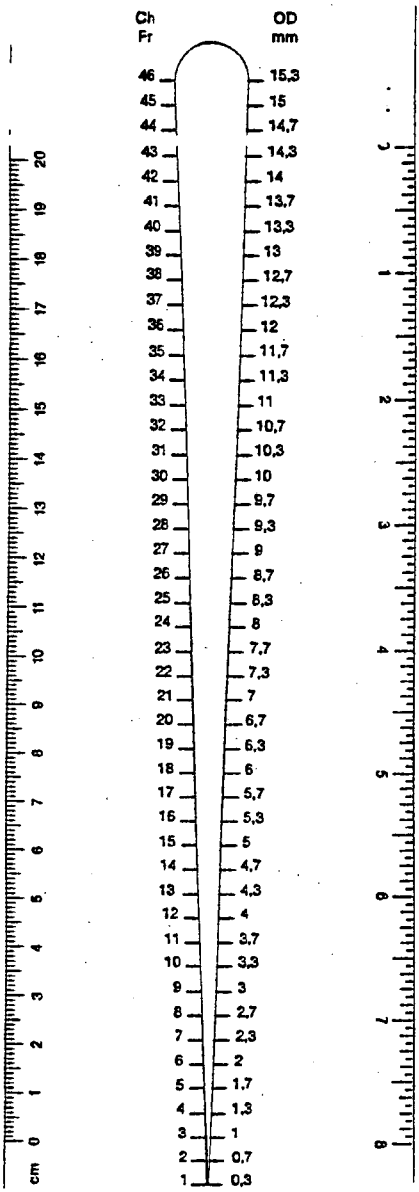
Other abbreviations

Ø	diameter
DEHP	di-ethylhexyl phthalate
EVA	ethylene vinyl acetate
HDPE	high density polyethylene
PVC	polyvinyl chloride

CONTENTS

Chapter 1 Catheters, Tubes and Drains

CONVERSION TABLE - CATHETERS, TUBES AND DRAINS



Ch Fr	OD mm	ID mm	ID mm	min. lengths mm
46	15,3	11		360
44	14,7	10,5		360
42	14	10		360
40	13,3	9,5	10	350
38	12,7	9	9,5	340
36	12	8,5	9	330
34	11,3	8	8,5	320
32	10,7	7,5	8	310
30	10	7	7,5	300
28	9,3	6,5	7	290
26	8,7	6	6,5	280
24	8	5,5	6	270
22	7,3	5	5,5	240
20	6,7	4,5	5	220
18	6	4	4,5	200
16	5,3	3,5	4	180
14	4,7	3	3,5	160
12	4	2,5		140
10	3,3	2		140
8	2,7	1,5		140

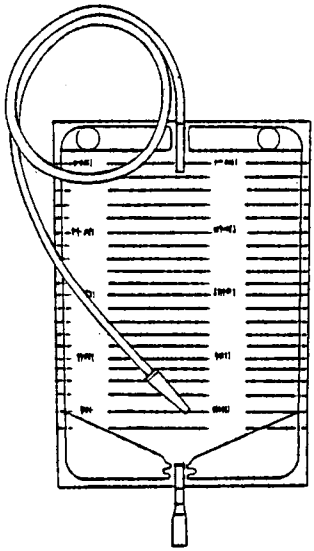
Only for Super Safety Clear and Safety Clear tracheal tubes

OD: Outer diameter
ID: Inner diameter

Ch, CH = Charriere
French gauge

BAG, URINE WITH DRAIN AND VALVE

Shipping weight:	**4 kg / 100 units**
Shipping volume:	**14 dm³/ 100 units**
UNCCS Code:	**481979 (a)**



Use:

- For collecting urine from the patient
- To fit a urine catheter

Components:

- Container: plastic, flexible, graduated, with holes for suspending the bag
- Inlet tube: 90 cm approx. with universal crenellated connector to fit a catheter, with a protective cap
- Outlet tube: with drain tap protected by a cap

Material:

- Polyvinyl chloride (PVC) or polypropylene or ethylene vinyl acetate (EVA) for the collectors
- Medical grade Polyvinyl chloride (PVC) for the tubes

Specifications:

- Bag graduated in 100 ml, capacity 2 litres
- Emptying tap & sealing cap to maintain sterility inside the reservoir
- Non - return valve & sealing cap to prevent leakage
- Unit presentation: non-sterile, disposable

Packaging:

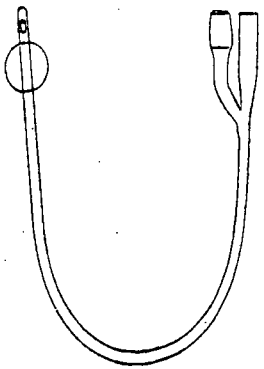
- Packaging unit: carton
- Each carton to be clearly marked with the name and characteristics of the article and number of units per carton.

Other requirements:

- Should conform to ISO standard

CATHETER, URINE FOLEY DISPOSABLE

Shipping weight:	**2 kg / 100 units**
Shipping volume:	**20 dm^3/ 100 units**
UNCCS Code:	**366782**



Use:

* Tubular device designed to be introduced into the bladder cavity, via the urethra, in order to drain off urine, instill a liquid or irrigate the bladder.

Components:

* The catheter consists of a hollow, cylindrical tube with:
  - 1 central channel for urinary drainage
  - 1 side channel for inflating the balloon, ending in a non-return valve with Luer connection
  - 1 cylindrical distal end with side holes
  - 1 balloon which can be blown up
  - 1 proximal end in the form of a truncated hollow cone for connecting other devices (spigot, syringe, irrigating device, or device for collecting urine)

Material:

* Silicone coated, natural latex

Specifications:

* Catheter, Foley, balloon, rounded end, 2 side holes opposite each other
* Length: 30 to 40 cm
* Range of diameters from CH08 (children), CH10 to CH18
* Expanding capacity of balloon from 3 to 15 ml
* Initial sterilization: ethylene oxide
* Unit presentation: sterile, disposable

Packaging:

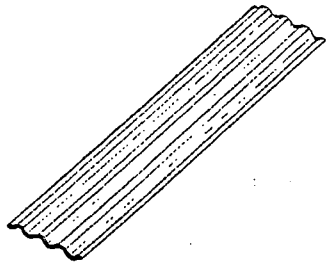
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: cartons
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:

* Should conform to ISO standard

DRAIN, CORRUGATED SHEET, 3 x 25 cm

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**16 dm³ / 100 units**
UNCCS Code:	**366787a**



Use: To allow drainage of blood, serum, pus or urine

Components: Corrugated sheet

Material: Natural rubber/latex/non-toxic PVC

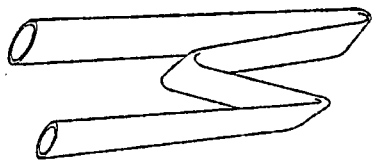
Specifications:
- Corrugated sheet 3 x 25 cm
- Unit presentation: sterile, can be resterilized

Packaging:
- Individual sterilized peel-packs made of paper and/or plastic
- Protective packaging: carton
- Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:
- Should conform to ISO standards

DRAIN, TUBULAR, PENROSE, 1 x 22.5 cm DISPOSABLE

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**16 dm³ / 100 units**
UNCCS Code:	**366788**



Use:
- To allow drainage of blood, serum, pus or urine

Components:
- Flexible tube

Material:
- Silicone/latex rubber

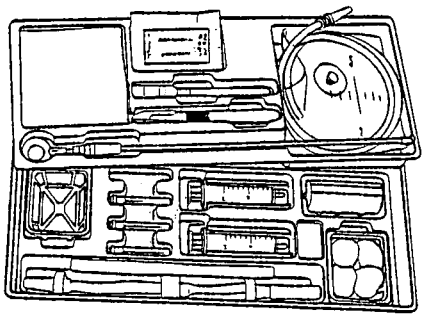
Specifications:
- Tubular drain
- Size; 1 x 22.5 cm
- Unit presentation: sterile, can be resterilized
- Disposable

Packaging:
- Individual sterilized peel-packs made of paper and/or plastic
- Protective packaging: carton
- Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:
- Should conform to ISO standard

DRAINAGE, THORACIC, COMPLETE SET, STERILE, DISPOSABLE, CH 14 or CH 24

Shipping weight:	**50 kg / 100 units**
Shipping volume:	**440 dm³/ 100 units**
UNCCS Code:	**481689**



Use:

* Set for evacuating a liquid or gas from the pleural cavity, together with the items necessary for attaching the drain and carrying out aspiration in a sterile manner,

Components:

* 1 trocar drain, polyvinyl chloride (PVC), stainless steel, radio opaque
* 1 fenestrated drape, nonwoven celluloid
* 2 small cups, plastic
* 4 tampons, nonwoven
* 8 compresses, nonwoven
* 2 dressing forceps, plastic
* 2 syringes, plastic
* 1 needle for aspirating the anaesthetic
* 1 needle for the attachment disk
* 1 needle for local anaesthesia
* 1 needle for exploratory puncture
* 2 sutures, surgical, non - absorbable, for fastening the drain on the skin
* 1 scalpel, stainless steel blade, with plastic handle, for surgical incision
* 1 valve, double-acting
* 1 graduated bag for gathering the aspirated liquid, PVC, bag type urine bag
* 1 roll of adhesive tape
* 1 pair of surgical gloves in latex

Specifications:

* 1 trocar drain, for CH14 or CH24
* 1 fenestrated drape, 60 x 50 cm, sterile, disposable
* 2 small cups, rectangular, sterile, disposable
* 4 tampons, sterile, disposable
* 8 compresses, 10 x 10 cm, sterile, disposable
* 2 dressing forceps, sterile, disposable
* 2 syringes, 10 ml, sterile, disposable
* 1 needle, 38 mm - 12/10 (18G), sterile, disposable
* 1 needle, 15 mm - 5/10 (25G), sterile, disposable

DRAINAGE, THORACIC, COMPLETE SET, STERILE, DISPOSABLE, CH 14 or CH 24, Contd..

* 1 needle, 38 mm - 8/10 (21G), sterile, disposable
* 1 needle each for drains CH14 or CH24
* 2 sutures, surgical, non-resorbable skin thread, with needle, sterile, disposable
* 1 scalpel, n°4, sterile, disposable
* 1 valve, double-acting
* 1 graduated bag, type urine bag, sterile, disposable
* 1 roll of adhesive tape, width 75 mm
* 1 pair of surgical gloves, sterile, disposable
* Unit pack presentation: sterile

Packaging:

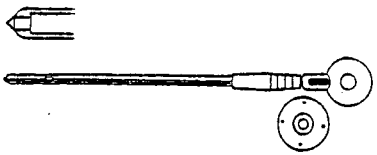
* Individual sterilization protection: presentation in the form of a mini kit, with a compartment for each object. The two moulded trays are close together and are wrapped in nonwoven material.
* Protective packaging: carton
* Each carton to be clearly marked with the expiry date and batch number

Other Requirements:

* It is best to use a trocar drain with double acting valve and a system for aspirating into a jar
* Recommended sizes:
  - Drain, thoracic, complete set CH14, for children
  - Drain, thoracic, complete set CH24, for adults
* Should conform to ISO standard

DRAIN, THORACIC, + TROCAR, STERILE, DISPOSABLE, CH 14, 16, 20, 24, & 28

Shipping weight: 6 kg / 100 units
Shipping volume: 56 dm³ / 100 units
UNCCS Code: 481689



Use:

* For evacuation of liquid or gas from the pleural cavity

Components:

* Trocar
* Drain, semi-flexible, with blunt end
* Attachment disk in plastic

Material:

* Trocar: stainless steel
* Drain: polyvinyl chloride

Specifications:

* CH 14: paediatric model
* CH 16: paediatric model
* CH 20: paediatric model
* CH 24: adult model
* CH 28: adult model

* Drain: Length: 25 - 40 cm according to the diameter - CH 14, 16, 20, 24, and 28 , 2 side holes, with markings at 5, 10 and 15 cm from the end, radio-opaque
* Unit presentation: sterile, disposable

Packaging:

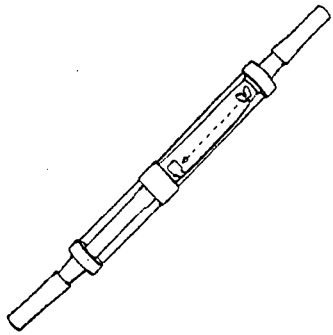
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:

* Recommended sizes:
  CH 14 - Child
  CH 24 - Adult
* Should conform to ISO standard

HEIMLICH CHEST DRAIN VALVE

Shipping weight:	**6 kg / 100 units**
Shipping volume:	**56 dm³ / 100 units**
UNCCS Code:	**369987**



Use:
- For pleural cavity drainage. It is not recommended for draining the chest after pneumonectomy
- Valve used to correct lung collapse

Components:
- One-way valve with:
  - 1 proximal end to which a thoracic drain can be connected
  - 1 double central chamber, permitting aspiration and maintaining the flow from the lung toward the collecting receptacle
  - 1 distal end to which the collecting receptacle (jar or bag) can be connected

Material:
- PVC and latex

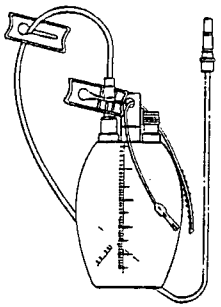
Specifications:
- Proximal and distal end: internal dia. 8 mm.
- Marking on the central chamber, showing the direction of fixing on the drain (lung => receptacle)
- Unit presentation: sterile, disposable

Packaging:
- Individual sterilized peel-packs made of paper and/or plastic
- Protective packaging: carton
- Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:
- Should conform to ISO standard

VACUUM DRAINAGE SYSTEM, COMPLETE SET

Shipping weight:	**40 kg / 100 units**
Shipping volume:	**112 dm³/ 100units**
UNCCS Code:	**481689**



Use:

* To evacuate sera and discharges, septic or otherwise. The drainage tube attached to the needle is passed from within the cavity to be drained to the outside through the tissues and the skin (much like a needle and thread. The needle is then disconnected from the drainage tube which is joined to the connecting tube using the latex connector. It is classed as a simple active drain (i.e. mechanism for aspirating by applying under pressure). This drain system comprises three components connected together in the following order:
  - drain
  - connecting tube
  - source of vacuum

Components:

* Needle, for CH 12 drain, curved
* Needle, for CH 16 drain, curved
* Needle, for CH 10-18 drain, straight
* Drain, CH 12, sterile, disposable
* Drain, CH 16, sterile, disposable
* Tube/drain connection, for CH 12 drain
* Tube/drain connection, for CH 16 drain
* Junction tube, universal, sterile, disposable
* Bottle 500 ml, glass + complete manometric cap
  - Plug, manometric for 500 ml bottle
  - Ring for 500 ml bottle
  - Spigot for manometric plug
  - Tube-clamp for manometric plug
  - Bottle, glass, graduated, 500 ml and threaded for cap

Material:

* Needle:	stainless steel
* Drain:	polyvinyl chloride (PVC)
* Connection:	latex
* Connecting tube:	polyvinyl chloride (PVC)
* Vacuum source:	generally in glass, sometimes in rigid polyvinyl chloride (PVC) or in polycarbonate
* Metric plug:	rubber or silicone.

Specifications:

* Needle:

straight	CH 12	L 15 cm.
straight	CH 16	L 15 cm.
straight	CH 12	L 19 cm.
straight	CH 16	L 19 cm.

  - Unit presentation, sterile/non-sterile (to be sterilized before use)
* Drain: external diameter specified by its charrière number (CH 12 - CH 16). Length 50 cm
  - Unit presentation: sterile, disposable
* Connection: charrière must be identical to drain CH 12 - CH 16
  - Unit presentation: non-sterile, autoclavable
* Junction tube: universal tube CH16, length 100 cm
  - Unit presentation, sterile, disposable
* Source of vacuum: bottle + complete manometric plug
  - Threaded glass bottle. Capacity 500 ml, 100 ml graduation, accurate to 50 ml
  - Complete manometric plug, i.e. manometric plug + ring for bottle + spigot for plug + tube-clamp
  - Unit presentation: non-sterile, autoclavable

Packaging:

* Needles (curved and straight):	bulk presentation in plastic sachet
* Drain:	individual sterilization protection peel-off sachet
* Connection:	wrapped in plastic sachet
* Connecting tube:	individual sterilization protection peel-off sachet
* Source of vacuum:	glass bottles (unit presentation) in blister pack and outer wrapping. Other items in bulk in plastic sachet. Overall extra wrapping or packaging unit: carton
* Labelling:	sterile items are labelled on the unit of use and on the protected unit
* Protective packaging:	carton

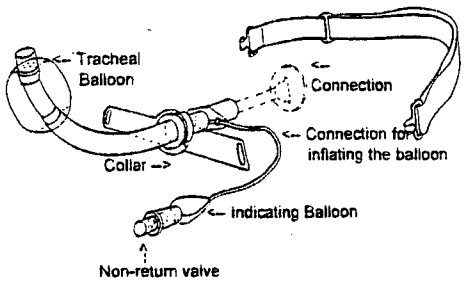
* Each carton to be clearly marked with the expirty date and batch number

Other requirements:

* Should conform to ISO standard

TUBE, TRACHEOTOMY, PAEDIATRIC CH 26, ADULT CH 36, STERILE, DISPOSABLE

Shipping weight:	**4 kg /100 units**
Shipping volume:	**59 dm³ /100 units**
UNCCS Code:	**369974**



Use:

* For insertion into the trachea via an incision in the neck, in order to maintain a clear airway

Components:

* Tracheal tube: specified in terms of its internal diameter
  - curved at about 90°
  - distal end has a slanted opening
* Tracheal balloon: located near the distal end:
  - ensures sealing with regard to flow of gases in the trachea
  - balloon is at low pressure, in order not to exert too great a pressure on the mucous membrane of the trachea, which would bring a risk of ischemia
  - connected to an inflating system which includes an indicator balloon and which terminates in a device for maintaining a certain pressure in the circuit (plug, shut-off valve, non-return valve, Luer tip)
* Proximal end of tracheal tube is fitted with standard connection (external dia. 15 mm)
* Attachment system: adjustable collar

Material:

* Tracheotomy tube: polyurethane or polyvinyl chloride (PVC)
* Attachment system: adjustable elastic band.

Specifications:

The tracheotomy tubes are standard in all respects: dimensions, tracheal tube, point, balloon and marking.
The tubes are fitted with a standard connection and attachment system.

* CH26: int. dia. 6 mm, low pressure balloon, sterile, disposable
* CH36: int. dia. 9 mm, low pressure balloon, sterile, disposable
* Unit presentation: sterile, disposable

Packaging:

* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and peel-pack to be clearly marked with expiry date and batch number

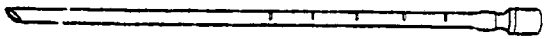
Other requirements: Should conform to ISO 5361

TUBE, ENDOTRACHEAL, DISP. + CONN. CH14 & CH18 WITHOUT BALLOON, CH22 - CH34 WITH BALLOON

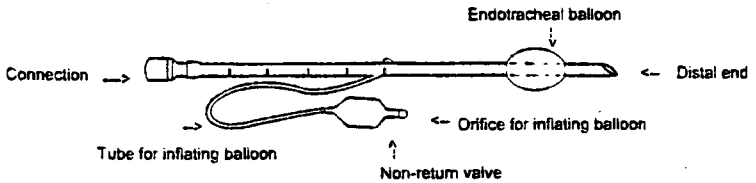
Shipping weight:	**1 kg / 100 units**
Shipping volume:	**4 dm³ / 100 units**
UNCCS Code:	**369974**

Use:

* For insertion into the trachea via the mouth or nose to control respiratory function during general anaesthesia or resuscitation



CH14/18 without balloon



CH22 => CH34with balloon

Components:

* Tracheal tube: specified in terms of its length, diameter, curvature and distal end
  - Open distal end, with Magill-type slanted opening, with oro-nasal angle of 37.5°
* Tracheal balloon: optional element, situated near the distal end:
  - ensures sealing with regard to exchange of gases in the trachea
  - balloon is at low pressure, in order not to exert too great a pressure on the mucous membrane of the trachea, which would bring a risk of ischemia
  - connected to an inflating system which includes an indicator balloon and which terminates in a device for maintaining a certain pressure in the circuit (plug, shut-off valve, non-return valve, Luer tip)
* Proximal end of tracheal tube is fitted with standard connection (ext.dia. 15 mm) enabling the tube to be connected to the ventilation device

Material:

* Transparent polyvinyl chloride (PVC)

Specifications:

The endotracheal tubes are standard in all respects: dimensions, tracheal tube, point, balloon and markings

- Tubes are fitted with a standard connection
- CH14 & CH18: int. dia. 3 mm, 4 mm, oral/nasal, point with 37.5° angle, radio-opaque mark, graduated + connection without balloon
- CH22 to CH34: int. dia 5 mm, 5.5 mm, 6 mm, 6.5 mm, 7 mm 7.5 mm and 8mm oral/nasal, point with 37.5° angle, radio-opaque mark, graduated & connection, low pressure balloon
- Unit presentation: sterile, disposable

Packaging:

- Individual sterilized peel-packs made of paper and/or plastic
- Protective packaging: carton
- Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:

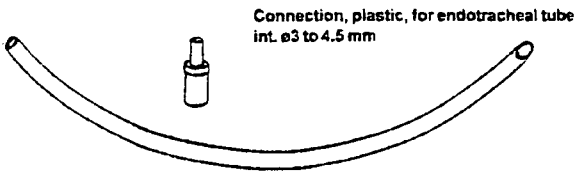
- Recommended sizes:
  - CH 14 and 18 - for children
  - CH 22 - 34 - for adults
- Should conform to ISO 5361

TUBE, ENDOTRACHEAL, REUSABLE, CH14, 16, 20, 22, 26, 28, 30, 32 and 34

Shipping weight:	**2kg / 100 units**
Shipping volume:	**4 dm³ / 100 units**
UNCCS Code:	**366781 (a)**

Use:

- For insertion into the trachea via the mouth or nose to control respiratory function during general anaesthesia or resuscitation



without balloon

Components:

- Tracheal tube: specified in terms of its length, diameter, curvature and distal end. Open distal end, with Magill-type slanted opening, with oral angle of 30°
- Tracheal balloon: optional element, situated near the distal end:
  - ensures sealing with regard to exchange of gases in the trachea
  - conventional design
  - connected to an inflating system which includes an indicator balloon and which terminates in a device for maintaining a certain pressure in the circuit (plug with Luer tip)
- Proximal end of tracheal tube not fitted with standard connection (ext. dia. 15 mm), enabling the tube to be connected to the ventilation device.
- Corresponding connection for the tube should also be ordered

Material:

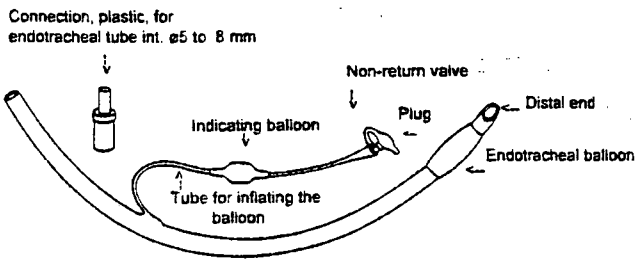
- Tracheal tube: soft rubber, red, coated with soft latex.
- Balloon and indicating balloon: soft latex.

Specifications:

- Endotracheal tubes are standard in all respects: dimension, tracheal tube, point, balloon and marking
  Note: standard connection not fitted
- CH14, 16, 18 and 20 int. dia. 3 mm, 3.5 mm, 4 mm or 4.5 mm, oral, point with 30° angle, graduated, without connection, without balloon.
- CH22 to CH34 : int. dia 5 mm, 5.5 mm, 6 mm, 6.5 mm, 7 mm, 7.5 mm or 8 mm, oral, point with 30° angle, graduated, without connection, with balloon.
- Unit presentation, non-sterile, autoclavable.

Packaging:

* Protective packaging: cartons
* Each carton to be clearly marked with the name and characteristics of the article and number of units per carton.

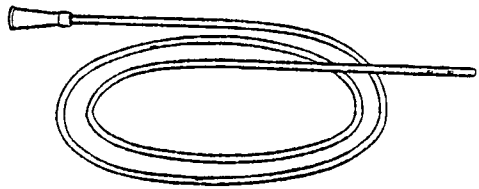


Other requirements:

* Should conform to ISO standard

TUBE, GASTRIC, CONICAL TIP, DISPOSABLE, CH6, 8, 10, 12, 16, 18 & 20

Shipping weight:	**3 kg / 100 units**
Shipping volume:	**47 dm³ / 100 units**
UNCCS Code:	**369974**



Use:

- For aspiration of liquids and/or gases from the stomach, duodenum and small intestines
- For feeding adults and older children

Components:

- Tube with single channel
- Proximal end has a connector for connecting to the aspiration system

Material:

- Polyvinyl chloride (PVC).

Specifications:

- Tube has markings at 40, 50, 60 and 70 cm from the distal end corresponding to the following regions: cardia, stomach, duodenum, jejunum
- Conical tip
- Markings should be radio-opaque
- CH6 to CH20, length: 125 cm, 4 side eyes
- Unit presentation, sterile, disposable

Packaging:

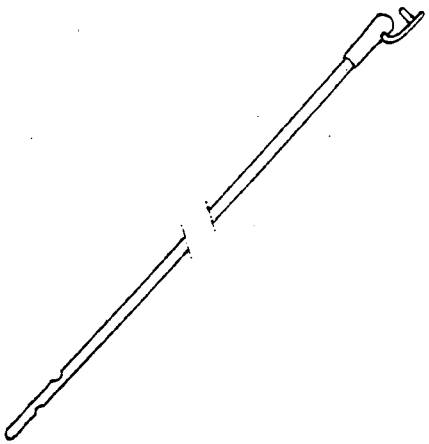
- Individual sterilization protection: peel-off sachet or blister
- Protective packaging: carton
- Each carton and peel-off sachet to be clearly marked with expiry date and batch number

Other Requirements:

- Can be used with a syringe with conical nozzle or suction machine (syringe, disposable, conical, 60 ml, tube feeding) for manual suction, tube feeding or for gastric aspiration during surgery:
  - Pump, suction, foot operated, mucus (anaesthesia)
  - Vacuum extractor, foot operated, surgical, large capacity
- A biconical connector should also be ordered to connect the suction tubes: suction tube, plastic, transparent, dia 8 mm, 5 m, autoclavable
- Recommended sizes:
  CH 6 for children (dia 2 mm)
  CH 8 to 20 for adults
- Should conform to ISO standard

TUBE, GASTRIC, LUER CONNECTOR DISPOSABLE, CH6, 8 & 10

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**15 dm³ / 100 units**
UNCCS Code:	**369974**



Use:
* For gastroenteral feeding using Luer tip syringes

Components:
* Tube with single channel

Material:
* Polyvinyl chloride (PVC)

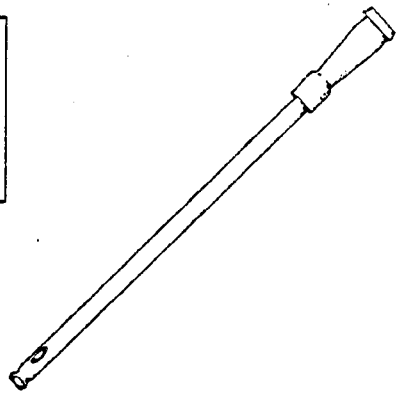
Specifications:
* With graduations over the first 20 cm, generally radio-opaque
* CH6, 8 & 10, rounded end, 2 side holes, graduated 20 cm
* Radio-opaque mark, Luer tip with stopper
* Length: 40 cm

Packaging:
* Individual sterilization protection: peel-off sachet or blister
* Protective packaging: carton
* Each carton to be clearly marked with the expiry date and batch number

Other requirements:
* Recommended for infants and children
* Should conform to ISO standard

TUBE, AIRWAY SUCTION, CONICAL TIP DISPOSABLE, CH8, 10, 12, 14 & 16

Shipping weight:	**2 kg / 100 units**
Shipping volume:	**17 dm^3 / 100 units**
UNCCS Code:	**369974**



Use:
* For aspiration of pus, blood, secretions, food or other substance obstructing the pharynx or airways

Components:
* Single channel translucent tube fitted with conical connection

Material:
* Polyvinyl chloride (PVC)

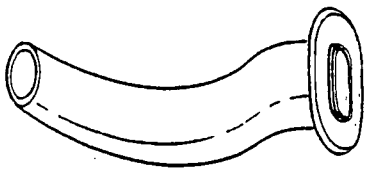
Specifications:
* Distal end, open, straight (may be slanting or conical), with side eyes
* Proximal end fitted with a conical connector, enabling the tube to be connected to a source of vacuum (syringe with conical end, suction device etc.)
* CH8 to CH16, straight end, 2 lateral windows, conical end
* Length: 50 cm
* Unit presentation, sterile, disposable

Packaging:
* Individual sterilization protection: peel-off sachet or blister
* Protective packaging: carton
* Each carton and peel-off sachet or blister to be clearly marked with expiry date andbatch number

Other requirements:
* Recommended sizes:
  - CH8 for children
  - CH10, 12, 14 & 16 for adults
* Should conform to ISO standard

TUBE, OROPHARYNGEAL AIRWAY

Shipping weight:	**1-2 kg /100 units**
Shipping volume:	**4 - 11.dm³ /100 units**
UNCCS Code:	**369974 (a)**



Use:

* For maintenance of a clear oral airway by preventing blockage by the tongue

Components:

* The oropharyngeal airway has a curved, flattened part with an oval aperture

Material:

* Polyethylene/ethylene vinyl acetate (EVA)
* Polyvinyl chloride (PVC)

Specifications:

* Semi-rigid, transparent, colourless, autoclavable
* The distal end (i.e. the pharyngeal extremity) is curved
* The proximal end (i.e. the buccal extremity) is straight and reinforced
* The flange of the airway must be marked with a number correspond ing to its size
* Single unit presentation, not sterile
* Soft, rounded edge

Packaging:

* Protective packaging: carton
* Each carton to be clearly marked with the name and characteristics of the article and number of units per carton.

Other requirements:

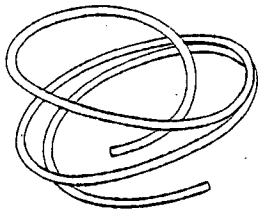
* The choice of an oral-pharyngeal cannula must take into account the size and anatomical configuration of the oropharynx, as these can vary greatly from one patient to another:

Neo-natal	38 - 48	mm
Pediatric	53 - 55	mm
Child	62 - 69	mm
Adolescent	67 - 86	mm
Adult	82 - 96	mm
Large adult	99 - 120	mm

* The complete set comprises one of each size
* Should conform to ISO standard

TUBE, ASPIRATING, AUTOCLAVABLE

Shipping weight:	**2 kg / 100 units**
Shipping volume:	**17 dm³ / 100 units**
UNCCS Code:	**369978**



Use:

* For aspiration, drainage, as part of an anaesthetic system etc. (using the biconical connector to obtain different assemblies)

Material:

* Plastic

Specifications:

* Length: 5 m minimum (also available in rolls of 30 m)
* Diameter: 8 mm
* Translucent
* Autoclavable

Packaging:

* Individual sterilization protection: peel-off sachet or blister
* Protective packaging: carton
* Each carton and peel-off sachet or blister to be clearly marked with expiry date and batch number

Other requirements:

* Also available; tube (8 mm) with enlarged diameters at intervals of 1.5 m
* Should conform to ISO standard

CONNECTOR

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**0.8 dm³/ 100 units**
UNCCS Code:	**369979 (a)**

Use:
* To connect catheters and tubes of different diameters

Components:
* Biconical connector, straight, transparent or opaque

Material:
* Polycarbonate

Specifications:
* Rigid tube, 5 cm long, with external diameter increasing from each end toward the center, used to connect catheters and tubes of different diameters
* Connector, bioconical, straight CH22.
* External ø (d1) 7mm, (d2) 11 mm
* Unit presentation, non-sterile. Autoclavable

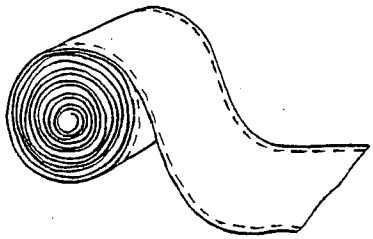
Packaging:
* Packed in plastic bag
* Protective packaging: cartons
* Each carton to be clearly marked with the name and characteristics of the article and number of units per carton.

Other requirements:
* Should conform to ISO standard

Chapter 2 Dressings

BANDAGE, ADHESIVE, ELASTIC

Shipping weight: 11 kg / 100 units
Shipping volume: 36 dm³ /100 units
UNCCS Code: 481934 (a)



Use:

* Constraining bandage used to support sprained or dislocated joints, either limiting certain arcs of movement without complete immobilization, or keeping limbs in traction

Material:

* Elastic bandage with woven selvedges, impregnated with adhesive and protective strip
* Bandage: Cotton textile
* Adhesive: Hypoallergenic containing zinc oxide without rubber or natural resins
* Strip: Protective, of crinkled polyethylene or paper

Specifications:

* Length: 2.5 m - unstretched
  4 m - fully stretched
* Width: 7.5 cm - unstretched:
  10 cm - fully stretched:
* Shape: In roll form

Packaging:

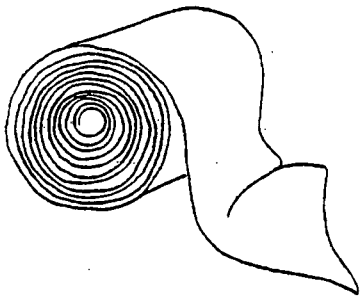
* Individually presented in suitable protective wrapping
* The following should appear on the individual packages:
  - length
  - width
  - material

Other requirements:

* Meets Pharmacopoeia specifications

BANDAGE, ELASTIC, (CREPE)

Shipping weight:	**4 kg /100 units**
Shipping Volume:	**26 dm³/ 100 units**
UNCCS Code:	**481934**



Use:

* Dressing material used to exert pressure
* Suitable for first aid

Material:

* Crepe bandage produced by combining high-twist cotton threads with normal-twist cotton threads in warp
* 100% cotton

Specifications:

* Thread Count:	Warp:	120 threads/dm, unbleached cotton, high-twist
	Weft:	54 threads/dm ± 2 threads unbleached cotton
* Nominal Length:	approx.	2.5 m - unstretched 4 m - streteched (elasticity must be 150% minimum)
* Nominal Width:	10 cm	
* Weight:	40 g per strip of 10 cm x 4 m	
* Elasticity:	Maintained after washing, stretching and autoclaving	
* Features	Non-adhesive, unbleached colour and non-detectable by X-ray, non-sterile	

Packaging:

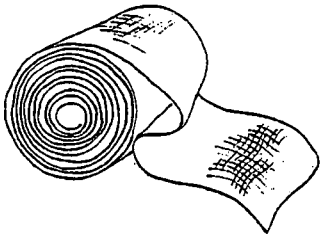
* Protective wrapping and bulk carton with the following information on the label:
  - unstretched length
  - width
  - material
  - type of strip

Other requirements:

* Meets Pharmacopoeia specifications

GAUZE, BANDAGE, WITH SELVEDGE

Shipping weight: 2.9 kg /100 units
Shipping Volume: 11.2 dm³/100 units
UNCCS Code: 481932



Use:

* Holds a compress in place
* Covers and isolates a wound
* Selvedge protects against fraying
* Suitable for first aid

Material:

* Bleached purified textile, plain weave
* Gauze, absorbent: 100% cotton.

Specifications:

* Thread Count: warp: 12 threads/cm
  weft: 8 threads/cm
* Nominal Length: 4-5 m
* Nominal Width: 5-10 cm
* Weight: Approx. 27.5 g/m²
* Features: Non-elastic, non-adhesive and non-detectable by X-ray, non-sterile

Packaging:

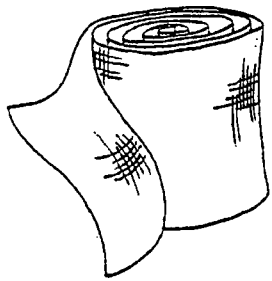
* In rolls, individually presented in suitable protective wrapping, with the following information on the labels:
  - length
  - width
  - material
  - type of bandage

Other requirements:

* Meets Pharmacopoeia specifications

BANDAGE, PLASTER OF PARIS

Shipping weight:	**23 kg /100 units**
Shipping Volume:	**40 dm³ /100 units**
UNCCS Code:	**481936**



Use:

* For partial or complete immobilization or to support a part of the body.

Material:

* Textile base impregnated with plaster

* Textile base: made of gauze containing calcium sulphate
* Plaster: made to stick on the base by viscosity-inducing agents such as carboxymethylcellulose

Specifications:

* Nominal Length: 2.5 - 3.0 m
* Nominal Width: 10 cm or 12 cm or 15 cm (20 cm only used for backslab)
* Rapid Setting: 100 seconds
* Soaking Temp: 20 - 25 °C

Packaging:

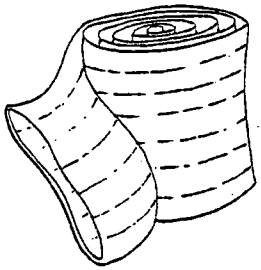
* In roll, presented in a heat-welded protective wrapping (against humidity) with the following information on the wrapping label:
  - length
  - width
  - material
  - rapid setting

Other requirements:

* Meets Pharmacopoeia specifications
* A jersey tubular bandage is required to protect the skin under the plastered area and should be used when limbs are plastered

BANDAGE, JERSEY, TUBULAR

Shipping weight:	**7 kg /100 units**
Shipping Volume:	**32 dm³/100 units**
UNCCS Code:	**481931**



Use:

* Applied as a protection under a plaster bandage

Material:

* 100% cotton, unbleached, non-sterile

Specifications:

* Nominal Length: Roll of 20 - 25 m
* Nominal Width: 5 cm or 10 cm or 15 cm

* Elasticity: minimum of 3-4 times the original width
* Knitted jersey tube without seam
* Features: Good resistance to laddering in both directions

Packaging:

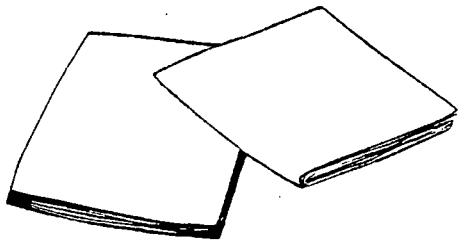
* In rolls individually presented in suitable protective wrapping with the following information on the labels:
  - length
  - width
  - material

Other Requirements:

* Meets Pharmacopoeia specifications

COMPRESS, GAUZE, NON-STERILE

Shipping weight:	**0.4 kg /100 units**
Shipping volume:	**0.75 dm³/100 units**
UNCCS Code:	**481932 (a)**



Use:

- Protects wounds
- Make up dressings
- Suitable for first aid

Material:

- Absorbent gauze, 100% cotton
- Woven

Specifications:

- Nominal Length: 10 cm
- Nominal Width: 10 cm
- Weight: > 23g m²
- Type of gauze: 17 threads/cm²
- No. of folds (thicknesses): 12
- Thread count: warp: 95 to 105 threads/dm
  weft: 66 to 74 threads/dm
- Bleached, purified textile, plain weave
- Features: Surgical folding, i.e. so that there are no free threads apparent after folding or when first outside fold is opened
- Not detectable by X-ray

Packaging:

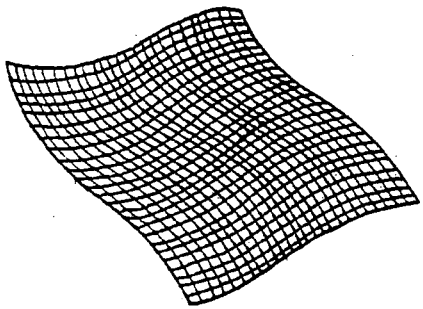
- Paper packet of 100 compresses.
- Packed in suitable bulk carton
- The following information must appear on the label of each packet:
  - folded dimensions
  - type of gauze
  - no. of ply

Other requirements:

- Meets Pharmacopoeia specifications

COMPRESS, PARAFFIN, GAUZE

Shipping weight:	**0.7 kg /100 units**
Shipping volume:	**3.3 dm³/100 units**
UNCCS Code:	**481933 (a)**



Use:

* For treatment of wounds and burns to prevent cotton dressings becoming adherent to the wound

Material:

* Absorbent gauze, 100% cotton
* Woven
* Paraffin substance:
  - Mixture of balsam of Peru and soft paraffin q.suff. 100 g

Specifications:

* Nominal Length: 10 cm
* Nominal Width: 10 cm
* Type of gauze: 17 threads/cm²
* Features: Not detectable by X-ray
* Sterile gauze
* Netting material with large mesh, impregnated with soft paraffin-based material
* Does not stick to wounds, allowing serum, exudate or suppuration to escape

Packaging:

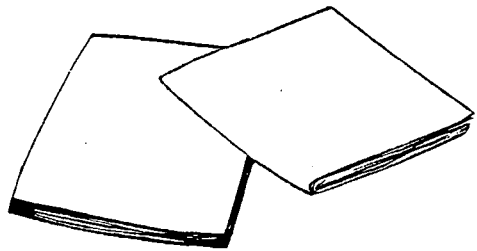
* Tins of 10 in suitable bulk carton
* Individual peel-off protective wrapping.
* The following information must appear on the label of each packet:
  - dimensions
  - composition of paraffin substance
  - sterilization stamp
  - expiry date and batch no.

Other requirements:

* Meets Pharmacopoeia specifications

COMPRESS, GAUZE, STERILE

Shipping weight:	**0.4 kg / 100 units**
Shipping volume:	**0.8 dm³/ 100 units**
UNCCS Code:	**481946 (a)**



Use:

* Used to clean wounds or skin
* Protects wounds which produce minimal secretion
* Make up dressings.

Material:

* Bleached purified textile, plain weave.
* Absorbent gauze, 100% cotton
* Woven

Specifications:

* Type of gauze: 17 threads/cm² (23 g/m²)
* Number of plies: 12
* Thread count:
  - warp: 95 to 105 threads/dm
  - weft: 66 to 74 threads/dm
* Nominal Length: 10 cm
* Nominal Width: 10 cm
  (alternatives: 5 x 5 cm and 7.5 x 7.5 cm)

Features:

* Surgical folding so that there are no free threads apparent after folding or when the first layer is opened
* Sterile
* Not detectable by X-ray

Packaging:

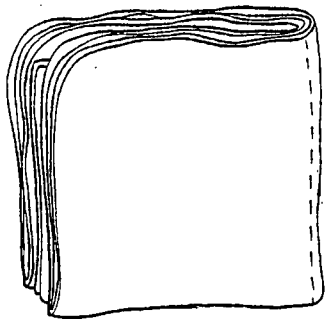
* Presented in packets of minimum 5 with peel off protective wrapping
* The following information must appear on the label of each packet:
  - folded dimensions
  - type of gauze
  - number of ply
  - expiry date and batch no

Other requirements:

* Meets Pharmacopoeia specifications
* Individual packaging should be avoided

COMPRESS, ABDOMINAL, STERILE

Shipping weight:	**8 kg /100 units**
Shipping volume:	**72 dm³/100 units**
UNCCS Code:	**481942 (a)**



Use:

* Used to absorb blood or exudates during surgical operations

Material:

* Absorbent gauze, 100% cotton
* Woven

Specifications:

* Nominal Dimensions: 30 x 45 cm
  45 x 45 cm
  60 x 60 cm
  45 x 75 cm
* Type of gauze: 17 threads/cm²
* Thread count: warp: 95 to 105 threads/dm
  weft: 66 to 74 threads/dm
* Number of folds: 3
* Weight: Min. 23g/m²
* Features: Loop for holding
  Whipped edges for added strength and to prevent loose threads
* X-ray detectable thread
* Reusable
* Require sterilization before use
* Bleached purified textile, plain weave, one x-ray detectable thread

Packaging:

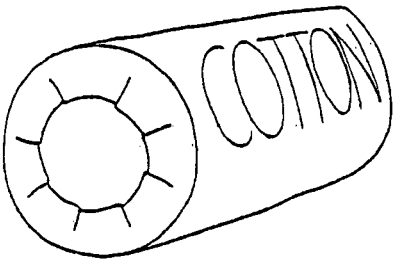
* Presented in packets of 5, packed in suitable bulk carton
* Peel-off protective wrapping (a double tag for controlling the packages used must be attached to the wrapping)
* The following information must appear on the label of each packet:
  - dimensions
  - type of gauze
  - number of ply
  - sterilization stamp
  - expiry date and batch no

Other requirements:

* Meets Pharmacopoeia specifications

COTTON WOOL, HYDROPHILIC, ROLL

Shipping weight: 50 kg / 100 units
Shipping volume: 550 dm³/100 units
UNCCS Code: 481945



Use:
* Used to clean and disinfect wounds
* Suitable for first aid

Material:
* 100% hydrophilic cotton purified, bleached and carded.

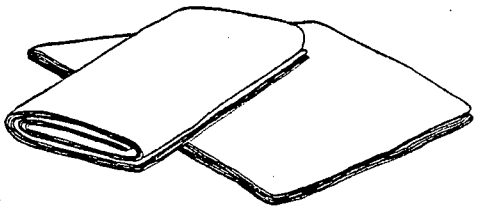
Specifications:
* Net weight: 500 g or 1 kg (in rolls)
* Features: Not pre-cut

Packaging:
* Roll of cotton with separating strip
* Individually presented in suitable protective wrapping (plastic if possible to protect against humidity)
* Packed in suitable bulk carton
* The following information must appear on the label of each roll:
  - gross weight and net weight
  - material
  - quality

Other Requirements:
* Meets Pharmacopoeia specifications

GAUZE (FOLDED)

Shipping weight: 8 kg / 100 units
Shipping volume: 72 dm³/ 100 units
UNCCS Code: 481946 (a)



Use:

* For making up compresses

Material:

* Absorbent gauze: 100% cotton
* Woven
* Thread count: warp: 95 to 105 threads/dm
  weft: 66 to 74 threads/dm

Specifications:

* Length: 60 - 100 cm
* Width:- 65 - 90 cm
* Weight > 23 g/m²
* Thread count: Warp: 95 to 105 threads/dm
  Weft: 66 to 74 threads/dm
* Type of gauze: 17 threads/cm² (grammage 23g/m²), bleached, purified textile, plain weave
* Features: With selvedges (i.e. woven into the correct width, so that it does not fray).
* Not detectable by X-ray
* Non sterile

Packaging:

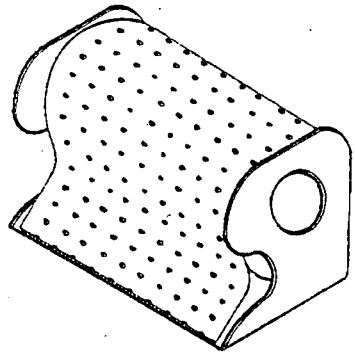
* Individually presented in suitable protective wrapping (generally in paper)
* Packed in suitable bulk carton.
* Only provided in folded layers
* Folded dimensions: approx. 65 cm x 100 cm or 90 cm x 60 cm
* The following information must appear on the label of each roll:
  - length and width.
  - material.
  - type of gauze, non-sterile

Other requirements:

* Meets Pharmacopoeia specifications
* Should be in concertina folds
* **Should not be supplied in rolls**

TAPE, ADHESIVE, PERFORATED ROLL

Shipping weight:	**17 kg / 100 units**
Shipping volume:	**50 dm³/ 100 units**
UNCCS Code:	**481939**



Use:

* To secure dressings and appliances on the skin
* Suitable for first aid
* Can be used for traction on children with fractured limbs.

Material:

* Perforated textile strip with adhesive spread in an even layer
* Textile strip woven in acetate taffeta
* Adhesive: hypoallergenic acrylate
* Incorporates zinc oxide

Specifications:

* Nominal Length: 5 m
* Nominal Width: 2.5, 5.0 or 7.5 cm
* Features:
  - High cutaneous tolerance
  - Non-stretch
  - May be torn by hand or by dispenser
  - Waterproof
  - When the adhesive is applied to the skin, it adheres strongly, can be removed without causing any damage
* Color: white or skin-tone

Packaging:

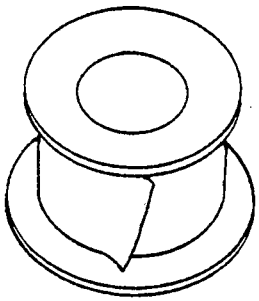
* Tape with easily-detachable protective polythene film to exclude air
* Individually presented in suitable protective wrapping
* Packed in suitable bulk carton.
* The following information must appear on the label of each roll:
  - length
  - width
  - material

Other requirements:

* Meets Pharmacopoeia specifications and/or CEN specifications

TAPE, ADHESIVE, ROLL, 2 cm x 5 m

Shipping weight:	**5 kg / 100 units**
Shipping volume:	**8 dm³/ 100 units**
UNCCS Code:	**481939**



Use:

* To secure dressings and appliances on the skin
* Suitable for first aid

Material:

* Textile strip with adhesive spread in an even layer
* Textile strip woven in acetate taffeta
* Adhesive: mixture of rubber, resins and lanolin

Specifications:*

* Nominal Length: 5 m
* Nominal Width: 2 cm or 2.5 cm

* Features:
  - High cutaneous tolerance
  - Non-stretch
  - May be torn by hand
  - Waterproof
  - With fissures to admit air
  - When the adhesive is applied to the skin it adheres strongly, but can be removed without causing any damage

Packaging:

* Roll wound on dispensing reel made of metal or some other material,with protective cover
* Individually presented in suitable protective wrapping
* Packed in suitable bulk carton
* The following information must appear on the label of each roll:
  - length
  - width
  - material

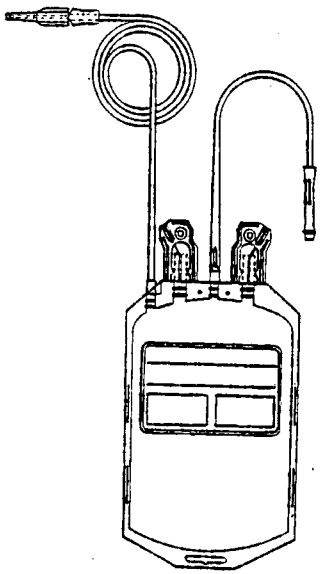
Other requirements:

* Meets Pharmacopoeia specifications

Chapter 3 Injection Supplies

BLOOD BAG + CPDA, 250 ML & 450 ML

Shipping weight:	**9 kg /100 units**
Shipping volume:	**10 dm^3/100 units**
UNCCS Code:	**481879**



Use:
* For collecting blood from the donor, storage and transfusion (using a blood giving set - see page 47)

Material:
* Di-ethylhexyl phthalate (DEHP) plasticized PVC

Specifications:
* Sterile
* Volume of CPDA per bag: 35 ml/250 ml
  63 ml/450 ml
* Blank label for essential data

Packaging:
* Unit presentation:
  - Sets in aluminium foil
  - Airtight wrapping
  - Protection against light
* The following to be stated:
  - Type and quantity of anti-coagulant
  - Capacity of bag
  - Expiry date and batch number

Other Requirements:
* Should be supplied with a blood giving set
* Conforms to ISO 3826

CATHETER, SHORT, IV, 16, 18, 20, 22 G

Shipping weight: 1 kg /100 units
Shipping volume: 4 dm³/ 100 units
UNCCS Code: 481899

Use:
* For prolonged intravenous infusion

Components:
* Cannula, trocar, sheath and hub

Material:
* Teflon with metal hub

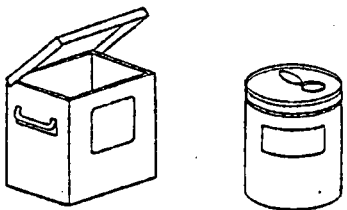
Specifications:
* Color-coded by size
* Sizes:
  - 16G: 1.7 x 45 - 50 mm
  - 18G: 1.2 x 32 - 45 mm
  - 20G: 1 x 22 - 30 mm
  - 22G: 0.8 x 22 - 30 mm
* Sterile
* Disposable

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* 25 - 50/box
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other Requirements:
* Conforms to relevant ISO standard

DRUM FOR DISPOSAL

Shipping weight: 100 kg /100 units
Shipping volume: 471 dm³/100 units
UNCCS Code: 481396



Use:
* For safe collection of disposables and contaminated materials

Material:
* Inflammable HDPE or cardboard

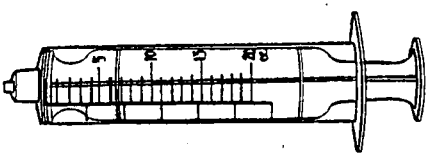
Specifications:
* Leakproof and locking container
* Established internationally recognized warning symbol
* Distinct colour coding
* Containers conform to international standards
* Double wall (applies for cardboard only)
* Lined bulk disposal container
* Capacity: Approx. 30 to 60 litres

Packaging:
* Stackable/collapsible

Other Requirements:
* Conforms to relevant ISO standard

SYRINGE, DISPOSABLE, LUER

Shipping weight: 0.65 kg / 100 units
Shipping volume: 5 dm³/ 100 units
UNCCS Code: 481830 (a)



Use:
* For Injection and various other uses including mixing and feeding

Material:
* Clear polypropylene (medical grade)

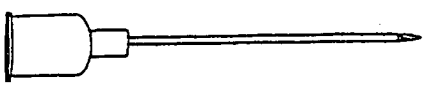
Specifications:
* Disposable
* Sterile
* Luer nozzle
* Easy-to-read scale
* Sizes: 2 , 5, 10 and 20 ml

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and plastic bag to be clearly marked with expiry date and batch number

Other Requirements:
* Must order needle
* Conforms to ISO 7886

NEEDLE, DISPOSABLE, LUER

Shipping weight: 0.15 kg /100 units
Shipping volume: 0.9 dm³ /100 units
UNCCS Code: 481881 (a)



Use:
* Injection; intramuscular, intravenous, subcutaneous and intradermal
* Can also be used for mixing

Material:
* Stainless steel with plastic hub

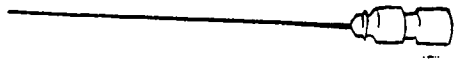
Specifications:
* Disposable, sterile needles, various sizes
* Luer connection
* Connections color-coded
* Dimensions:
  - 19 G: 1.1 x 30 - 80 mm; for mixing
  - 21 G: 0.8 x 20 - 50 mm; (i.m. i.v.)
  - 23 G: 0.6 x 20 - 35 mm; (i.m. i.v.)
  - 26 G: 0.45 x 10 - 30 mm; (s.c.i.d) injections

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:
* Conforms to ISO standard 9626

NEEDLE, LUMBAR PUNCTURE, DISPOSABLE, STERILE

Shipping weight:	**1 kg /100 units**
Shipping volume:	**8 dm³ /100 units**
UNCCS Code:	**481888**



Use:
* For lumbar puncture

Material:
* Stainless steel with polyamide plastic hub

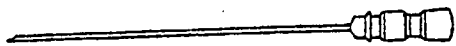
Specifications:
* Needle & stylet
* Disposable
* Sterile
* Connections are colour coded
* Size: 20 G: 0.9 x 90 mm, yellow
  22 G: 0.7 x 40 mm, black

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:
* Conforms to ISO standard

NEEDLE, SPINAL ANAESTHESIA, DISPOSABLE

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**6 dm³/100 units**
UNCCS Code:	**481889**



Use:
* For injection of local anaesthetic and for spinal anaesthesia

Material:
* Stainless steel and polyamide plastic hub

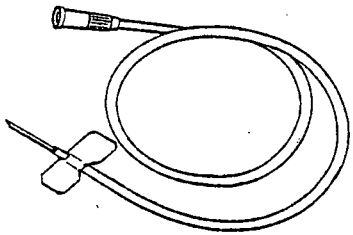
Specifications:
* Needle & stylet - disposable
* Sterile
* The connections are colour coded
* Size: 22G 0.7 x 90 mm, black
  25G 0.5 x 90 mm, orange

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other requirements:
* Conforms to ISO standard

NEEDLE, SCALP, VEIN DISPOSABLE

Shipping weight:	**0.5 kg / 100 units**
Shipping volume:	**3.52 dm³/100 units**
UNCCS Code:	**481887**



Use:
* For infusion of I.V. fluid

Material:
* Stainless steel needle, flexible PVC wing, tube PVC, cap PVC

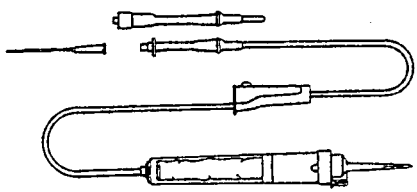
Specifications:
* Needles with silicone tabs colour coded
* Tube to be 10 - 30 cm including cap
* 21 G: 0.80 x 19 - 20 mm, green
* 25 G: 0.50 x 15 - 20 mm, orange
* Siliconized needle
* Needles are bonded to the wings at a slight downward angle to better conform to body contours and to reduce trauma
* Wings are color-coded according to gauge of needle and are also embossed with gauge size

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic
* Protective packaging: carton
* Each carton and peel-pack to be clearly marked with expiry date and batch number

Other Requirements:
* Conforms to ISO standards

BLOOD GIVING SET FOR TRANSFUSION

Shipping weight:	**4 kg / 100 units**
Shipping volume:	**30 dm³/ 100 units**
UNCCS Code:	**481677**



Use:
* For transfusion of blood and blood products

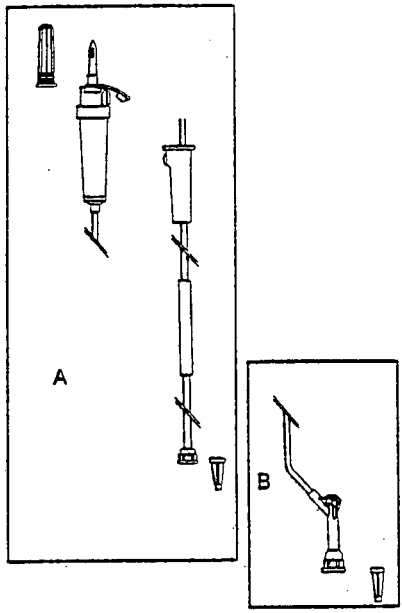
Specifications:
* Disposable perforator in metal and PVC
* Double chamber reservoir
* 1st reservoir with 200 micron polyamide filter
* Luer lock fitting
* Drip adjustment: wheel adjustment with lock
* Tube minimum 150 cm long.
* With/without needles

Packaging:
* In sterile plastic bag
* Protective packaging: carton
* Each carton and plastic bag to be clearly marked with expiry date and batch number

Other requirements:
* If possible provided with needles
* Conforms to ISO standard

SET, INFUSION, WITH LUER LOCK + INCORPORATED AIR INTAKE

Shipping weight:	**2 - 3 kg /100 units**
Shipping volume:	**10 - 30 dm³/100 units**
UNCCS Code:	**481678**



Use:

- To connect infusion solution with infusion bag/bottle

Specifications:

- Biconical plastic perforator, with PVC cap. Min. tube length: 150 cm
- Drip adjustment: wheel adjustment with lock
- PVC reservoir with 20 micron filter
- Air intake with obturator enabling it to be closed when not needed
- Precision adjustment wheel with lock
- Latex injection connection (see A above) with Luer lock, packed in sterile bag
- Latex injection connection (see B above) with Y junction at 20 cm from the connection. Y junction provides an injection port for use during anaesthesia
- All perfusions are accompanied by an identical number of tube sets
- Air intake for use either with glass bottles (airhole open) or plastic bags (airhole closed)
- Supplied with/without needles

Packaging:

- Individual sterilized peel-packs made of paper and/or plastic
- Protective packaging: carton
- Each carton and plastic bag to be clearly marked with expiry date and batch number

Other requirements:

- In case the needles are not included please make necessary provisions
- Conforms to ISO standard

AUTODESCTRUCTSYRINGE, 0.5 ML

Shipping weight:	**1.1 kg /100 units**
Shipping volume:	**0.0053³ /100 units**
UNCCS Code:	**481823 (new)**

Use:
* For intramuscular or subcutaneous injection

Material:
* Polypropylene (medical grade)

Specifications:
* Nominal capacity: 0.5 ml (+ 20% for removal of air)
* Graduations: 0.5 ml
* Fixed needle: 23 g x 25 mm.
* Prevented from re-use: locked/trapped piston
* Sterile

Features:
* Needle cap and cap over thumb plate (if applicable) make syringe into a sterile unit

Packaging:
* Individual sterilized peel-packs made of paper and/or clear plastic
* Protective packaging: carton
* Each peel-pack and packing carton to be clearly marked with expiry date and batch number

Other Requirements:
* Conforms to ISO 7886

SYRINGE, TUBERCULIN

Shipping weight:	**0.48 kg /100 units**
Shipping volume:	**2.6 dm^3/100 units**
UNCCS Code:	**481865 (a)**

Use:

* For intradermal injections (BCG vacine or tuberculin testing)

Material:

* Polypropylene (medical grade)

Specifications

* Capacity: 0.05 or 0.1 ml solution
* 1/100 ml graduations
* Disposable
* Sterile
* Single use

Packaging:

* Individual sterilized peel-packs made of paper and/or clear plastic
* Protective packaging: carton
* Each peel-pack and packing carton to be clearly marked with expiry date and batch number

Requirements:

* Conforms to relevant ISO standard

SAFETY BOX & INCINERATION CONTAINER

Shipping weight:	**36 kg /100 units**
Shipping volume:	**0.088 dm³/100 units**
UNCCS Code:	**481 962 (new)**

Use:

* For disposal and distruction, by incineration, of used syringes and needles

Material:

* Carton

Specifications:

* Volume :	5 litres
* Capacity:	100 to 120 autodestruct syringes of 0.5 ml with needles
* External Dimensions:	
- before assembling:	590 x 283 x 5 mm approx.
- after assembling:	290 x 162 x 125 mm approx.
* Thickness of walls:	1.1-4.4 mm
* Weight, fully assembled:	250 - 350 g
* Diameter syringe insert hole:	30 - 38 mm
* Puncture Proof	

Features:

* Boxes should be equipped with a carrying handle and have directions for use and destruction printed on the box.

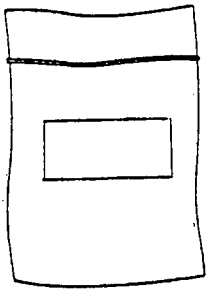
Other Requirements:

* Conforms to ISO standards.

Chapter 4 Medical Supplies

BAG FOR DRUGS

Shipping weight:	**0.1 kg / 100 units**
Shipping volume:	**0.03 dm³/100 units**
UNCCS Code:	**368112**



Use:
* Distibution of drugs

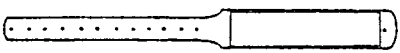
Specifications:
* Plastic & markable with ballpen
* Self-sealing

Packaging:
* In boxes of 1000

Other requirements:
* 6 x 8 cm recommended
* Conforms to ISO standard

IDENTIFICATION BRACELET

Shipping weight:	**0.18kg / 100 units**
Shipping volume:	**0.96 dm³/ 100 units**
UNCCS Code:	**369927 (a)**



Use:
* Worn, for identification, on the wrist by children and young adults in a hospital or medical treatment centre

Material:
* Plastic tab band with patient identification cover seal

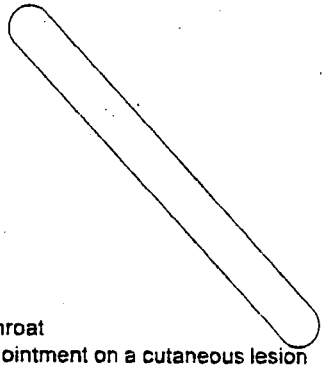
Specifications:
* Tamper proof, inelastic, atraumatic and non irritant
* Non-erasable, markable & lockable
* Width: 1.6 cm
* Length: One size suitable for children and adults
* Color Coding: Red - Severely malnourished (Therapeutic feeding)
  Green or Blue - Moderately malnourished (Wet supplementary feeding)
  White - Dry ration

Packaging:
* In boxes of 1000

Other requirements:
* Conforms to ISO standard

TONGUE DEPRESSOR

Shipping weight: 0.33 kg / 100 units
Shipping volume: 0.5 dm^3 / 100 units
UNCCS Code: 481544



Use:
- Examination of mouth and throat
- Can also be used to spread ointment on a cutaneous lesion

Material:
- Wood

Specifications:
- Non reusable
- Non-sterile
- Size: 140 x 19 mm

Packaging:
- Box of 100 or 500 units

THERMOMETER, MEDICAL

Shipping weight: 2 kg / 100 units
Shipping volume: 33 dm^3 / 100 units
UNCCS Code: 481520

Use:
- For measuring temperature; rectal, oral and axillary

Specifications:
- Clinical thermometer
- Digital
- Waterproof
- Features:
  - Plastic box included

Packaging:
- 12 pieces per carton
  430 g per carton of 12 pieces
  Carton size 16.5 x 16.5 x 5.5. cm

Note: ***IATA regulations restrict the transport of mercury thermometers***

GLOVES

Shipping weight:	**6 kgs / 100 pairs**
Shipping volume:	**10 dm³ / 100 units**
UNCCS Code:	**366610 (a)**

Specifications:

1. Surgical:

Features:
* Latex
* Disposable
* Sterile
* Pre-powdered

Size: 6 to 8.5.

Packaging: 1 pair in paper, sealed in peel-pack, approx 50 pairs/box
300 pairs/carton
Batch number and expiry date to appear on packaging

2. Gloves for manual removal of Placenta:

Features:
* Latex
* Sterile
* Elbow length
* Disposable
* Pre-powdered

Sizes: 6 to 8.5

Packaging: Boxes of 100 gloves (50 pairs)
Batch number and expiry date to appear on packaging

3. Examination/Protection:

Features:
* Disposable
* Non-sterile
* Latex, pre-powdered

Use: For personal protection against contamination (HIV and Hepatitis) during treatment or when handling soiled objects.

Size: Small , medium and large

Packaging: In boxes of 100 units
(1000 units/carton)
Batch number and expiry date to apper on packaging

4. Heavy Duty/Domestic

Features:
* Rubber with cotton lining
* Reusable

Use: Handling soiled objects

Size: Small, medium and large

Packaging: Per pair or in boxes of 20 (10 pairs)

Other requirements:
* The dimensions, watertightness & tensile properties conform to ISO standard

SOAP, TOILET

Shipping weight:	**11.1 kg / 100 units**
Shipping volume:	**14.8 dm^3/ 100 units**
UNCCS Code:	**362211**

Use:

- Personal hygiene

Specifications:

- Soap in bars
- Weight: Approx 200 g/bar
- Properties:

Fatty acid	70% min
Moisture	20% max
NaOH content	0.2% max
NaCl content	0.5% max.

Packaging:

- 30 cartons per pallet, approx 120 bars of soap (200 g each) per carton

Other requirements:

- Conforms to ISO standard

Chapter 5 Linen and Operative Field

APRON, PROTECTIVE

Shipping weight: 22 kg / 100 units
Shipping volume: 52 dm³/ 100 units
UNCCS Code: 369945

Use:
* Utility apron for individual protection of clothing

Material:
* Translucent plastic

Specifications:
* Moisture proof and stain resistant
* Withstands temperature extremes
* Reusable one piece bib type with unstitched edges
* Size: 90 x 100 cm

Packaging:
* Single or 20 - 30 aprons per case

Other requirements:
* Conforms to ISO standard

APRON

Shipping weight: 46 kg / 100 units
Shipping volume: 62 dm³/ 100 units
UNCCS Code: 366691 (a)

Use:
* Protection for surgeons and midwives

Material:
* Rubber

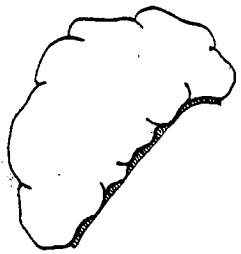
Specifications:
* Reusable, autoclavable, boilable, moisture-proof and stain resistant
* Size: 90 x 100 cm

Packaging:
* Single or 20 - 30 aprons per case

Other requirements:
* Conforms to ISO standard

SURGEON'S CAP

Shipping weight:	**0.45 kg /100 units**
Shipping volume:	**2 dm³ /100 units**
UNCCS Code:	**282722**



Use:
* To cover hair during operations
* Also suitable for general nursing

Material:
* Preferably 100% cotton

Specifications:
* Bouffant caps or surgeon's caps
* Reusable
* Lightweight
* High breathability
* Effective protection
* Maximum comfort to the forehead and earlobes
* Free size with elastic band

Packaging:
* Dispenser boxes of 100

Other requirements:
* Conforms to ISO standard

SURGICAL TUNIC/SHIRT

Shipping weight:	**0.95 kg /100 units**
Shipping volume:	**95 dm³ /100 units**
UNCCS Code:	**282723 (a)**

Use:
* Can be worn in hospital, but mostly during surgery

Material:
* Preferably 100% cotton, (if disposable, it should be nonwoven)

Specifictions:
* Size: small, medium, large or extra large
* Lightweight
* Effective protection
* Reusable/disposable

Packaging:
* Single or in boxes of 50 units

Other requirements:
* Conforms to ISO standard

SURGICAL TROUSERS

Shipping weight:	**14.2 kg / 100 units**
Shipping volume:	**98 dm³/100 units**
UNCCS Code:	**282724 (a)**

Use:
* Can be worn in hospital, but mostly during surgery

Material:
* Preferably 100% cotton
* Reusable/disposable

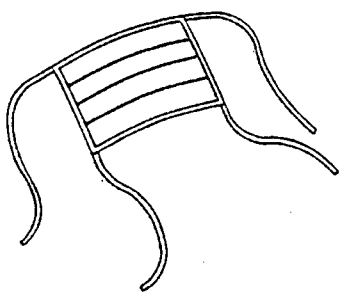
Specification:
* Size: small, medium, large, extra large
* Lightweight
* Effective protection

Packaging: Single or in boxes of 50 pairs

Other requirements:
* Conforms to ISO standard

FACE MASK

Shipping weight:	**0.21 kg / 100 units**
Shipping volume:	**12.7 dm³/ 100 units**
UNCCS Code:	**282725 (a)**



Use:
* During surgery
* As protection

Material:
* Nonwoven (disposable)

Specifications:
* Tie-on
* One size
* Formaldehyde-free/non-allergenic ties/fibreglass-free

Packaging:
* Boxes of 50 units

Other requirements:
* Conforms to ISO standard

SURGICAL GOWN

Shipping weight: 4.4 kg / 100 units
Shipping volume: 15.7 dm³/100 units
UNCCS Code: 282726

Use:
* For surgery and protection

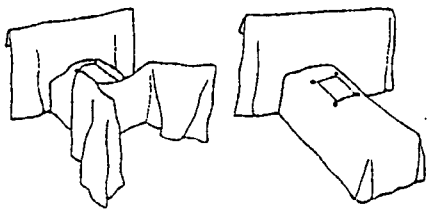
Material:
* Preferably 100% cotton

Specifications:
* Disposable/reusable
* Non-woven (disposable, sterilized)/woven (reusable, non-sterilized)
* Neck to mid-calf protection
* Size: small, medium and large
* Lightweight
* Effective protection
* Long elastic cuffs with a close fit
* Fluid repellent fabric

Packaging:
* Single or in boxes of 50 - 80

Other requirements:
* Conforms to ISO standard

DRAPES, SURGICAL



Shipping weight: 11.8 kg /100 units
Shipping volume: 37.1 dm³/ 100 units
UNCCS Code: 282730 (a)

Use:
* For surgery
* To maintain aseptic conditions in the operative field

Material:
* Preferably 100% cotton (reusable, non-sterilized) , but can be plastic of translucent or nonwoven fabric (disposable, sterilized)

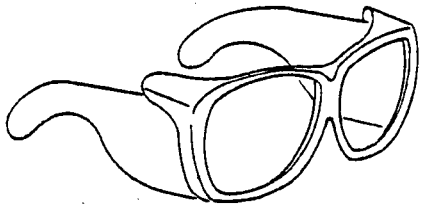
Specifications:
* Disposable/reusable
* 1 m x 1 m
* 1.5 m x 1.5 m

Packaging:
* Single or in boxes of 20 - 50

Other requirements:
* Conforms to ISO standard

PROTECTIVE GLASSES, SURGICAL

Shipping weight: 4 kg /100 units
Shipping volume: 5 dm³/100 units
UNCCS Code: 483148



Use:
* Protection during surgery, midwifery and other medical procedures

Material:
* Plastic

Specifications:
* Disposable/Reusable
* Universal size which can either be wrapped around, worn alone or over normal eyeglasses
* Distortion-free and anti-fog
* Lightweight

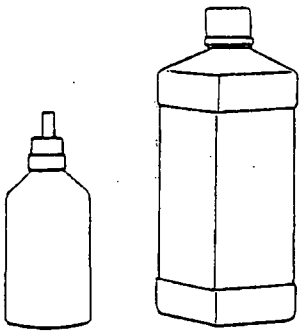
Packaging:
* In boxes of 5 to 20

Other requirements:
* Conforms to ISO standard

Chapter 6 Medical Equipment

BOTTLES, PLASTIC, 1 L & 250 ML

Shipping weight:	**13.7 kg / 100 units**
Shipping volume:	**236 dm³/100 units**
UNCCS Code:	**368921**



Use: For distribution or dilution of antiseptics

Material: HDPE (high density polyethylene)

Specifications:
* Graduated
* Bottle with screw cap, capacity 1 litre
* Bottle with spout for pouring
* Opaque
* Resistant to chlorine and iodine contact
* The screw cap must ensure firm closure, while permitting easy filling and cleaning

Packaging:
* Unit presentation: bulk
* The following information must appear on the package:
  - designation of item
  - name and address of supplier (manufacturer)

Other requirements:
* Should conform to ISO standard

TAPE MEASURE, MUAC
(middle upper arm circumferance)

Shipping weight:	**0.2 kg / 100 units**
Shipping volume:	**1 dm^3 /100 units**
UNCCS Code:	**482350**

Use:

- For measuring the brachial circumference of children aged 6 months to 5 years (height 65 cm to 109.5 cm if age is unknown)
- Enables rapid diagnosis of acute malnutrition, which carries a high risk of mortality
- Used for initial evaluation, nutritional surveys and detection within a particular community

Material:

- Plastic, PVC

Specifications:

- PVC, 0.5 mm thickness, flexible, not stretchable, washable
- Graduations of 2 mm (accuracy 1 mm)
- Four strips coloured red, orange, yellow and green, enabling illiterate people to classify children according to the seriousness of their nutritional state and refer them accordingly
- Multicoloured armband which can be threaded into itself, enabling the brachial circumference to be read directly through a hole in the middle

Packaging:

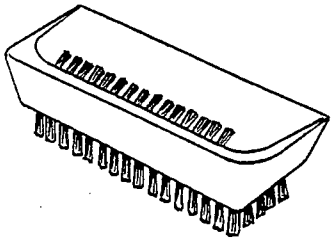
- Unit presentation:
- The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

Other requirements:

- Should conform to ISO standard

BRUSH, NAIL SCRUBBING, PLASTIC, AUTOCLAVABLE

Shipping weight:	**4 kg /100 units**
Shipping volume:	**11 dm^3/100 units**
UNCCS Code:	**389740**



Use:

* For scrubbing of the hands

Material:

* The body is in polypropylene (should not be in wood)
* Bristles: nylon

Specifications:

* Body length: approx. 8 to 10 cm, width: 3 to 5 cm
* Brushes with soft bristles, 5 rows minimum, height: 1 cm
* Non-sterile
* Must be autoclavable to allow decontamination and sterilization

Packaging:

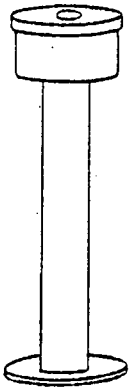
* Unit presentation: protective wrapping
* The following information must appear on the packaging:
  - designation of item,
  - name and address of supplier (manufacturer)

Other requirements:

* Should conform to ISO standard

JAR FOR FORCEPS + COVER,

Shipping weight:	**50 kg /100 units**
Shipping volume:	**280 dm³/100 units**
UNCCS Code:	**486155 (a)**



Use:
* To hold serving forceps (eg. Cheron forceps see page 113)

Material:
* Stainless steel

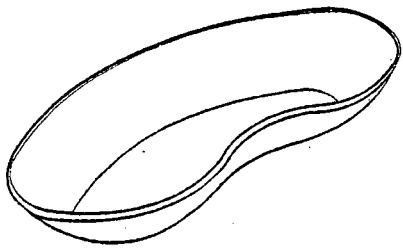
Specifications:
* Recipient in tube form with base and lid
* Height: 27 cm
* Can be sterilized in an autoclave

Packaging:
* Unit presentation: plastic film, non sterile
* The following information must appear on the packaging:
  - designation of item,
  - name and address of supplier (manufacturer),

Other Requirements:
* To provide an airtight seal to prevent contamination of the serving forceps
* Should conform to ISO standard

KIDNEY DISH, 26 X 14 CM

Shipping weight:	**16kg /100 units**
Shipping volume:	**146 dm³/100 units**
UNCCS Code:	**486191 (a)**



Use:
* For receipt of soiled materials (dressings, swabs, soiled tubes etc.), used in medical and surgical departments

Material:
* Stainless steel - smooth surface

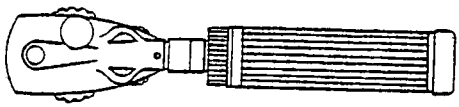
Specifications:
* Kidney shape
* Dimensions:
  - Length: 26 cm
  - Width: 14 cm
* Not in plastic, can be sterilized in an autoclave.

Packaging:
* Unit presentation: plastic film, non-sterile
* The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

Other requirements:
* Should conform to ISO standard

OPHTHALMOSCOPE,HALOGEN BULB & CASE

Shipping weight:	**6 kg /100 units**
Shipping volume:	**7 dm³ / 100 units**
UNCCS Code:	**481335**



Use:

* For basic internal and external examination of the eye

Components:

* Handle with batteries
* Head with halogen bulb
* Spare halogen bulb
* Case

Specifications:

* Handle with two R6 batteries
* Head with 4 basic functions and apertures: large spot, small spot, half moon, green interference filter
* Halogen bulb, 2.5 V
* Adjustable intensity of light

Packaging:

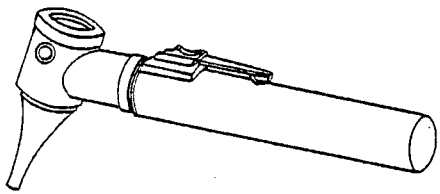
* Unit presentation: with rigid case, one handle + 2 R6 batteries, one head with bulb + spare bulb.
* The following information must appear on the packaging:
  - designation of item
  - batch no. or serial no.
  - name and address of supplier (manufacturer)
  - manufacturer's certificate of guarantee and accompanying instructions for use enclosed inside the package

Other requirements:

* Handle should ideally be suitable for otoscope head
* Halogen bulb should also fit the otoscope head
* Should conform to ISO standard
* Suitable for all main opthalmic functions, in pocket format

OTOSCOPE

Shipping weight:	**21 kg / 100 units**
Shipping volume:	**60 dm³/ 100 units**
UNCCS Code:	**481545**



Use:

* For basic examination of the middle ear

Components:

* Handle with batteries
* Head with halogen bulb
* Spare halogen bulb
* Reusable specula: 1 set of 4 different sizes
* Specula should fit firmly

Specifications:

* Handle, with two R6 batteries
* Head: simple to use
* Halogen bulb, 2.5 V
* Set of reusable autoclavable specula, diameter 2.4 mm and 3 mm.
* Adjustable light intensity

Packaging:

* Unit presentation: in rigid case containing:
  - One handle & 2 R6 batteries, one head with bulb + one spare bulb & set of 4 reusable specula

* The following information must appear on the packaging:
  - designation of item
  - batch no. or serial no.
  - name and address of supplier (manufacturer)
  - manufacturer's ceritificate of guarantee and accompanying instructions enclosed inside the package

Spare Parts:

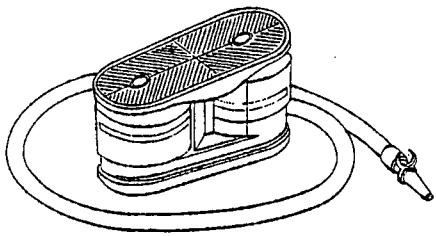
* (Otoscope) spare bulb, halogen
* (Otoscope) specula reusable, 4 sizes, set
* Optional feature: pivoting observation window with 2.5 or 3 x enlargements for enhanced image.

Other requirements:

* Handle should ideally be suitable for opthalmoscope head
* Halogen bulb should also fit the opthalmoscope head
* Should conform to ISO standard

PUMP, SUCTION, FOOT OPERATED

Shipping Weight: 120 kg /100 units
Shipping Volume: 426 dm³/100 units
UNCCS Code: 481698



Use:

* For mucus aspiration/suction

Components:

* Aspirating tube: with two nozzles
* Pump, operated by working the pedal.
* Collection jar

Material:

* Parts made of transparent plastic: polycarbonate
  Seals, O-rings and valve diaphragm: silicone rubber
* Piston rings: teflon

Specifications:

* Indicative dimensions without suction tube: length: 206 mm, width: 96 mm, height: 104 mm.
* Aperture of large nozzle: 10 mm
* Weight with suction tube and nozzle: approx. 1 kg
* Operational free air flow at normal working rate 30 - 70 litre/min
* Useful volume of collection jar: approx. 600 ml
* Internal diameter of suction tube: 10 mm
* Operating temperature range: - 20°C to + 50°C
* All parts can be autoclaved at 121°C

Packaging:

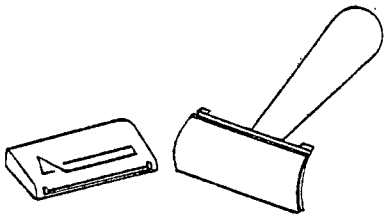
* Unit presentation: item assembled in a cardboard box
* The following information must appear on the packaging
  - designation of item
  - batch no. or serial no.
  - name and address of supplier (manufacturer)
  - manufacturer's certificate of guarantee and accompanying instructions for use enclosed inside package

Other requirements:

* Should conform to ISO standard

RAZOR, REUSABLE/DISPOSABLE

Shipping weight:	**4 kg / 100 units**
Shipping volume:	**3 dm³ / 100 units**
UNCCS Code:	**429169**



Use:
* Mechanical instrument for shaving hair

Components:
* Razor: comprising three parts:
  - the handle: sufficiently long
  - the head: forming a holder into which the blade is inserted
  - blades: small rectangles of thin steel, with cutting edges on two sides, which fit in the head of the razor

Material:
* Stainless steel

Specifications:
* Razor: handle with a length of approx. 8 cm
* Disposable blades
* Should stand autoclaving at 121° C

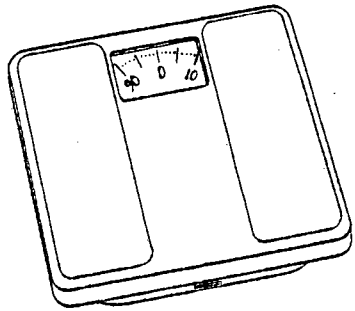
Packaging:
* Unit presentation: (with boxes of 10 blades).
* The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

Other requirements:
* Spare blades (disposable) in 10 units/box
* Should conform to ISO standard

Note:
* The above is available in disposable form

SCALE, 0 TO 100 KG (BATHROOM TYPE)

Shipping weight:	**135 kg / 100 units**
Shipping volume:	**675 dm³/100 units**
UNCCS Code:	**482326**



Use:

* To weigh adults

Material:

* Plastic and zinc coated steel

Specifications:

* Mechanical (electronic version not recommended for emergencies)
* Range, 0 - 100 kg
* Normal type of bathroom scale, consisting of a footplate with a scale window
* Large easy reading calibrations, graduation scale of 500 grams
* Shell of scale approx. 1 mm thick steel with frame, platform and scale mechanism protected against rust and corrosion, preferably zinc coated

Approx. Size:

* Length: 300 mm
* Width: 300 mm

Packaging:

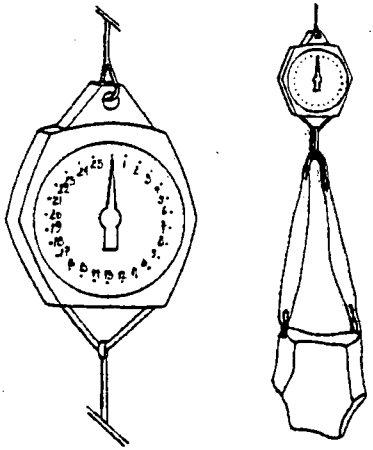
* Unit presentation
* The following information must appear on the packaging:
  - designation of item
  - batch no. or serial no.
  - name and address of supplier (manufacturer)
  - manufacturer's guarantee certificate and accompanying
  - instructions for use enclosed inside package

Other requirements:

* Should conform to ISO standard or other international standard

SCALE, SALTER TYPE
0 TO 50 KG

Shipping weight:	**100 kg / 100 units**
Shipping volume:	**400 dm³ / 100 units**
UNCCS Code:	**482328**



Use:

* To weigh children and young adults
  0-25 kgs suitable for children and food baskets
  0-50 kgs for young adults and dry baskets and dry rations

Components:

* Beam-and-spring type (or dial type), with two suspension hooks
* Horizontal bar may be attached to the hook, enabling big children to suspend themselves from the scale without having to use the breeches (trousers)

Material:

* Hook: metal
* Reading scale: plastic
* Body: metal
* Breeches (trousers): cotton/plastic, washable

Specifications:

* Adjustment screw on top
* Graduations of 100 g (for scale 0-25 kg)
* Graduations of 200 g (for scale 0-50 kg)
* Practical to use, easy to transport
* Easy to read
* Basic component metal (for durability)
* Suitable for PMI, health centre, feeding centre or nutrition survey
* Suitable for weighing ingredients for high-energy milk premix or porridge
* Suitable for "food basket" control surveys

Packaging:

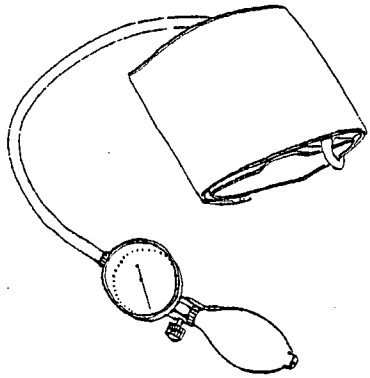
* Individual cartons
* The breeches ("trousers") must be supplied with the scale
* The following information must appear on the packaging:
  - designation of item,
  - batch no. or serial no.
  - name and address of supplier (manufacturer).

Other requirements:

* Spare parts: set of 5 trousers
* Should conform to ISO standard

SPHYGMOMANOMETER, HAND MANOMETER, VELCRO

Shipping weight:	**49 kg /100 units**
Shipping volume:	**146 dm^3/100 units**
UNCCS Code:	**481245**



Use:

* For the measurement of arterial blood pressure

Components:

* Cloth cuff containing an inflatable bag
* Connected by a tube to a bulb
* Valve and aneroid pressure gauge

Material:

* Cuff: non-deformable nylon, washable at 30°C
* Inflatable bag, tube and bulb: black latex
* Aneroid pressure gauge: glass and metal mechanism

Specifications:

* Cuff with velcro fastening, enabling tight adjustment around the arm
* Cuff should be washable, strong and reinforced at the end
* Adult size:
  - Cuff: length: 57 cm, width: 14.5 cm
  - Inflatable bag: length: 22 cm, width: 10 cm
* Child size:
  - Cuff: length: 53 cm, width: 10.5 cm
  - Inflatable bag: length: 22 cm, width: 8.5 cm
* Bag, inflatable by means of a single tube, length: 60 cm (flexible and reliable quick connector).
* Inflation bulb with needle gauge. Dial graduated up to 300 mm Hg, with pressure release valve
* Accuracy of measurement ± 2mm

Packaging:

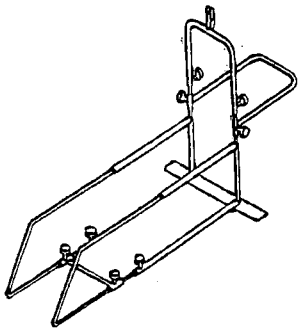
* Unit presentation, in a nylon holdall
* The following information must appear on the packaging:
  - designation of item
  - batch no. and serial no.
  - name and address of supplier (manufacturer)
  - manufacturer's certificate of guarantee and accompanying instructions for use enclosed inside packaging

Other requirements:

* Should conform to ISO standard

SPLINT, BÖHLER-BRAUN TYPE, ADULT

Shipping weight:	**700 kg / 100 units**
Shipping volume:	**800 dm³/ 100 units**
UNCCS Code:	**481713**



Use:
* Enabling traction by weights and pulleys
* To immobilize a broken tibia or femur
* Support an injured leg in the correct position

Components:
* Adjustable splint made up of metal tubes that slide into one another
* Two pulleys, one horizontal and one vertical

Material:
* Epoxy-coated stainless steel

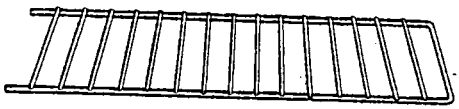
Specifications:
* Adjustable splint that can be dismantled into its component parts
* Indicative dimensions:
  - length: 600 mm
  - width: 300 mm
  - height: 60 mm
* Weight: 7 kg approx.
* Supplied with assembly diagram

Packaging:
* Unit presentation: dismantled/folded
  The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)
  - Supplied with assembly diagram

Other requirements:
* Should conform to ISO standard

SPLINT, CRAMER TYPE, METALLIC, SEMI-RIGID, ARM & LEG

Shipping weight:	**50 kg / 100 units**
Shipping volume:	**750 dm³/ 100 units**
UNCCS Code:	**481710**



Use:

* Malleable lattice used for temporary immobilization of a limb

Material:

* Epoxy-coated steel

Specifications:

* Small lattice with cross-wires spaced 2 cm apart, the proximal end having rounded corners.
* Malleable to the desired angle
* Dimensions:
  - Arm and leg:
    - Width: 8, 10, 12 and 15 cm
    - Length: 50, 60 and 100 cm

Packaging:

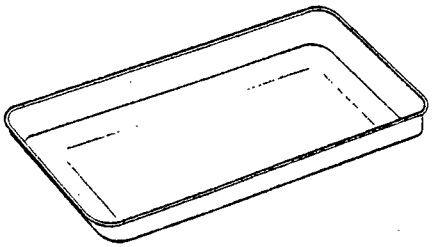
* Unit presentation : often supplied in bulk (unpacked)
* The following information must appear on the packaging:
  - designation of item,
  - name and address of supplier (manufacturer)
  - place of manufacture

Other requirements:

* Should conform to ISO standard

TRAY, DRESSING

Shipping weight:	**43 kg /100 units**
Shipping volume:	**65 dm³/ 100 units**
UNCCS Code:	**429133**



Use:

* To carry miscellaneous objects (compresses, injections, surgical instruments etc.)

Specifications:

* Rectangular tray with rounded corners
* Stainless steel
* Smooth surface
* Recommended dimensions:
  - length: 30 cm
  - width: 15 - 22 cm
  - height: 3 cm
* Non-sterile

Packaging:

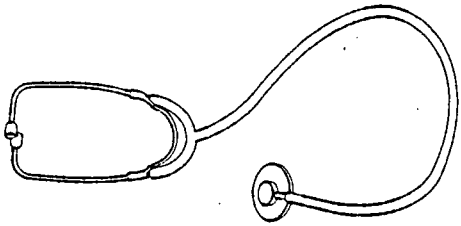
* Unit presentation: in plastic film
* The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

Other requirments:

* Steel quality as per ISO standard

STETHOSCOPE, ONE CUP, NURSE

Shipping weight:	**15 kg /100 units**
Shipping volume:	**46 dm³/100 units**
UNCCS Code:	**481567**



Use:
- For the measurement of arterial blood pressure (with sphygmomanometer (see page 80)

Components:
- Single chestpiece, with diaphragm and ring
- Y tube, impervious to outside noises
- Adjustable arms with flexible spring
- Changeable earpieces

Material:
- Chestpiece: aluminium alloy. High-resolution diaphragm in epoxy glass
- Y tube: treated rubber (vinyl)
- Arms/spring: stainless steel
- Earpieces: plastic
- Sensitivity: 3.8 dB in a range of 50 to 500 Hz

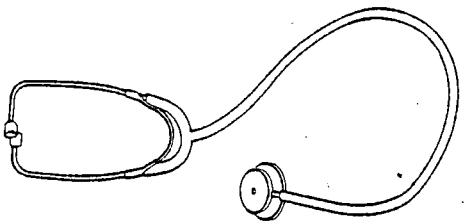
Specifications:
- Single chestpiece, with 43 mm diaphragm for adult model
- Y tube with large diameter: 10 mm
- Arms with spring treated to give constant springiness and maximum reliability and comfort
- Screw-on changeable earpieces
- Supplied with a spare diaphragm and earpieces

Packaging:
- Unit presentation: supplied in plastic/cardboard box
- The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)
  - manufacturer's certificate of guarantee accompanied by instructions for use enclosed inside the packaging

Other requirements:
- Should conform to ISO standard

STETHOSCOPE, DOUBLE CUP

Shipping weight:	**27 kg /100 units**
Shipping volume:	**105 dm³ / 100 units**
UNCCS Code:	**481567**



Use:

* For auscultation

Components:

* Pivoting chestpiece with two cups, with one adult diaphragm and one pediatric, bell type
* Y tube, impervious to outside noises, guaranteeing full transmission of the sound
* Adjustable arms with flexible spring
* Changeable ear pieces

Material:

* Pivoting chestpiece: Aluminium or stainless steel or chromeplated brass. All-frequency diaphragms in high-resolution epoxy glass
* Y tube: treated rubber (vinyl)
* Arms/spring: stainless steel
* Earpieces: plastic.

Specifications:

* Double cup with small, dual-use chestpiece: auscultation cone and pediatric auscultation
* Adult diaphragm 43 mm; pediatric diaphragm 28 mm
* Y tube with large diameter: 10 mm
* Sensitivity: 3.2 dB in a range of 50 to 500 Hz and
  8.1 dB in a range of 600 to 1500 Hz
* Arms with spring treated to give constant springiness and maximum reliability and comfort
* Screw-on changeable earpieces

  Supplied in a box with a spare adult diaphragm, spare pediatric diaphragm and pair of spare earpieces

Packaging:

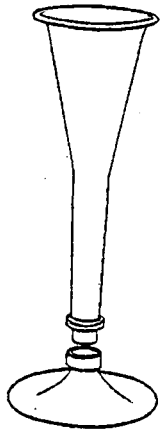
* Unit presentation: Supplied in plastic/cardboard box. The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)
  - manufacturer's certificate of guarantee and accompanying instructions enclosed inside the packaging

Other requirements:

* Should conform to ISO standard

STETHOSCOPE, OBSTETRICAL

Shipping weight:	**4 kg / 100 units**
Shipping volume:	**52 dm³ / 100 units**
UNCCS Code:	**481567**



Use:
* For foetal heart auscultation

Material:
* Aluminium/wood or plastic

Specifications:
* Length: 15 cm approx.
* Instrument may be in either single or two pieces, with a foot that unscrews

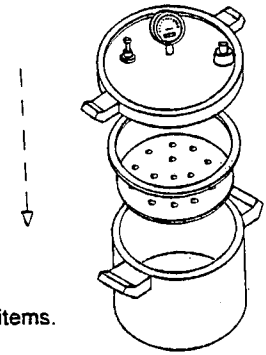
Packaging:
* Unit presentation: in plastic or cardboard box
* The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

Other requirements:
* Should conform to ISO standard

Chapter 7 Sterilization

AUTOCLAVE, 21 - 24 LITRE, WITH BASKET

Shipping weight:	**850 kg / 100 units**
Shipping volume:	**9400 dm³/100 units**
UNCCS Code:	**481411 (a)**



Use:
* For sterilization of medical items.

Components:
* Pressure vessel containing a perforated basket with feet, cover with rubber seal, pressure gauge, pressure regulator, safety valve

Materials:
* Metal pressure vessel, cover and basket in aluminium, seals of silicone rubber

Specifications:
* Capacity: 21 - 24 litre
* Internal dimensions: diam 30.5 cm, height: 29.2 - 30 cm
* Pressure gauge to be graduated up to 1.5 kg/cm², 20 lbf/in²
* Sterilization at 1 bar (15 lbf/in²), 121°C (250°F)

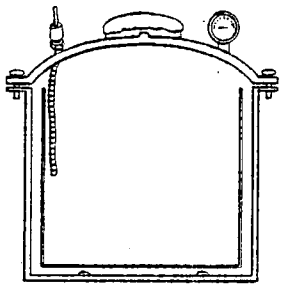
Packaging:
* Unit presentation; cardboard cover.
* The following must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)
  - manufacturer's guarantee certificate and accompanying instructions for use to be included inside the package

Other requirements:
* Should be supplied with spare gaskets (silicone rubber seals)
* The following additional items need to be provided to set up the autoclave for use:
  - 1 timer
  - Source of power (e.g. kerosene stove, electric heating plate 1,500 W minimum to be purchased locally)
  - Indicator TST control spots
  - Syringe holder suitable for 2,5 & 10 ml syringes.

Important:
Spare parts must be ordered with sterilizer
Numbers in brackets indicate number of spare parts required with the purchase of 10 sterilizers:
- gasket or sealing ring (3)
- steam release valve (1)
- safety valve (2)
- pressure valve (1)
- replacement handle (2)

AUTOCLAVE 39 LITRE, WITH BASKET

Shipping weight: 1940 kg /100 units
Shipping volume: 13390 dm³/100 units
UNCCS Code: 481411 (a)



Use:

* For sterilisation of medical items and equipment

Materials:

* Vessel and lid in aluminium

Specifications:

* Vessel with handles
* Lid without seal, handle, pressure gauge, regulating valve (or escape valve), extended by a flexible metal tube, overpressure valve, safety valve
* Basket without holes, with feet
* Capacity: 39 l
* Internal dimensions: diam. 35 cm, height 38 cm
* No lid seal: the joint is metal-to-metal
* Flexible metal tube extending into the bottom of the vessel to enable pockets of stagnant air near the bottom to escape
* Pressure gauge graduated in kg/cm², bar, PSI and degrees Fahrenheit
* Although it is graduated up to 2 bars, this unit can only be used for sterilization at 1 bar, 15 PSI, 121°C, 250°F

Packaging:

* 1 unit/reinforced cardboard box
* The following must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)
  - manufacturer's guarante certificate and accompanying instructions for use to be included inside the packaging

Other requirements:

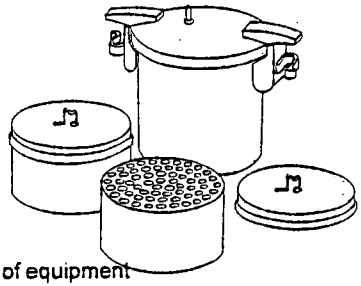
* The following additional items need to be provided to set up the autoclave for use:
  - 1 timer
  - 1 kerosene burner or electric plate 1,500 W minimum
  - Indicator TST control spots

Important:

Spare parts must be ordered with sterilizer
Numbers in brackets indicate number of spare parts required with the purchase of 10 sterilizers:
- gasket or sealing ring (3)
- steam release valve (1)
- safety valve (2)
- pressure valve (1)
- replacement handle (2)

AUTOCLAVE, 15 LITRE

Shipping weight:	**320-420 kg/100 units**
Shipping volume:	**1650-2175 dm³/100**
UNCCS Code:	**481431 (a)**



Use:
* Intended for sterilization of equipment

Material:
* Aluminium vessel and rack, handles of bakelite

Components:
* Vessel with handles
* Lid with seal, handle, pressure valve, safety valve
* Aluminium racks and lid

Specifications:
* Capacity: 7.5 litres -15 litres.
* Internal dimensions: diam. 21 cm, height 11 & 22 cm
* One immunization rack for syringes 0.05 and 0.1 ml
* Alternative healthcare rack for syringes 2 and 5 ml
* Without pressure gauge
* To be supplied with 3 spare seals, 2 safety valves, 1 plastic bowl for cleaning needles, instructions for use in three languages and 1 carrying bag.

Packaging:
* Unit presentation: 1 unit/reinforced carton
* The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)
  - manufacturer's guarantee certificate and accompanying instructions for use to be included inside the packaging

Other requirements:
* The following additional items need to be provided to set up the autoclave for use:
  - 1 timer
  - 1 hard water filter
  - 1 kerosene burner or electric plate 1,500 W minimum
  - Indicator TST control spots
  - syringes which fit the holder and are suitable for sterilization of needles
  - holder suitable for 2 and 5 ml syringes

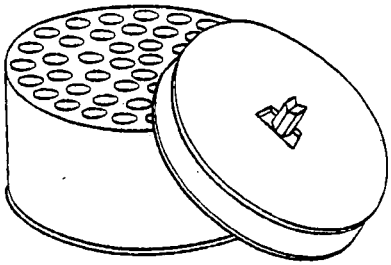
Important:

Spare parts must be ordered with sterilizer

Numbers in brackets indicate number of spare parts required with the purchase of 10 sterilizers:
- gasket or sealing ring (3)
- steam release valve (1)
- safety valve (2)
- pressure valve (1)
- replacement handle (2)

RACKS FOR STEAM STERILIZER,

Shipping weight:	**30 kg / 100 units**
Shipping volume:	**400 dm^3 / 100 units**
UNCCS Code:	**481499**



Use:

* For holding either immunization or healthcare syringes within steam sterilizers (see page 93)

Components:

* Rack.
* Cover with clip

Material:

* Aluminium.

Specifications:

* Rack with holes for 1, 2 and 5 ml reusable syringes and needles for sterilization
* Synonym: syringe holder
* Capacity:

Healthcare

26 syringes, 2 ml, reusable
(Note: glass 2 ml syringes do not fit)
12 syringes, 5 ml
42 reuseable needles

Immunization

42 syringes, 1 ml
42 syringes, 0.1 ml
2 syringes, 5 ml
50 reusable needles

Cover with clip which fits the central hole of the rack
Diameter: 20 cm, height: 12 cm

Packaging:

* Unit presentation: in plastic wrapping
* The following information must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

SYRINGE HOLDER, 2, 5 & 10 ml (FOR 21 LITRE AUTOCLAVE)

Shipping weight:	**50 kg /100 units**
Shipping volume:	**811 dm³ /100 units**
UNCCS Code:	**481499**

Use: One-piece rack with holes to hold 2ml, 5ml and 10 ml syringes for sterilization.

Material: Stainless steel/aluminium

Specifications:

* Capacity: 10 syringes. 10cc
  15 syringes, 5cc
  7 syringes, 2 cc
* 1 extra hole for serving forceps.
* No hole for needles.
* Diam. 26 cm, height 12.5 cm
* Syringe holder for 21 litre autoclave

Packaging:

* Unit presentation: in plastic wrapping
* The following must appear on the packaging:
  - designation of item
  - name and address of supplier (manufacturer)

INDICATOR, TST (TIME, STEAM, TEMPERATURE) CONTROL SPOT FOR STEAM STERILIZERS

Shipping weight: 2 kgs (50 packs)
Shipping volume: 0.004 m³
UNCCS Code: 481 498 (new)

Use:

* To indicate successful sterilization process

Material:

* Self adhesive coloured spots

Specifications:

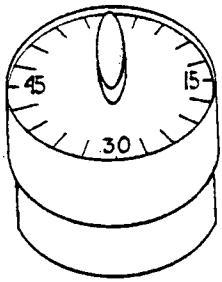
* Package of 300 spots and 1 record sheet.
* Spot can be attached to a rack of syringes or a sterlilizer drum.
* When the coloured spot is exposed to steam at 121°C, which is free of air, for a period of 15 minutes, a chemical reaction takes place and the spot changes colour irreversibly (from yellow to blue)

Packaging:

* Minimum order: 50 packs (i.e. 50 x 300 indicators)
  50 record systems

TIMER, 60 MINUTES

Shipping weight: 10 kg /100 units
Shipping volume: 14 dm³ /100 units
UNCCS Code: 481493



Use:
* Timer with a bell, used to count minutes.
* Used to measure the time for different methods of sterilization.

Material:
* Plastic

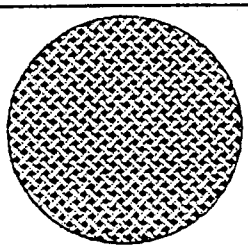
Specifications
* Mechanical timer with a bell - 0 to 60 minutes

Features:
* Plastic housing
* Easy to read, easy to use

Packaging:
* Individual units

FILTER, HARD WATER (for steam sterilizers)

Shipping weight: 2 kg /100 units
Shipping volume: 7dm³ /100 units
UNCCS Code: 439417



Use:
* Circular filter used to trap hard water deposits to prevent buildup of scale in autoclaves
* To be used with steam sterilizers

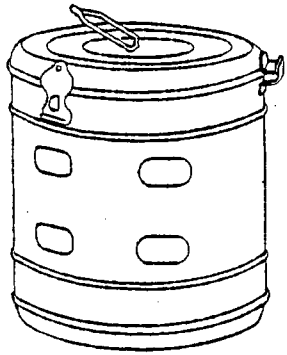
Material:
* Braided stainless steel.

Specifications:
* Diameter: 19 cm
* Thickness: 1 cm

Packaging:
* Individually sealed in a polythene bag

DRUM, LATERAL ECLIPSES

Shipping weight:	**200 kg /100 units**
Shiping volume:	**1800 dm³ /100 units**
UNCCS Code:	**481496**



Use:

- For sterilizing dressings (compresses, cotton etc...), medical equipment and theatre linen, and keeping it sterile
- For sterilizing syringes or forceps.

Material:

- Stainless steel

Specifications:

- Cylindrical container with attached lid and lateral eclipses
- Dimensions:

For dressings, compresses:
External diameter: 15 cm External height: 10 cm
(compatible with 21 l autoclave (6 drums), 39 l autoclave (16 drums))

For dressings and medical equipment:
External diameter: 29 cm External height 14.5 cm
(compatible with 21 l autoclave (1 drum), 39 l autoclave (2 drums))

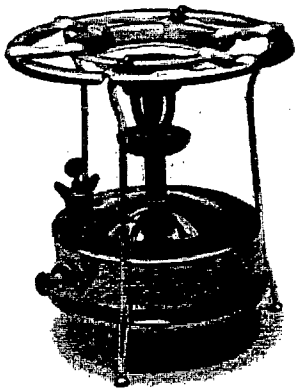
For theatre linen and medical equipment:
External diameter 34 cm External height 24 cm
(compatible with 39 l autoclave (1 drum))

Packaging:

- 1 unit in plastic bag in small carton
- The following must appear on the packaging:
  - designation of items
  - name and address of supplier (manufacturer)
  - manufacturer's guarantee certificate and accompanying instructions for use included inside the packaging

BURNER, PRESSURE, KEROSENE

Shipping weight:	**260 kg /100 units**
Shipping volume:	**1200 dm³ /100 units**
UNCCS Code:	**448291 (a)**



Use:
* Portable pressure burner used for heating

Material:
* Plastic body

Material:
* Copper tank

Components:
* Kerosene tank with piston for pumping up the pressure
* 1 burner
* 1 pot stand with 3 legs
* Pressure release valve

Specifications:
* Tank capacity: 2.4 l
* Consumption: 0.6 l/hour
* Endurance: 4 hours approx
* Total height: 29 cm
* Tank easy to fill (large plug)

Packaging:
* Unit packed in a cardboard box
* The following information must appear on the packaging:
  - designation of items
  - name and address of supplier (manufacturer)

Other requirements:
* Supplied dismantled, with
  - 2 pricker needles for clearing the nozzle
  - 1 spare seal for the burner
  - 1 washer for the pump barrel

Note:

When using larger sterilizers, a support of some type (such as bricks) should be provided locally.

For reasons of safety and in order to ensure that burners are replaced regularly, spare parts are not supplied. In case of problems, order a new burner

Chapter 8 Surgical Instruments

BLADE, SCHINK DERMATOME

Shipping weight:	**1.4 kg /100 units**
Shipping volume:	**0.2 dm³ / 100 units**
UNCCS Code:	**486112**

Use:
* To cut a superficial sheet of skin for grafting

Material:
* Martensitic steel (quenched, magnetic steel)

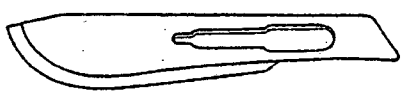
Specifications:
* Rectangular blade to be attached to a dermatome (see page 109)

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Used with Schink dermatome (see page 109)
* Conforms to ISO standard

BLADE, SCALPEL, N° 22
FOR HANDLE N° 4

Shipping weight:	**1.4 kg / 100 units**
Shipping volume:	**0.25 dm³ / 100 units**
UNCCS Code:	**486111**



Use:
* Basic cutting instrument for surgical incisions (see page 126)

Material:
* Martensitic steel (quenched, magnetic steel)

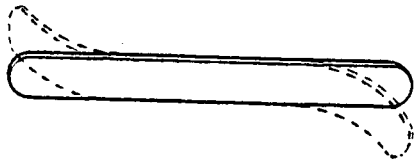
Specifications:
* Surgical blade for use with standard handle no. 4 (see page 126)
* Sterile instrument/disposable
* Length: 5.8 cm
* Hardness: 50 HRC to 58 HRC

Packaging:
* Unit presentation : 100 units per packet, each blade individually wrapped in laminated foil
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

BLADE, MALLEABLE

Shipping weight:	0.151 kgs/100 units
Shipping volume:	0.45 dm³/100 units
UNCCS Code:	486113



Use:
* Used to hold open fatty tissue, muscle or viscera after an abdominal incision

Material:
* Austenitic steel (non-quenched, non-magnetic steel)

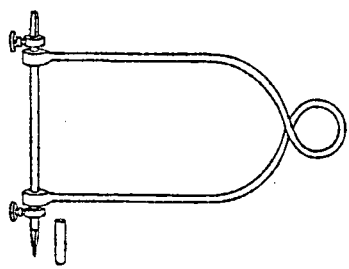
Specifications:
* Depressor spatula, rectangular with rounded ends
* Dimensions: 27 mm x 25 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

BOW, BOEHLER

Shipping weight:	50 kg /100 units
Shipping volume:	25 dm³/100 units
UNCCS Code:	486189



Use:
* With Steinmann pin (see page 125) to exert traction on a limb

Material:
* Martensitic (quenched, magnetic steel) and Austenitic steel (non-quenched, non-magnetic steel)

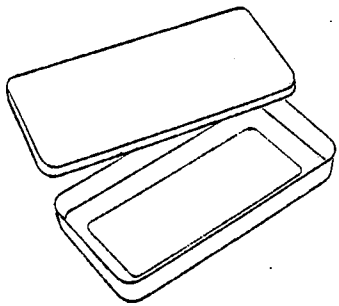
Specifications:
* Bow for Steinmann pins
* For arm: 9 x 16 cm, complete with 1 Steinmann pin
* For tibia and femur: 11 x 21 cm, complete with 1 Steinmann pin (extension Steinmann pin with trocar point, dia 4 mm)

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

BOX, INSTRUMENTS, STAINLESS STEEL

Shipping weight:	**100 kg/100 units**
Shipping volume:	**300 dm³ /100 units**
UNCCS Code:	**486197**



Use:

* For storing and sterilizing surgical instruments

Material:

* Austenitic steel (non-quenched, non-magnetic steel)

Specifications:

* Dimensions:
  18 x 8 x 4 cm
  20 x 10 x 3 cm
  25 x 12 x 6 cm
  32 x 15 x 6 cm
  40 x 20 x 9 cm
  45 x 20 x 9 cm

Packaging:

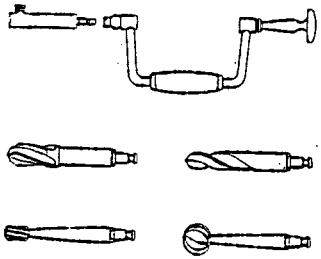
* The boxes should be watertight when closed
* Unit presentation: individually wrapped, stackable
* The following should appear on the packaging:
  - designation of the instruments
  - name and address of supplier (manufacturer)

Other requirements:

* Conforms to ISO standard

CRANIAL DRILL, HUDSON, 4 BURRS + 1 EXTENSION PIECE

Shipping weight:	**82 kg / 100 units**
Shipping volume:	**20 dm³ / 100 units**
UNCCS Code:	**486131**



Use:
* For preparatory drilling before removing section of skull bone (trepanning)

Material:
* Martensitic steel (burrs) and Austenitic steel (trephine)

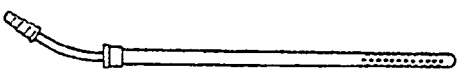
Specifications
* Drill, Hudson

Packaging:
* Unit presentation : individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other Requirements:
* To be used with:
  Flexible De Martel, see page 123
  Gigli wire saw, see page 125
* Conforms to ISO standards

POOLE, SUCTION TUBE, METAL

Shipping weight:	**10 kg / 100 units**
Shipping volume:	**60 dm³ / 100 units**
UNCCS Code:	**486147**



Use:
* Used for aspirating fluids/secretions from the operative area

Material:
* Austenitic steel (non-quenched, non-magnetic steel)

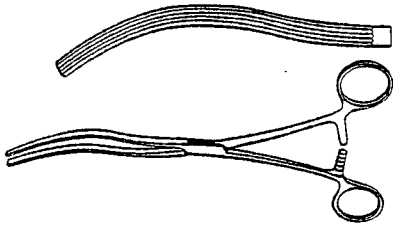
Specifications:
* Suction Tube
* Length: 22 cm, diameter 6 mm or 8 mm, curved

Packaging:
* Unit presentation : individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* The diameter of the cannula should match the tube used to connect the aspiration jars

CLAMP, INTESTINAL, CURVED, KOCHER

Shipping weight:	**3 kg / 100 units**
Shipping volume:	**1 dm³/ 100 units**
UNCCS Code:	**486151**



Use:
* For transverse occlusion of a section of intestine while suturing an anastomosis

Material:
* Martensitic steel (quenched, magnetic steel)

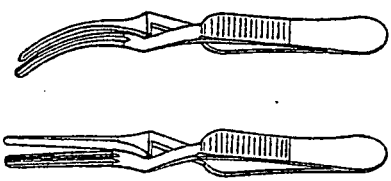
Specifications:
* Intestinal clamp
* Jaws very springy and soft
* Features:
  - Atraumatic
  - Occlusion: the form and mechanical action must permit precise closing
  - Adhesion: provided by the surface of the jaws
* Length: 23 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

CLAMP, BULLDOG

Shipping weight:	**2 kg /100 units**
Shipping volume:	**1 dm³/100 units**
UNCCS Code:	**486152**



Use:
* For temporary occlusion of vessels

Material:
* Martensitic steel (quenched, magnetic steel)

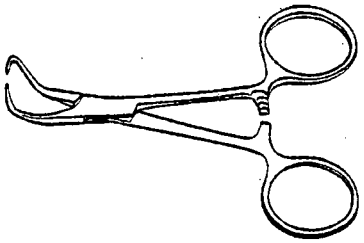
Specifications:
* Hemostatic clamp
* Atraumatic character
* Occlusion: the form and mechanical action must permit precise closing
* Adhesion: provided by the surface of the jaws
* Length: 105 mm curved and 75 mm straight

Packaging:
* Unit presentation : individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

CLAMP, TOWEL, BACKHAUS

Shipping weight:	**2 kg /100 units**
Shipping volume:	**0.4 dm³ /100 units**
UNCCS Code:	**486153**



Use:
* To attach towels around the surgical incision, either with or without piercing the skin

Material:
* Martensitic steel (quenched, magnetic steel)

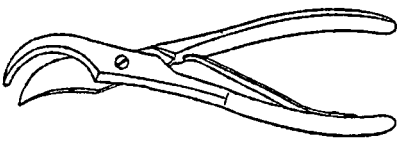
Specifications:
* "Towel clamp", springy
* Hard ratchet, fine, single tooth in each jaw
* Lockable
* Length: 13 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address and supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

RIB SHEARS

Shipping weight:	**24 kg /100 units**
Shipping volume	**23 dm³/100 units**
UNCCS Code:	**486129 (a)**



Use:
* For cutting ribs in chest surgery

Material:
* Martensitic steel (quenched, magnetic steel)

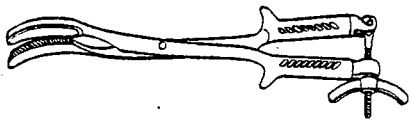
Specifications
* Shears for ribs
* Length: 22 cm.

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - nominal dimension

Other requirements:
* Conforms to ISO standard

CRANIOCLAST, BRAUN

Shipping weight:	**88 kg / 100 units**
Shipping volume:	**17 dm³ / 100 units**
UNCCS Code:	**486116**



Use:
* For gripping and decreasing the foetal skull in case of death in utero, in order to extract it via the vagina

Material:
* Martensitic steel (quenched, magnetic steel)

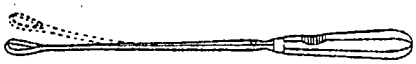
Specifications:
* Pressure force instrument with screw clamp
* Length: 42 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

CURETTE, UTERINE SIMS, SHARP

Shipping weight:	**8.1 kg /100 units**
Shipping volume:	**1.35 dm³/100 units**
UNCCS Code:	**486141**



Use:
* For removal of retained products of conception from inside the uterus

Material:
* Metal, corrosion resistant, overall

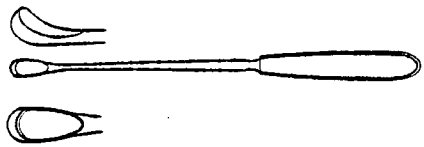
Specifications:
* Sharp curette
* Sizes: Small, medium and large
* Shank type: Malleable
* Blade shape: Oval
* Blade edge type: sharp

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

CURETTE, GOURDET - UTERINE SCOOP

Shipping weight:	**8.1 kg /100 units**
Shipping volume:	**1.5 dm³ /100 units**
UNCCS Code:	**486141**



Use:
* For removal of retained products of conception from inside the uterus

Material:
* Martensitic steel (quenched, magnetic steel)

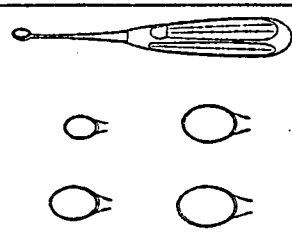
Specifications:
* Uterine scoop
* Form of a spoon.
* Blunt atraumatic edges.
* Dimensions:
  - Length: Shaft: 28 cm
  - Width: Spoon: 12 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

CURETTE, VOLKMANN - BONE SCOOP

Shipping weight:	**5 kg /100 units**
Shipping volume:	**1.5 dm³ /100 units**
UNCCS Code:	**486142**



Use:
* Curettage of bone/abscess/cavities etc.

Material:
* Martensitic steel (quenched, magnetic steel)

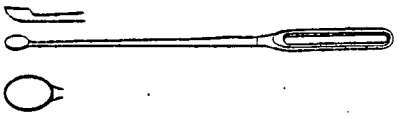
Specifications:
* Bone curette
* Form of a hollow spoon with cutting edges.
* Dimensions:
  - Length: Shaft: 17 cm
  - Width: Spoons: 2, 4, 5, 6 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

CURETTE, SIMON - UTERINE SCOOP

Shipping weight:	**8.1 kg / 100 units**
Shipping volume:	**1.8 dm3 / 100 units**
UNCCS Code:	**486141**



Use:
* Used for removal of retained products of conception from inside the uterus

Material:
* Martensitic steel (quenched, magnetic steel)

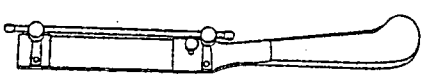
Specifications:
* Uterine scoop
* Blunt atraumatic edges
* Dimensions:
  - Length: Shaft: 29 cm
  - Width: Spoon: 6 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

DERMATOME, SCHINK

Shipping weight:	**46 kg /100 units**
Shipping volume:	**15 dm³/100 units**
UNCCS Code:	**486117**



Use:
* Handle for Dermatome blade (see page 101)
* For taking skin graft

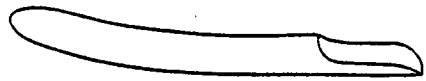
Material:
* Austenitic steel (non-quenched, non-magnetic steel)

Specifications:
* Dermatome handle
* Total length: 30 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

DILATOR, HEGAR, SINGLE ENDED



Shipping weight:	**3 kg /100 units**
Shipping volume:	**2 dm³ /100 units**
UNCCS Code:	**486188**

Use:
* To dilate the cervix of the uterus in order to make room for insertion of instruments for evacuation of uterus

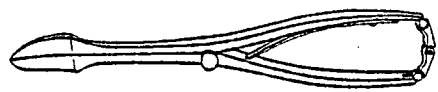
Material:
* Austenitic steel (non-quenched, non-magnetic steel)

Specifications:
* Cervical dilator
* Provided in sets of 9, in metal boxes, (sizes 2, 4, 6, 8, 10, 12, 14, 16 and 18 mm)
* The distal end must be rounded, smooth and atraumatic

Packaging:
* Unit presentation: in sets of 9, individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

PERFORATOR, NAEGELE



Shipping weight:	**26 kg /100 units**
Shipping volume:	**6 dm³ /100 units**
UNCCS Code:	**486135**

Use:
* To pierce foetal skull and reduce its diameter in case of death in utero, in order to permit vaginal extraction

Material:
* Martensitic steel (quenched, magnetic steel)

Specifications:
* Cuts by perforating shears
* Length: 26 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

ELEVATOR, LANGE HOHMANN

Shipping weight: 10 kg /100 units
Shipping volume: 1 dm^3 /100 units
UNCCS Code: 486156

Use:
* To reduce fractures

Material:
* Martensitic steel (quenched, magnetic steel)

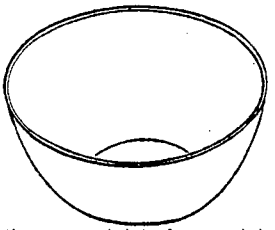
Specifications:
* Elevator with handle
* Width of elevator: 30 or 34 mm
* Length of elevator: 27 or 29 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

POT, STAINLESS STEEL (GALLIPOT)

Shipping weight:	**6 kg /100 units**
Shipping volume:	**10 dm³ / 100 units**
UNCCS Code:	**486191**



Use:
* Recipient for liquids and other material before and during an operation

Material:
* Austenitic steel (non-quenched, non-magnetic steel)

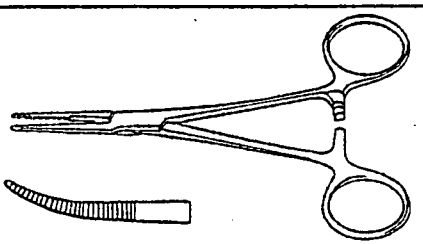
Specifications:
* Pot
* 8 cm/100 ml and 12 cm/500 ml

Packaging:
* Unit presentation: individual, with protective wrapping & stackable
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, KELLY, CURVED

Shipping weight:	**3 kg / 100 units**
Shipping volume:	**1 dm³ / 100 units**
UNCCS Code:	**486171**



Use:
* For haemostasis

Material:
* Martensitic steel (quenched, magnetic steel)

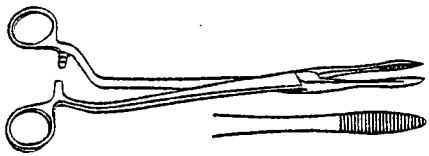
Specifications:
* Haemostatic forceps
* Locking
* Variable setting of ratchet, lockable
* Adjustment of jaws
* Length: 23 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier manufacturer

Other requirements:
* Conforms to ISO standard

FORCEPS, DRESSING, CHERON, STRAIGHT

Shipping weight:	**3 kg /100 units**
Shipping volume:	**1 dm³ /100 units**
UNCCS Code:	**486163**



Use:
* For dressing/swabbing of vagina in preparation for surgical intervention
* Also used as serving forceps (used with jar for forceps, see page 72)

Material:
* Martensitic steel (quenched, magnetic steel)

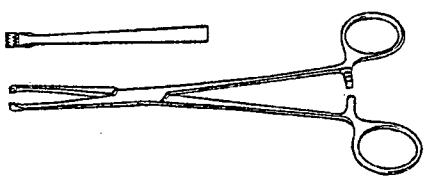
Specifications:
* Vaginal dressing forceps
* Flexible arms
* Variable setting of ratchet, lockable
* Adjustment of jaws
* Length: 25 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, ALLIS, TOOTHED

Shipping weight:	**3 kg /100 units**
Shipping volume:	**1 dm³ /100 units**
UNCCS Code:	**486172**



Use:
* To grip soft tissue (intestines)

Material:
* Martensitic steel (quenched, magnetic steel)

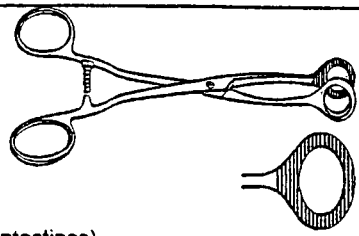
Specifications:
* Gripping forceps, atraumatic style jaws
* Precise adjustment of the teeth
* Length 15 cm
* Hard ratchet, lockable

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, COLLIN, HEART-SHAPED

Shipping weight:	**5 kg /100 units**
Shipping volume:	**2 dm³/100 units**
UNCCS Code:	**486173**



Use:
* To grip soft tissue (intestines)

Material:
* Martensitic steel (quenched, magnetic steel)

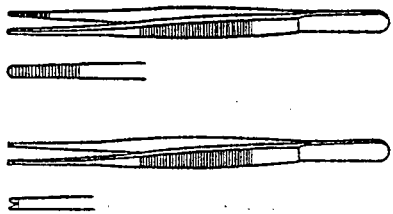
Specifications:
* Gripping forceps, springy
* Ridged grippers, each with aperture (heart-shaped)
* Soft ratchet, lockable
* Pronounced but atraumatic ridges of the grippers
* Length: 16 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, DISSECTING WITH OR WITHOUT TEETH

Shipping weight:	**3 kgs /100**
Shipping volume:	**1 dm³/100**
UNCCS Code:	**486162**



Use:
* For gripping, dissecting tissue and coagulation of vessels
* Used in surgery and nursing
* Forceps without teeth are used for dissecting delicate tissues, and those with teeth for dissecting thick tissues

Material:
* Martensitic steel (quenched, magnetic steel)

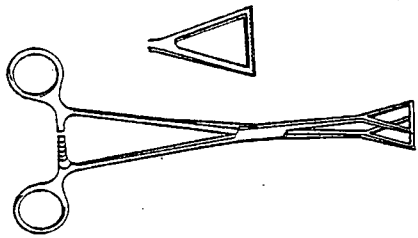
Specifications:
* Dissecting forceps, springy
* Available with our without teeth
* Flexible arms
* Good adjustment of the teeth
* Good gripping of the jaws
* Length: 14.5 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, DUVAL

Shipping weight:	**5 kg /100 units**
Shipping volume:	**2 dm³ /100 units**
UNCCS Code:	**486164 (a)**



Use:
* To grip soft and delicate tissue (lungs and intestines)

Material:
* Martensitic steel (quenched, magnetic steel)

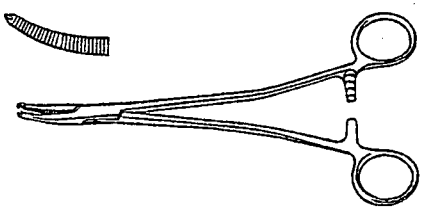
Specifications:
* Gripping forceps, springy
* Flexible arms
* Soft ratchet, lockable
* Pronounced but atraumatic ridges of the grippers
* Ridged grippers with aperture (triangular)
* Length: 23 cm Jaw: 20 mm

Packaging:
* Unit presentation: individual, with protective wrapping
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, FAURE, CURVED, TOOTHED

Shipping weight:	**6 kg /100 units**
Shipping volume:	**2 dm³ /100 units**
UNCCS Code:	**486174**



Use:
* For haemostasis of the arteries, especially the uterine

Material:
* Martensitic steel (quenched, magnetic steel)

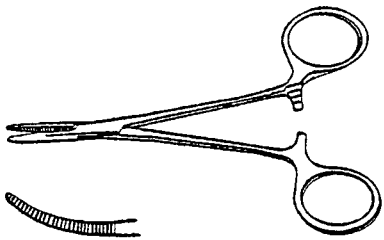
Specifications:
* Hemostatic forceps, slightly springy
* Flexible arms
* Variable setting of the ratchet, lockable
* Adjustment of the jaws
* Curved forceps with teeth
* Length: 21 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standards

FORCEPS, MOSQUITO, CURVED NON-TOOTHED

Shipping weight:	3 kg/100
Shipping volume:	1 dm^3 /100
UNCCS Code:	486175



Use:
* For haemostasis

Material:
* Martensitic steel (quenched, magnetic steel)

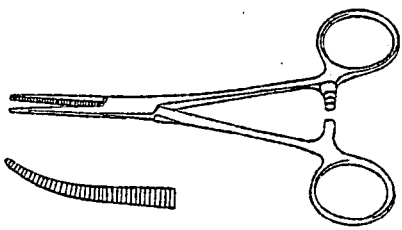
Specifications:
* Haemostatic forceps, springy, atraumatic jaws
* Flexible arms
* Variable setting of the ratchet, lockable
* Slim, curved forceps without teeth
* Length: 12.5 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirments:
* Conforms to ISO standard

FORCEPS, CRILE, CURVED

Shipping weight:	3 kg /100 units
Shippimg volume:	1 dm^3 /100 units
UNCCS Code:	486165



Use:
* For haemostasis, inserting drains, and for holding a compress used as a tampon

Material:
* Martensitic steel (quenched, magnetic steel)

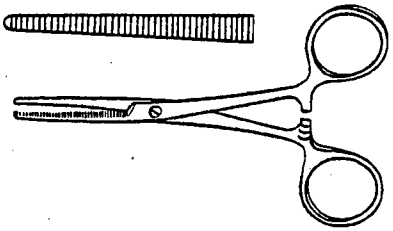
Specifications:
* Haemostatic forceps, slightly springy
* Curved
* Flexible arms
* Variable setting of the ratchet, lockable
* Adjustment of the jaws
* Length: 14 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, PEAN, STRAIGHT

Shipping weight: 3 kg / 100 units
Shipping volume: 1 dm³ / 100 units
UNCCS Code: 486168



Use:
* For general use: hemostasis, gripping, dissection, tampon holder

Material:
* Martensitic steel (quenched, magnetic steel)

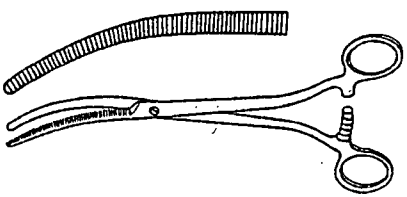
Specifications:
* Haemostatic forceps, springy, atraumatic jaws
* Flexible arms
* Variable setting of the ratchet
* Adjustment of the jaws
* Without teeth
* Length: 14 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, PEAN, CURVED

Shipping weight: 3 kg /100 units
Shipping volume: 1 dm³/100 units
UNCCS Code: 486168



Use:
* Used as haemostatic forceps in deep surgery

Material:
* Martensitic steel (quenched, magnetic steel)

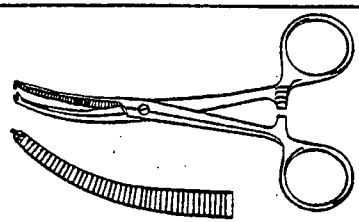
Specifications:
* Haemostatic forceps, springy
* Flexible arms
* Variable setting of the ratchet
* Adjustment of the jaws
* Curved without teeth
* Length: 24 cm

Packaging:
* Unit presentation: individual with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, KOCHER, CURVED, TOOTHED

Shipping weight:	**3 kg / 100 units**
Shipping volume:	**1 dm³ / 100 units**
UNCCS Code:	**486161 (a)**



Use:
* For general use: haemostasis, gripping, dissection, tampon holder

Material:
* Martensitic steel (quenched, magnetic steel)

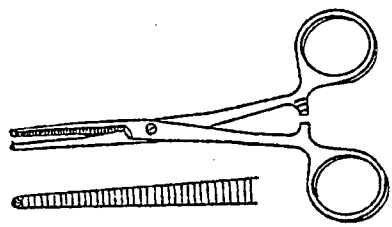
Specifications
* Haemostatic forceps, springy
* Flexible arms
* Variable setting of the ratchet, lockable
* Adjustment of the jaws
* Toothed
* Length: 14 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - country of origin
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, KOCHER, STRAIGHT, TOOTHED

Shipping weight:	**3 kg / 100 units**
Shipping volume:	**1 dm³ / 100 units**
UNCCS Code:	**486161**



Use:
* For general use: haemostasis, gripping, dissection, tampon holder

Material:
* Martensitic steel (quenched, magnetic steel)

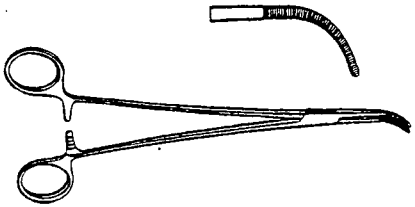
Specifications:
* Haemostatic forceps, slightly springy
* Flexible arms
* Variable setting of the ratchet
* Adjustment of the jaws
* Length: 14 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, DISSECTING, MIXTER

Shipping weight: 3 kg /100 units
Shipping volume: 1 dm³ /100 units
UNCCS Code: 486166



Use:
* For dissecting and for passing a thread around a vein or an artery

Material:
* Martensitic steel (quenched, magnetic steel)

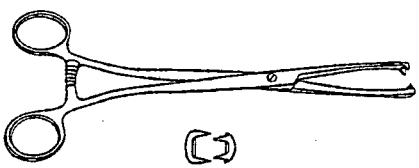
Specifications:
* Threading forceps, springy
* Flexible ratchet, lockable
* Jaws which grip the thread well
* Length: 23 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, MUSEUX, TOOTHED

Shipping weight: 7 kg / 100 units
Shipping volume: 3 dm³ / 100 units
UNCCS Code: 486167



Use:
* For gripping and immobilization of thick tissue (uterine traction forceps)

Material:
* Martensitic steel (quenched, magnetic steel)

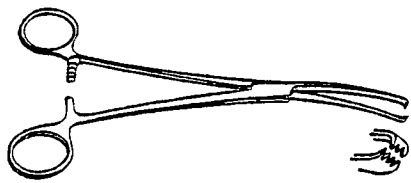
Specifications:
* Gripping forceps with teeth
* Uterine traction forceps
* Precise adjustment of the teeth
* Hard ratchet, lockable
* Length: 24 cm
* Jaws: 10 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, UTERINE, TEALE, TOOTHED

Shipping weight:	**3 kg /100 units**
Shipping volume:	**2 dm³ /100 units**
UNCCS Code:	**486170**



Use:
* Used for gripping and immobilization of thick tissue (uterine traction forceps)

Material:
* Martensitic steel (quenched, magnetic steel)

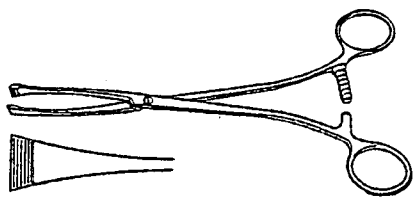
Specifications:
* Gripping forceps with teeth for uterine traction, springy
* Length: 23 cm

Packaging:
* Individual with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, GREEN ARMYTAGE

Shipping weight:	**3 kg /100 unirs**
Shipping volume:	**2 dm³/100 units**
UNCCS Code:	**486177**



Use:
* For haemostasis particularly the incision of the uterine wall during caesarian section

Material:
* Martensitic steel (quenched, magnetic steel)

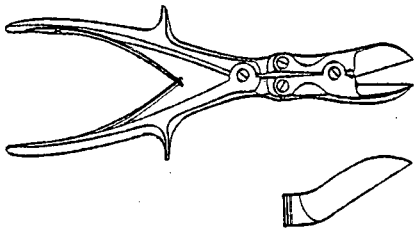
Specifications:
* Uterine clamp forceps, springy
* Flexible arms
* Variable setting of rachet
* Adjustable jaws
* Without teeth
* Length: 24 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements: Conforms to ISO standard

FORCEPS, LISTON, CURVED, DOUBLE HINGE

Shipping weight:	**46 kg / 100 units**
Shipping volume;	**10 dm³ / 100 units**
UNCCS Code:	**486176**



Use:
* For cutting/ablation of bone fragments and cartilage

Material:
* Martensitic steel (quenched, magnetic steel)

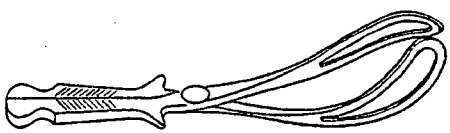
Specifications:
* Bone cutter/forceps with curved jaw and double hinge for greater leverage
* Jaws with a perfect cutting edge
* Length: 27 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

FORCEPS, NAEGELE, OBSTETRIC

Shipping weight:	**102 kg / 100 units**
Shipping volume:	**80 dm³ / 100 units**
UNCCS Code:	**486178**



Use:
* To grip the head of the baby to assist in a difficult vaginal delivery

Material:
* Martensitic steel (quenched, magnetic steel)

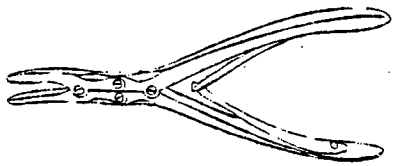
Specifications:
* Gripping forceps for delivery
* Consists of two separate pieces
* The spoons should be atraumatic
* Length: 35 cm
* Jaws: 10 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

BONE, RONGEUR FORCEPS, BEYER

Shipping weight:	**10 kg /100 units**
Shipping volume:	**3 dm³ / 100 units**
UNCCS Code:	**486179**



Use:
* Used for removal of bone fragments and cartilage

Material:
* Martensitic (non-quenched, non-magnetic steel)

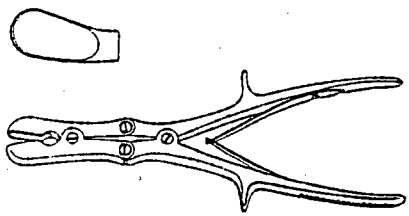
Specifications:
* Bone Rongeur forceps
* Forceps with special joint giving greater leverage with oval jaws in the form of a gouge
* 18 cm length

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

BONE, RONGEUR FORCEPS

Shipping weight:	**10 kg / 100 units**
Shipping volume:	**3 dm³/ 100 units**
UNCCS Code:	**486179**



Use:
* For removal of bone fragments and cartilage

Material:
* Martensitic (non-quenched, non-magnetic steel)

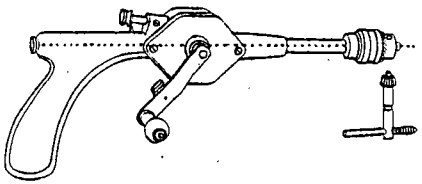
Specifications:
* Bone rongeur forceps
* Forceps with double joint giving greater leverage with curved jaws in the form of a gouge
* 18cm length

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

HAND-DRILL WITH CHUCK FOR KIRSCHNER WIRES/PINS

Shipping weight:	**60 kg / 100 units**
Shipping volume:	**81 dm³ / 100 units**
UNCCS Code:	**486136**



Use:
* For perforating bone to introduce a Kirschner wire or Steinmann pin

Material:
* Brace: Austenitic steel (non-quenched, non-magnetic steel)
* Chuck: Martensitic steel (quenched, magnetic steel)
* Head of Brace: Aluminium (for reasons of weight)

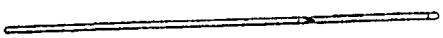
Specifications:
* Perforator with three-jawed chuck for pins and drills with axial channel
* Wiredriver

Packaging:
* Unit presentation: special box, wrapped
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer) - manufacturer's certificate of guarantee should be enclosed

Other specifications:
* Conforms to ISO standard

FLEXIBLE, DE MARTEL

Shipping weight:	**1 kg / 100 units**
Shipping volume;	**1 dm³ / 100 units**
UNCCS Code:	**486134**



Use:
* For introducing the wire of the Gigli saw during trepanation

Material:
* Austenitic steel (quenched, magnetic steel)

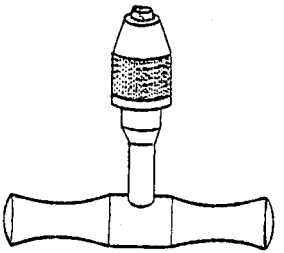
Specifications:
* Flexible guide for sawing wire, with atraumatic edges
* Length: 33 cm

Packaging:
* Unit presentation: individual, wrapped in protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

HANDLE/CHUCK FOR PINS

Shipping weight: 9 kg / 100 units
Shipping volume: 3 dm³ / 100 units
UNCCS Code: 486137



Use:
* To perforate bones in order to introduce Steinmann pins

Material:
* T-handle: austenitic steel (non-quenched, non-magnetic steel)
* Chuck: martensitic steel (quenched, magnetic steel)

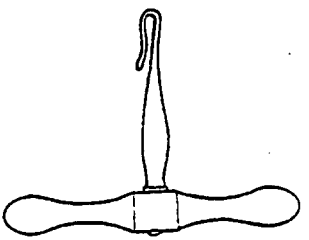
Specifications:
* Chuck which fits on a T-handle

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

GIGLI WIRE SAW HANDLE

Shipping weight: 5 kg / 100 units
Shipping volume: 1 dm³ / 100 units
UNCCS Code: 486133



Use:
* Used in pairs to attach at either end of a wire saw (see page 125), for cutting bone or trepanning

Material:
* Martensitic steel (quenched, magnetic steel) not stainless steel

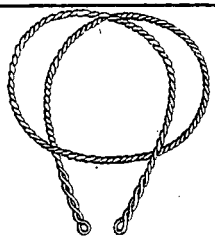
Specifications:
* Handle for wire saw. T-handle with hook at the end to which the wire of the Gigli saw can be attached

Packaging:
* Unit presentation: in pairs, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

WIRE SAW, GIGLI

Shipping weight:	**1 kg /100 units**
Shipping volume:	**1 dm³/100 units**
UNCCS Code:	**486132**



Use:
* Used with handles (see page 124), to cut the bone for amputation or trepanning

Material:
* Non-stainlesssteel

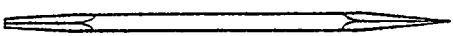
Specifications:
* Wire saw
* Contains a ring at each end enabling it to be attached to the Gigli saw handles
* 50 cm

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

STEINMANN PINS

Shipping weight:	**2 kg /100 units**
Shipping volume:	**1dm³/100 units**
UNCCS Code:	**486138**



Use:
* To pierce certain bones (femur, tibia, olecranon) in order to apply traction

Material:
* Austenitic (quenched, magnetic steel), cold hammered for greater hardness

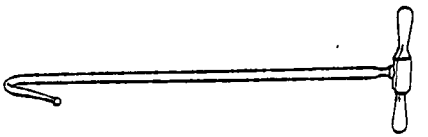
Specifications:
* Metal shank
* Contains trocar point
* Diameter 4 mm x 150 mm
* Diameter 4 mm x 210 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)
  - number of units in box

Other requirements:
* Conforms to ISO standard

HOOK, DECAPITATION, BRAUN

Shipping weight:	41 kg / 100 units
Shipping volume:	6 dm³ / 100 units
UNCCS Code:	486196



Use:
* To extract the foetus through the vagina in case of death in utero

Material:
* Martensitic steel (quenched, magnetic steel)

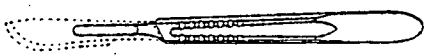
Specifications:
* Obstetrical hook
* Length: 31 cm

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCALPEL HANDLE N° 4

Shipping weight:	3 kg / 100 units
Shipping volume:	1 dm³ / 100 units
UNCCs Code:	486114 (a)



Use:
* To hold blade for surgical incisions (for use with No. 22 scalpel blade, see page 101)

Material:
* Austenitic steel (non-quenched, non-magnetic steel)

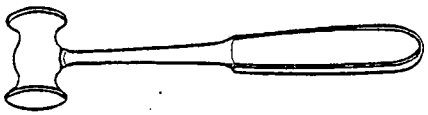
Specifications:
* Bistoury handle for interchangeable blade. The number indicates the characteristic of the distal end and therefore the choice of the blade
* Length: 13.5 cm
* Sterile

Packaging:
* Unit presentation: individual sterilized peel-packs
* Protective packaging : carton, containing 100 units
  Each carton and plastic bag to be clearly marked with expiry date and batch number

Other Requirements:
* Note that handle number 4 does not fit blade number 11
* Conforms to ISO standard

MALLET, COLLIN

Shipping weight:	**28 kg / 100 units**
Shipping volume:	**3 dm³ / 100 units**
UNCCS Code:	**486195**



Use:
* For bone surgery

Material:
* Austenitic steel (non-quenched, non-magnetic steel)

Specifications:
* Solid metal mallet
* Length: 21 cm
* Weight: 210 g
* Diameter of heads: 30 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

BONE CHISEL, SMITH-PETERSEN

Shipping weight:	**17 kg /100 units**
Shipping volume:	**2 dm³/ 100 units**
UNCCS Code:	**486194**

Use:
* For bone surgery

Material:
* Stainless steel, corrosion resisting overall

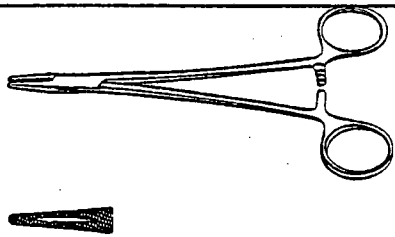
Specifications:
* Bone chisel
* Blade edge: double bevel
* Width : 6 - 30 mm
* Length: 20 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

NEEDLE-HOLDER, MAYO-HEGAR

Shipping weight	**4 kg / 100 units**
Shipping volume:	**2 dm^3 / 100 units**
UNCCS Code:	**486193**



Use:
* For holding suture needles whilst stitching

Material:
* Martensitic steel (quenched, magnetic steel)

Specifications:
* Needle holder
* A ratchet that enables the needle to be gripped with varying tightness
* A well-defined longitudinal groove to prevent deterioration of the needle
* Jaws with pronounced ridges
* Length: 18 cm

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

PROBE

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**0.1 dm³ / 100 units**
UNCCS Code:	**486192**

Use:
* To explore a surgical wound or to follow path of a fistula

Material:
* Austenitic steel (non-quenched, non-magnetic steel)

Specifications:
* Probe/dilator
* A bulbous shape at both ends
* Length: 14.5 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

UTERINE SOUND, SIMS

Shipping weight:	**5 kg / 100 units**
Shipping volume:	**1 dm³ / 100 units**
UNCCS Code:	**486187**

Use:
* To measure, via the vagina, the depth of the uterine cavity

Material:
* Silver-coated austenitic steel (non-quenched, non-magnetic steel)

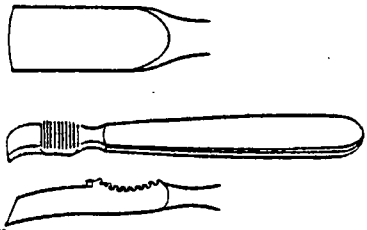
Specifications:
* Uterine sound, malleable
* Silver-coated austenitic steel (non-quenched, non-magnetic steel)
* Graduated in cm, shaft made of malleable metal, distal end bulbous, mounted on a handle
* Length: 32 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

RASPATORY, FARABEUF

Shipping weight:	**15 kg / 100 units**
Shipping volume:	**15 dm³ / 100 units**
UNCCS Code:	**486157**



Use:
* To raise the periosteum

Material:
* Martensitic steel (quenched, magnetic steel)

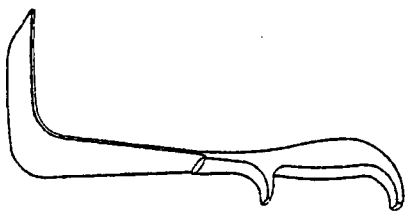
Specifications:
* Raspatory
* Cutting edges on the end
* Cutting edge width: 13 mm
* Length: 15 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

RETRACTOR, VAGINAL, DOYEN

Shipping weight:	**20 kg /100 units**
Shipping volume:	**6 dm³ /100 units**
UNCCS Code:	**486181**



Use:
* To expose the vaginal cavity

Material:
* Martensitic steel (quenched, magnetic steel)

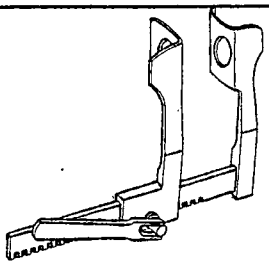
Specifications:
* Vaginal retractor
* Lateral edges must be blunt.
* Blade length: 55 mm
* Blade width: 35 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

RIB SPREADERS, FINOCHIETTO

Shipping weight:	**17 kgs/ 100 units**
Shipping volume:	**6 dm³/100 units**
UNCCS Code:	**486186**



Use:
* To spread ribs during thoracic surgery

Material:
* Martensitic steel (quenched, magnetic steel)

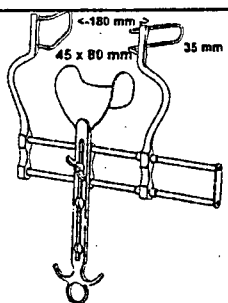
Specifications:
* Retractor for spreading ribs
* Teeth: 40 mm
* Jaws: 150 mm

Packaging:
* Unit presentation: set, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

ABDOMINAL RETRACTOR, BALFOUR

Shipping weight:	**25 kg /100 units**
Shipping volume:	**8 dm³/100**
UNCCS Code:	**486182**



Use:
* To retract skin, fatty tissue, muscles or viscera after the incision to expose the operative field

Material:
* Compass: Martensitic steel (quenched, magnetic steel)
* Valve: Austenitic steel (non-quenched, non-magnetic steel)

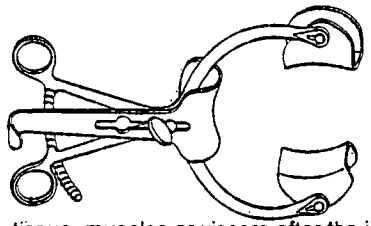
Specifications:
* Suprapubic abdominal retractor with locking mechanism and compass (self holding)
* The compass is a support with hinged arms
* The valve moves independently and engages with the compass

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

ABDOMINAL RETRACTOR, COLLIN

Shipping weight:	**51 kg / 100 units**
Shipping volume:	**30 dm³/ 100 units**
UNCCS Code:	**486182**



Use:
* To retract skin, fatty tissue, muscles or viscera after the incision to expose the operative field

Material:
* Martensitic steel (quenched, magnetic steel)

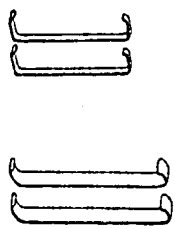
Specifications:
* Abdominal retractor with locking mechanism (self holding)
* 3 blades, the two side blades being mobile and the middle blade removable
* Central blades: width: 50 mm
  length: 75 mm

Packaging:
* Unit presentation: set, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

RETRACTOR, FARABEUF, PAIR

Shipping weight:	**7 kg / 100 units**
Shipping volume:	**5 dm³/100 units**
UNCCS Code:	**486183**



Use:
* To retract skin, fatty tissue, muscles or viscera during superficial surgery

Material:
* Austenitic steel (quenched, magnetic steel)

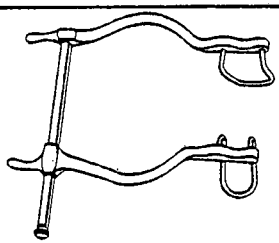
Specifications
* Retractor double ended. Always supplied in pairs
* Large: 18 cm
* Small: 13 cm

Packaging:
* Unit presentation: in pairs, individually packed with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

ABDOMINAL RETRACTOR, GOSSET

Shipping weight:	**25 kg /100 units**
Shipping volume:	**8 dm³ / 100 units**
UNCCS Code:	**486182**



Use:
* To retract skin, fatty tissue, muscles or viscera after the incision to expose the operative field

Material:
* Martensitic or austenitic steel (quenched, magnetic steel)

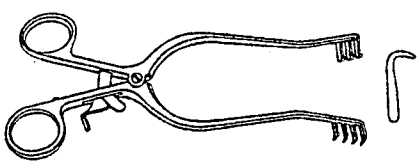
Specifications:
* Abdominal retractor with locking mechanism (self holding)
* Maximum separation of the arms: 150 mm
* One arm is fixed and the other mobile. Contains a sliding system enabling a variable opening to be obtained. Depth of fixed blades is 50 mm

Packaging:
* Unit presentation: set with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

RETRACTOR, WEITLANER, BLUNT

Shipping weight:	**12 kg /100 units**
Shipping volume:	**3 dm³ /100 units**
UNCCS Code:	**486184**



Use:
* To retract skin, fatty tissue, and muscles. Used in superficial surgery, especially orthopaedics

Material:
* Martensitic (non-quenched, non-magnetic steel)

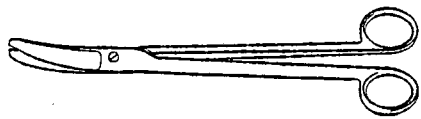
Specifications:
* Retractor with locking mechanism (self holding)
* The opening is set by means of a ratchet. Retractor with two arms, one with 3 blunt teeth and the other with 4 blunt teeth
* 20 cm length

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCISSORS, DECAPITATION, DUBOIS

Shipping weight:	**13 kg /100 units**
Shipping volume:	**3 dm³ /100 units**
UNCCS Code:	**486126**



Use:
* For decapitation of dead foetus

Material:
* Martensitic (non-quenched, non-magnetic steel)

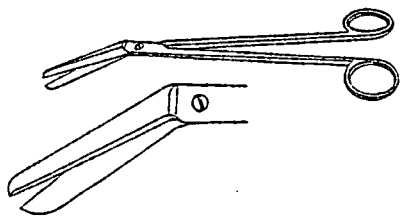
Specifications:
* Surgical scissors, heavy duty
* Curved, with blunt end blades
* 27 cm length

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCISSORS, EPISIOTOMY

Shipping weight:	**6 kg / 100 units**
Shipping volume:	**1 dm³ / 100 units**
UNCCS Code:	**486127**



Use:
* For cutting the perineal skin and tissue (episiotomy) to facilitate the passage of the foetal head

Material:
* Martensitic (non-quenched, non-magnetic steel)

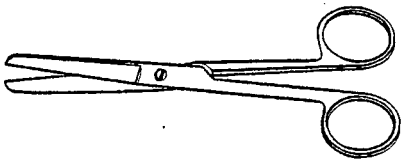
Specifications:
* Surgical scissors for episiotomy
* Blunt end blades
* Length: 18 cm

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCISSORS, STRAIGHT, BLUNT

Shipping weight:	**6 kg / 100 units**
Shipping volume:	**1.5 dm³ / 100 units**
UNCCS Code:	**486123**



Use:
* For cutting threads, dressings, general use etc.

Material:
* Martensitic (non-quenched, non-magnetic steel)

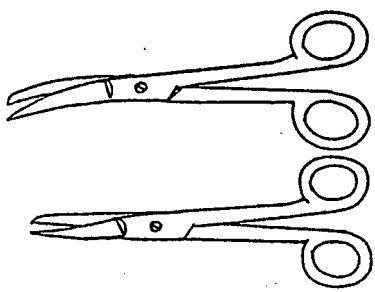
Specifications:
* Dressing scissors
* Straight, with blunt end blades
* 14 cm length

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCISSORS, SURGICAL, POINTED, CURVED OR STRAIGHT

Shipping weight:	**6 kg / 100 units**
Shipping volume:	**2 dm³ / 100 units**
UNCCS Code:	**486121**



Use:
* For basic surgical operations (sutures or for treating abscesses)

Material:
* Martensitic (non-quenched, non-magnetic steel)

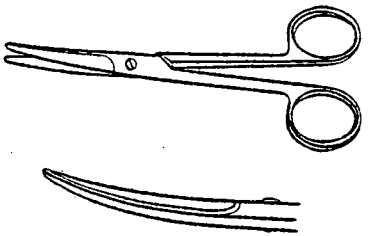
Specifications
* Surgical scissors
* Curved or straight, with one pointed and one blunt end blade
* 14.5 cm long

Packaging:
* Unit presentation: individual, with protective packaging
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCISSORS, MAYO, CURVED, BLUNT

Shipping weight:	**11 kg /100 units**
Shipping volume:	**3 dm³ /100 units**
UNCCS Code:	**486124**



Use:
* Used for cutting threads, dressings and general use

Material:
* Martensitic (non-quenched, non-magnetic steel)

Type:
* Instrument that cuts by shearing: dressing scissors
* Curved, with blunt end blades.
* Length: 23, 17, or 14 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SCISSORS, METZENBAUM, CURVED

Shipping weight:	**5kg /100 units**
Shipping volume:	**1 dm³ / 100 units**
UNCCS Code:	**486125**

Use:
* For cutting or dissecting tissue

Material:
* Martensitic (non-quenched, non-magnetic steel)

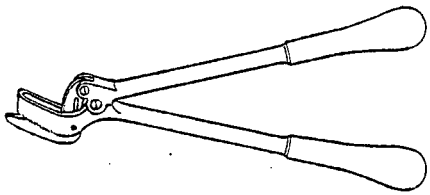
Specifications:
* Surgical scissors
* Thin, curved, with blunt end blades
* Length: 20, 18, or 14 cm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SHEARS, PLASTER, STILLE

Shipping weight:	**16 kg / 100 units**
Shipping volume:	**8 dm³ / 100 units**
UNCCS Code:	**486128**



Use:
* For cutting plaster (opening or removing a plaster)

Material:
* Martensitic (non-quenched, non-magnetic steel)

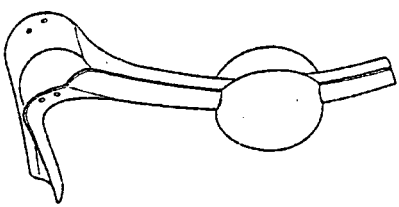
Specifications
* Plaster shears (pop shears)
* Must be atraumatic and have perfect cutting edges
* 37 cm long

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SPECULUM, AUVARD WITH DETACHABLE WEIGHT

Shipping weight:	**6 kg / 100 units**
Shipping volume:	**2 dm³ / 100 units**
UNCCS Code:	**486144**



Use:
* To spread open the posterior wall of the vagina to visualise cervix of the uterus; used to display the cervix in operations of the uterine cavity

Material:
* Austenitic (quenched, magnetic steel)

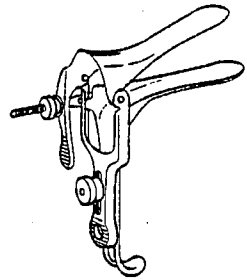
Specifications:
* Wide vaginal speculum with weight
* Weight which fits on the shank of the blade
* 38 mm wide
* 75 mm long blade

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

SPECULUM, GRAVES, SELF RETAINING

Shipping weight:	**16 kg /100 units**
Shipping volume:	**65 dm³ /100 units**
UNCCS Code:	**486145**



Use:
* To examine the walls of the vagina and cervix of uterus

Material:
* Stainless steel, corrosion resistant.

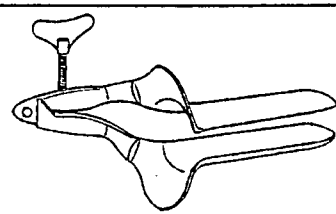
Specifications:
* Double beaked, vaginal speculum
* Available in three sizes (length x width):
  75 x 20 mm
  95 x 35 mm
  115 x 35 mm

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements: Conforms to ISO standard

SPECULUM, COLLIN

Shipping weight:	**25 kg / 100 units**
Shipping volume:	**90 dm³ / 100 units**
UNCCS Code:	**486145**



Use:
* To examine the walls of the vagina and cervix of uterus

Material:
* Austenitic (quenched, magnetic steel)

Specifications:
* Double beaked vaginal speculum with locking mechanism
* Two blades mounted on a screw, enabling the opening between them to be adjusted gradually
* 16 mm (for virgins) and 35 mm/100 mm length

Packaging:
* Unit presentation: individual, with protective wrapping
* The following should appear on the packaging:
  - designation of the instrument
  - name and address of supplier (manufacturer)

Other requirements:
* Conforms to ISO standard

Note: Alternative to Speculum, Graves above

TUBE, URINARY, PVC

Shipping weight:	**5 kg /100 units**
Shipping volume:	**1 dm³/100 units**
UNCCS Code:	**486148 (a)**

Use:
* Used to empty bladder before delivery

Material:
* PVC

Specification:
* Disposable urinary taping, catheter for emptying the bladder
* Steile

Packaging:
* Individual sterilized peel-packs made of paper and/or plastic.
* Protective packaging: carton
* Each carton and peel-pack to be clerly marked with expiry date and batch number

Chapter 9 X-ray Material

X-RAY FILM AND CHEMICALS

Shipping weight: 3.7 kg /100 units
Shipping volume: 460 dm³/100 units
UNCCS Code: 481190

- **X-ray film**

Specification: X-ray cassette film, blue sensitive, normal sensitivity and high contrast

Sizes:
18 x 24 cm
24 x 30 cm
30 x 40 cm
35 x 43 cm

Packaging: 100 sheets/box

- **X-ray developer for automatic processing machine**

Specifications: Concentrated developer in liquid or powder form for dilution to make 5,20, 22.5 or 38 l of working solution

Packaging:
* Clear & explicit instructions should appear on the labels
* Product is corrosive and packing must be in accordance with IATA-rules

- **X-ray developer for manual processing**

Specification: Concentrated developer in liquid form for dilution to make 1 or 15 l of working solution

Packaging:
* Clear & explicit instructions should appear on the labels
* Product is corrosive and packing must be in accordance with IATA-rules

- **X-ray fixer for automatic or manual processing**

Packaging:
* Clear & explicit instructions should appear on the labels
* Product is corrosive and packing must be in accordance with IATA-rules

- **X-ray starter**

Specification: Concentrated starter in liquid form for dilution to make 1 or 15 litres of working solution

Packaging:
* Clear & explicit instructions should appear on the labels
* Product is corrosive and packing must be in accordance with IATA-rules

Chapter 10 Laboratory Equipment

STOOL SPECIMEN TRANSPORT MEDIA

Shipping weight:	**1.5 kg /100 units**
Shipping volume:	**3 dm^3 /100 units**
UNCCS Code:	**484592 (a)**

Use:
* Transport medium for faecal laboratory investigations

Description:
* Small sample tube

Components
* Test tube
* Cap

Material:
* Tube: polypropylene (PP)
* Cap: polypropylene (PP)

Specifications:
* Attached screw cap.
* Watertightjoint
* White label on tube
* Sterile
* Capacity: 1.7 to 2 ml

Packaging:
* Bag of 100

SAMPLE TRANSPORT TUBE POLYPROPYLENE, SCREW CAP, STERILE

Shipping weight:	**0.8 kg /100 units**
Shipping volume:	**2 dm^3/100 units**
UNCCS Code:	**369961**

Use:
* For stool specimens

Description:
* Screw-cap polypropylene vial, wide mouth, sterile

Capacity:
* Min. 5 ml

Size:
* Outer dia: 17 mm and height: 46 mm

Packaging:
* Pack of 144 tubes/vials

COTTON SWAB

Shipping weight: 0.24 kg /100 units
Shipping volume: 0.09 dm³ /100 units
UNCCS Code: 484593

Use:
* For collection of stool specimen

Description:
* Dacron tipped applicator, sterile

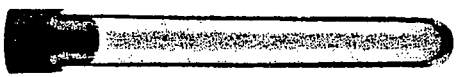
Material:
* Aluminium wire or wood or plastic shaft

Dimensions:
* Length 15 cm approx.

Packaging:
* Individually wrapped in easy-to open peel-apart package
* Pack of 1000 pieces

CULTURE TUBE, SCREW CAP

Shipping weight: 2.4 kg / 100 units
Shipping volume: 6.9 dm³/ 144 units
UNCCS Code: 371336



Use:
* For preserving and testing samples

Material/description:
* Tube: Borosilicate heat resistant
  Round bottom, with white enamel marking spot
* Screw cap: Black phenolic with either glued-in white rubber liner or a telfon fluorecarbon resin-faced liner

Dimensions:
* Outer diameter 16 mm, length 150 mm

Packaging:
* Pack of 144 tubes

LABELS, SELF ADHESIVE

Shipping weight: 0.02 kg / 100 units
Shipping volume: 1 dm³ /100 units
UNCCS Code: 321971

Use:
* To provide identification marks

Description:
* Self adhesive white labels in despenser box
* Label size: approx 35 mm x 22 mm

Packaging:
* Box of 1,000

FILTER PAPER DISC

Shipping weight:	**0.04 kg / 100 units**
Shipping volume:	**2 dm³ /100 units**
UNCCS Code:	**321981**

Description: * Filter paper qualitative grade. Plain circles, max ash 0.06 %

Whatman grade: * No. 1

Particle retention: * > 11 µm

Porosity: * Medium

Filtration speed: * ASTM, 40 seconds

Surface: * Smooth

Diameter: * 6 - 10 mm

Packaging: * Pack of 100 or 500

FILTER PAPER (DISC HOLDER) FORCEPS CURVED

Shipping weight:	**1 kg / 100 units**
Shipping volume:	**2 dm³/100 units**
UNCCS Code:	**484453**

Use: * Needed for holding the filter paper discs for stool samples collection

Type: * Pressure force and spring category, curved fine points, serrated jaws and guide pin

Material: * Martensitic steel (quenched, magnetic steel)

Dimensions: * Length 12.5 cm

Features:
* Flexible arms
* Good adjustment of the teeth
* Good gripping

Packaging: * The following should appear on th packaging:
- designation
- name and address of supplier (manufacturer)

Chapter 11 Sutures and Surgical Needles

NYLON SUTURE NO. 2/0
REVERSE CUTTING 40 mm NEEDLE

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486215 (a)**

Use: * For skin closure

Description: * Monofilament, synthetic, non-absorbable suture - nylon

Thread Size: * 2/0 (DEC 3)
Thread Length: * 45 cm

Needle Point: * Triangular
Shape: * 3/8 circle
Needle Length: * 40 mm

Packaging: * Single pack, sterile, with clear indication of the expiry date

Other requirements: * Product should comply with requirements indicated in Pharmacopoeia

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SILK SUTURE, BRAIDED
NO. 2/0

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486211 (a)**

Use: * Ligature or general suture used with eyed needle

Description: * Material silk, braided, coated, non-absorbable suture

Gauge: * 2/0 (DEC 2.5), or 1 (DEC 4)

Thread Length: * 1.8 meter

Packaging: * Single pack, sterile, with clear indication of the expiry date

Other requirements: * Product should comply with requirements indicated in Pharmacopoeia

Alternative: * Polyglactin (absorbable, synthetic, braided).

SILK SUTURE, BRAIDED, NO. 3/0
½ CIRCLE, 25 mm ROUND NEEDLE

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486216 (a)**

Use: * For arterial, gastrointestinal and paediatric procedures

Thread Size: * 3/0 (DEC 2)

Thread Length: * 75 mm

Needle Point: * Round bodied tapered
Needle Shape: * 1/2 circle
Needle Length: * 25 mm

Packaging: * Single pack, sterile with clear indication on the expiry date

Other requirements: * Product should comply with requirements indicated in Pharmacopoeia

Alternative: * Treated Polyglactine (absorbable, synthetic, braided) Nos 3/0, 1/2, 8 mm, round needle

SILK SUTURE, BRAIDED, NO. 3/0
½ CIRCLE CUTTING, 22mm TRIANGULAR NEEDLE

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486217 (a)**

Use: * For oral, skin, suture

Description: * Braided, coated, natural silk, non-absorbable suture

Thread Size: * 3/0 (DEC 2)
Thread Length: * 45 cm

Needle Point: * Triangular
Needle Shape: * 1/2 circle
Needle Length: * 22 mm

Packaging: * Single pack, sterile, with clear indication of the expiry date

Other requirements: * Product should comply with requirements indicated in Pharmacopoeia

Alternative: * Polyamide (non-absorbable, synthetic, monofilament) Nos 2/0, 3/8 30mm, triangular needle

½ CIRCLE ROUND EYED NEEDLE

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm^3/ box of 36**
UNCCS Code:	**486211**

Use:
* For muscle closue
* For general suture

Description:
* Needle, suture, surgeons, regular eye.

Material:
* Corrosion resistant steel

Needle Point:
* Round eyed needle

Needle shape:
* 1/2 circle

Needle size:
* 2,3,4 and 7

Packaging:
* The following should appear on the packaging:
  - country of origin
  - needle description, shape and size
  - name and address of supplier (manufacturer)

Other requirements:
* Product should comply with requirements indicated in Pharmacopoeia

½ CIRCLE TRIANGULAR POINTED CUTTING NEEDLE NOS. 2, 3, 4 & 7

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm^3/2400 units**
UNCCS Code:	**486218**

Use:
* For muscular and skin closure

Description:
* Needle, suture, surgeons, regular eye

Needle Point:
* Triangular cutting point.

Needle shape:
* 1/2 circle.

Needle size:
* 2,3,4 and 7

Packaging:
* The following should appear on the packaging:
  - country of origin
  - needle description, shape and size
  - name and address of supplier (manufacturer)

Other requirements:
* Product should comply with requirements indicated in Pharmacopoeia

COATED VICRYL
GAUGE 2/0 ON 30 MM 1/2 CIRCLE
ROUND BODIED NEEDLE

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486213 (new)**

Use:
* For Gastrointestinal, paediatric and general surgery.

Description:
* Multifilament, synthetic, absorbable suture, Polyglactin 910, braided

Thread Gauge:
* 2/0

Thread Length:
* 75 cm

Needle Point:
* Round

Needle Shape:
* 1/2 circle

Needle Length:
* 30 mm

Packaging:
* Ethelyne Oxide sterilised. 12 single packs in one box with clear indication of expiry date.

NON NEEDLED COATED VICRYL
1.5M LENGTH

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486219 (new)**

Use:
* For use with eyed needles for general surgery

Description:
* Multifilament, synthetic, absorbable suture, Polyglactin 910, braided.

Thread Gauge
* 0, 1 and 2

Packaging
* Ethelyne Oxide sterilised. 12 single packs in one box with clear indication of expiry date.

COATED VICRYL, GAUGE 3/0
ON 25 MM 1/2 CIRCLE ROUND

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486219 (new)**

Use: * For Gastrointestinal, paediatric and general surgery

Description: * Multifilament, synthetic, absorbable suture, Poly 910, braided.

Thread Gauge: * 3/0
Thread Length: * 75 cm

Needle Type: * Round
Needle Point: * 1/2 circle
Needle Length: * 25 mm

Packaging: * Ethelyne Oxide sterilised. 12 single packs in one box with clear indication of expiry date.

COATED VICRYL, GAUGE 0
40 MM, 1/2 CIRCLE, ROUND BODIED NEEDLE

Shipping weight:	**20.5 kg/2400 units**
Shipping volume:	**120 dm³/2400 units**
UNCCS Code:	**486214 (new)**

Use: * Gastrointestinal, Orthopaedic and general surgery

Description: * Multifilament, synthetic, absorbable suture, Poly 910, braided

Thread Gauge: * 0
Thread Length: * 75 cm

Needle Point: * 40 mm
Needle Type: * Round
Needle Shape: * 1/2 circle.

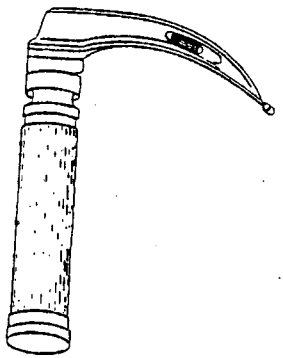
Packaging: * Ethelyne Oxide sterilised. 12 single packs in one box with clear indication of expiry date.

NOTES

Chapter 12 Anaesthesia Material

LARYNGOSCOPE SET

Shipping weight:	**96 kg / 100 units**
Shipping volume:	**175 dm³/ 100 units**
UNCCS Code:	**481541**



Use:

* For examining the laryngeal cavity
* Used in anaesthesia/resuscitation for endotracheal intubation

Material:

* The handle is made either of chromium-plated brass or stainless steel, and is slightly ribbed. The depressors are in stainless steel

Specifications:

* 1 large, hollow, cylindrical handle which can be opened at one end to insert 2 batteries. (LR14, 1.5 V). The other end has a stud contact which fits various types of depressor

4 complete depressors, made up as follows:
* 3 curved depressors, MacIntosh:
* No. 1: 68 mm with halogen bulb
* No. 2: 93 mm with halogen bulb
* No. 3: 113 mm with halogen bulb

1 straight depressor, Miller:
* No. 0: 53 mm + halogen bulb

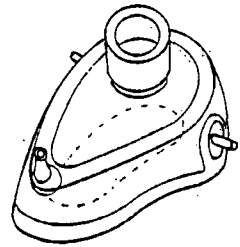
Comes in a box with :
*1 handle
*4 depressors and their bulbs
*2 batteries, LR14 and 1.5 V must be supplied separately
*1 spare halogen bulb, krypton-filled, 2.5 V

Packaging:

* Protective wrapping
* The name and characteristics of the article must appear on the packaging

MASK, ANAESTHESIA

Shipping weight:	**6.6 kg / 100 units**
Shipping volume:	**50 dm³ / 100 units**
UNCCS Code:	**481631**



Use:

* To assist the patient's ventilation

Material:

* Plastic dome is made of polysulphone and the cuff is made of natural latex

Specifications:

* Moulded shell, suitable for sterilization
* Inflatable rim to ensure sealing
* Clip for headband, according to size
* Suitable for connection between a valve and a manual insufflator or anaesthesia balloon. Inner diameter of the tube connecting valve and insufflator or anaestheisa balloon = 22 mm or 15 mm
* Hook ring
* Transparent face mask
* Produced in five sizes from neonate to adult

Packaging:

* Protective wrapping
* The name and characteristics of the article must appear on the packaging

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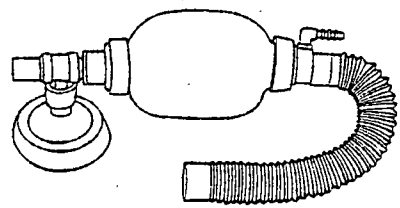
RESUSCITATOR, NEONATE + MASK

Shipping weight:	**45.6 kg /100 units**
Shipping volume:	**1080 dm³ /100 units**
UNCCS Code:	**481627**



Use:

* Manual resuscitator used to assist ventilation in neonates in case of respiratory distress

Components and Specifications:

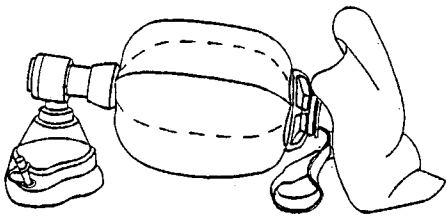
* The insufflator is made up of 3 parts:
  - The bag with a connection to the patient end to fit the valve and another connection at the opposite end to admit oxygen or anaesthetic gases
  - The paediatric valve can be dissembled into inlet connector, outlet connector and body with valve shutters which prevents direct escape of gas at very low flow rates
  - Mask, for neonate

Packaging:

* Protective wrapping
* The name and characteristics of the article must appear on the packaging

RESUSCITATOR & CONNECTOR

Shipping weight:	**105.6 kg/100 units**
Shipping volume:	**9.72 m³/100**
UNCCS Code:	**481622**



Use:
* Manual resuscitator used to assist ventilation in case of respiratory distress

Material:
* Black rubber, reusable

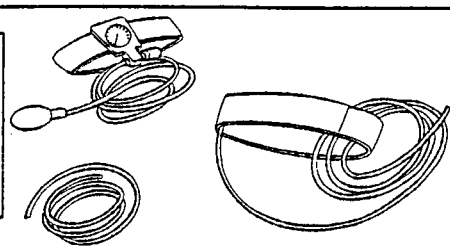
Components and Specifications:
* The insufflator is made up of 3 parts:
  - The bag with a connection to the patient end to fit the valve and another connection at the opposite end to admit oxygen or anaesthetic gases
  - Non-return valve
  - Masks for adults and children

Packaging:
* Protective wrapping
* The name and characteristics of the article must appear on the packaging

Note:
* Specific adaptors are needed when used for anaesthesia

TOURNIQUET, PNEUMATIC, COMPLETE, WITH ARM CUFF AND LEG CUFF

Shipping weight:	**155 kg /100 units**
Shipping volume:	**469 dm³ /100**
UNCCS Code:	**481968**



Use:
* To block flow of blood to limbs

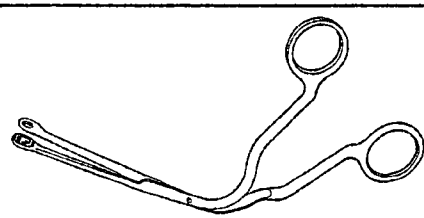
Components:
* Complete tourniquet consists of:
  - 1 arm cuff
  - 1 leg cuff
  - 1 manometer + 1 pump
  - Tubes and connectors

Specifications:
* Inflatable rubber bladder surrounded by a large material band
* Two rubber tubes, one connected to an oval shaped rubber pump for air admission and the other connected to a manometer for bladder pressure control

Packaging:
* Protective wrapping
* Provided in sets
* Instructions for use to be included inside the packaging

FORCEPS MAGILL

Shipping weight:	**6 kg / 100 units**
Shipping volume:	**5 dm³ /100 units**
UNCCS Code:	**486170**



Use:
* For intubation during routine or emergency anaesthesia and resuscitation.
* The distal end is used to guide an endotracheal tube into the trachea or gastric tube into the oesophagus

Material:
* Stainless steel, grade 2, not sterile.

Specifications:
* Forceps with two non-detachable legs curved through an angle of about 30 degrees, ending in loops. The inside of each loop (spatula) is ribbed
  stainless steel, grade 2
* Size: Adult 24 cm
  Child 15 cm

Packaging:
* Unit presentation: individually packed in plastic bags
* The following must appear on the packaging:
  - designation of the instrument
  - name and address of suppleir (manufacturer)

Chapter 13 Contraceptives

CONDOMS

Shipping weight:	**0.24 kg/100 units**
Shipping volume:	**1.1 dm³/100 units**
UNCCS Code:	**357331 (a)**

Use:

* For protection against unwanted pregnancies and sexually transmitted diseases

Material:

* Latex prophylactic

Specifications:

* Straight and parallel sided, reservoir pouch at the tip, lubricated with silicone

* Width : 49 & 53 ± 1 mm
* Single Wall thickness 0.065 ± 0.015 mm
* Length: 170 mm (W49) and 180 mm (W53)

Packaging:

* Unit presentation: individually sealed in aluminum foil square pack.
* Month and year of expiry, manufacturers name and lot identification code to be printed on each pack. Usually presented in boxes of 144 (1 gross) individual condom pack in strips of three to four.

Requirements:

* Conforms to ISO 4074 and WHO/UNAIDS - August 1998 specifications.

Note:

Other types of contraceptives and further information available through UNFPA and WHO. Information may be obtained from:

United Nations Population Fund
(UNFPA)
220 East 42nd Street
New York, NY 10017, USA
Tel: (1-212) 297 5381/5392
Fax: (1-212) 297 4916/5250
Internet: www.unfpa.org
e-mail: saunders@unfpa.org

World Health Organization
(WHO)
20, avenue Appia
1211 Geneva, 27, Switzerland
Tel: (41-22) 791 21 11
Fax: (41-22) 791 41 96

NOTES

Chapter 14 Selected Essential Drugs

All these drugs have been selected from the WHO Model List of Essential Drugs.[1] They are intended as a reference list of drugs recommended in the early phase of emergencies. The selection includes drugs needed for displaced populations, with additional drugs for anaesthesia, surgery and some key drugs for inpatient care. The reference numbers are those of the UNCCS (United Nations Common Coding System). This is an internal numbering system which is different from that used by UNIPAC/UNICEF. UNCCS code numbers refer to drug groups and are not specific to individual drugs.

ANAESTHETICS

General anaesthetics

351112	ketamine	injection, 50 mg (as hydrochloride)/ml in 10-ml vial
351112	thiopental	powder for injection, 1.0 g (sodium salt) in ampoule

Local anaesthetics

351123	bupivacaine	injection, 0.5 % (hydrochloride) in vial
351123	lidocaine	injection, 1 % (hydrochloride) in vial
		injection for spinal anaesthesia, 5% (hydrochloride) with 7.5% glucose solution in 2-ml ampoule

Preoperative medication and sedation for short term procedures

351133	atropine	injection, 1 mg (sulfate) in 1-ml ampoule
351133	diazepam[2]	injection 5 mg/ml in 2-ml ampoule

[1] The Use of Essential Drugs, WHO Model List, WHO Technical Report Series 882, 1998, WHO Drug Information, Vol 12, No 1, 1998.

[2] Diazepam is a controlled drug in some countries and is increasingly coming under control measures additional to the UN Convention on Psychotropic Substances resulting in the requirement for an import permit before authorisation of an export permit.

ANALGESICS, ANTIPYRETICS, NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

Non-opioids

351211	acetylsalicylic acid	tablet, 300 mg or 500 mg [3]
351211	ibuprofen	tablet, 200 mg or 400 mg
351211	paracetamol	tablet, 100 or 500 mg

Opioid analgesics[4]

351223	morphine	injection, 10 mg (sulfate or hydrochloride) in 1-ml ampoule
351223	pethidine	injection 50 mg (hydrochloride) in 1-ml ampoule

Alternative analgesics[5]

351223	pentazocine	injection 50 mg (as lactate) in 1-ml ampoule tablet, 25 mg (hydrochloride)
351221	tramadol	injection, 30 mg (hydrochloride) in 1-ml ampoule tablet, 50 mg (hydrochloride)

[3] 500 mg tablets are preferred as being cost effective.

[4] Special administrative arrangements are required for shipment of these two drugs. Import and export permit are needed before shipments can be made as they are controlled by the UN Single Convention on Narcotic Drugs. This means that in practice the drugs are not sent in times of emergency. Measures are currently being taken to simplify the provision of narcotic drugs for emergencies care.

[5] Because control measures covering the international supply of narcotic drugs are not adapted to rapid provision in emergencies, these alternatives were chosen because they were not restricted. However, both pentazocine and tramadol are now controlled drugs in some countries and are increasingly coming under control measures additional to the UN Convention on Psychotropic Substances resulting in the requirement for an import permit before authorisation of an export permit.

Neither of these drugs is on the WHO Model List of Essential Drugs and both are recognised as being less effective than morphine or pethidine.

ANTIALLERGICS AND DRUGS USED IN ANAPHYLAXIS

351312	epinephrine	injection, 1 mg (as hydrochloride or hydrogen tartrate) in 1-ml ampoule
351312	hydrocortisone	powder for injection, 100 mg (as sodium succinate) in vial
357291	prednisolone	tablet 5 mg

ANTIDOTES AND OTHER SUBSTANCES USED IN POISONINGS

Specific

351413	naloxone	injection, 0.4 mg (hydrochloride) in 1-ml ampoule

ANTI CONVULSANTS

351511	phenobarbital[6]	tablet, 50 mg
351511	phenytoin	capsule or tablet, 50 mg (sodium salt)

ANTI-INFECTIVE DRUGS

Antihelminthics

Intestinal antihelminthics

352111	mebendazole	tablet 100 mg

[6] This drug comes under the UN Convention on Psychotropic Substances and in countries where additional control measures are applied an import permit is required before authorisation of an export permit.

Antibacterials

Lactam Drugs

352410	amoxicillin	capsule or tablet 250 mg
352430	ampicillin	powder for injection, 500 mg (as sodium salt) in vial
352430	benzylpenicillin	powder for injection, 3 g (=5 million IU) (sodium or potassium salt) in vial
352430	cloxacillin	powder for injection, 500 mg (as sodium salt) in vial
		capsule 500 mg (as sodium salt)
352410	phenoxymethyl -penicillin	tablet, 250 mg
352430	procaine benzylpenicillin	powder for injection, 1g (=1 million IU), 3g (=3 million IU) in vial

Other antibacterials

252511	chloramphenicol	capsule 250 mg
		powder for injection, 1 g (as sodium succinate) in vial
352511	doxycycline	capsule or tablet, 100 mg (hydrochloride)
352511	erythromycin	capsule or tablet 250 mg (as stearate or ethyl succinate)
352513	gentamicin	injection, 40 mg (as sulfate)/ml in 2-ml vial
352511	metronidazole	tablet, 200 or 500 mg
352511		injection, 500 mg in 100-ml vial
352511	sulfamethoxazole + trimethoprim	tablet 100 mg + 20 mg , 400 mg + 80 mg

Antifungal drugs

352811	nystatin	non coated tablet, 100,000 IU

Antimalarial drugs for curative treatment [7]

353311	chloroquine	tablet, 100 mg , 150 mg (as phosphate or sulphate)[8 + 8a]
353332	quinine	tablet, 300 mg (as bisulfate or sulfate)[9]
353353	quinine	injection, 300 mg/ml (dihydrochloride) in 2-ml ampoule
353333	sulfadoxine+ pyrimethamine	tablet, 500 mg + 25 mg
353324	mefloquine[10]	tablet, 250 mg (as hydrochloride)

DRUGS AFFECTING THE BLOOD

Antianaemia drugs

355111	ferrous sulfate + folic acid	tablet, 200 mg (equivalent to 60 mg iron) + 0.4 mg of folic acid
355111	folic acid	tablet 5 mg

[7] Only antimalarials which conform to national malaria treatment guidelines should be sent. Failure to do so will have a negative impact on national malaria treatment programmes.

[8] In anglophone countries tablets of 150 mg base equivalent to 200 mg chloroquine sulfate are used.

[8a] In francophone countries tablets of 100 mg base equivalent 161 mg chloroquine phosphate are used.

[9] In anglophone countries 200 mg sulfate tablets are more common while 300 mg bisulfate tablets are common in francophone countries.

[10] This drug should be reserved for therapy of confirmed plasmodium falciparum malaria either known or suspected to be resistant to chloroquine or sulfa/pyrimethamine.

BLOOD PRODUCTS AND BLOOD SUBSTITUTES

Plasma substitutes

355213	polygeline[1]	injectable solution, 3.5%

CARDIOVASCULAR DRUGS

Antianginal drugs

355411	glyceryl trinitrate	tablet (sublingual), 0.5 mg

Antihypertensive drugs

355611	atenolol	tablet, 50 mg
355613	hydralazine	powder for injection, 20 mg (hydrochloride) in ampoule
	methyldopa	tablet 250 mg

DERMATOLOGICAL DRUGS (TOPICAL)

Antifungal drugs

356112	benzoic acid + salicylic acid	ointment or cream, 6% + 3%

Anti-infective drugs

356491	methylrosanilinium chloride (gentian violet)	aqueous solution, 0.5% or crystals

[1] Intravenous solutions must always be supplied in plastic containers with an infusion set and needle(s). Glass containers are not acceptable.

Scabicides and pediculicides

356161	benzyl benzoate	lotion, 25%
345160	soap[12]	bar, domestic

Ultra violet-blocking agents

356172	zinc oxide	15% ointment

DISINFECTANTS AND ANTISEPTICS

Antiseptics

346494	chlorhexidine[13]	solution, 5% (digluconate) for dilution
356492	polyvidone iodine	solution, 10%
356126	silver[14] sulfadiazine	cream 1% in 500-g container

Disinfectants

346465	chlorine base[15] compound *e.g.*	*sodium dichloroisocyanurate* (NaDCC) tab 1,67g (=1 g available chlorine)

[12] This item is not on the WHO Model List of Essential Drugs. For Specifications see Emergency Relief Items, Vol. I page 131 UNCCS (362211).

[13] Chlorhexidine 20% should be avoided as it needs distilled water for dilution otherwise precipitation will occur. 5% solution is the WHO standard. Alternatives include the combination of chlorhexidine 1,5% + cetrimide 15%

[14] This compound was introduced to replace silver nitrate in the topical treatment of extensive burns (ref. Goodman and Gilman's: "The Pharmacological Basis of Therapeutics"

[15] Air transportation of calcium hypochlorite is IATA regulated. A pack should not contain more than 500 g. Alternatives include sodium dichloroisocyanurate (NaDCC) tablet. Tablet strengths vary depending on the intended usage. NaDCC may be used either as a wound antiseptic, for disinfection of instruments or as a water disinfectant. There are no restrictions on air transport. Instructions regarding dilution to be followed carefully as per recommendation in "UNHCR" Manual on the use of disinfectants" or other guidelines. Accidents have occurred due to lack of information on how to dilute the disinfectants.

DIURETICS

346513	furosemide	injection, 10 mg/ml in 2-ml ampoule
356511	hydrochloro-thiazide	tablet, 25 mg

GASTROINTESTINAL DRUGS

Antacids

356611	aluminium hydroxide	tablet, 500 mg
356611	magnesium trisilicate compound	tablet, 500 mg

Antiemetic drugs

356621	promethazine	tablet, 25 mg (hydrochloride)
356623		injection, 25 mg (hydrochloride)/ml in 2-ml ampoule

Drugs used in diarrhœa

Oral rehydration

346670	oral rehydration salts	powder, 27.9 g/l (WHO formula)	
		Composition: sodium chloride	3.5 g/l
		trisodium citrate dihydrate	2.9 g/l
		potassium chloride	1.5 g/l
		glucose	20.0 g/l

HORMONES, OTHER ENDOCRINE DRUGS AND CONTRACEPTIVES

Hormonal contraceptives

347310	ethinylestradiol + levonorgestrel	tablet, 30 micrograms + 150 micrograms, 50 micrograms + 250 micrograms (pack of four)
	Alternative	
357310	ethinylestradiol + norethisterone	tablet, 35 micrograms + 1.0 mg
357310	levonorgestrel	tablet, 30 micrograms
357310	medroxyprogesterone acetate	depot injection, 150 mg/ml in 1-ml vial

Barrier methods

357331	condoms	with or without spermicide

Insulins[16]

Insulin injection (soluble)[17] should only be sent after needs assessments to identify the most appropriate and commonly used strengths in the recipient country.

[16] Insulin requires a cold chain for transportation and storage in a refrigerator.

[17] This drug needs a cold chain for transportation and storage in a refrigerator.

MUSCLE RELAXANTS (PERIPHERALLY ACTING) AND CHOLINESTERASE INHIBITORS

358113	alcuronium or equivalent	injection, 5 mg (chloride)/ml in 2-ml ampoule
358113	neostigmine	injection, 0.5 mg, 2.5 mg (metilsufate) in 1-ml ampoule
358113	suxamethonium	injection, 50 mg (chloride)/ml in 2-ml ampoule[18] powder for injection , 100 mg (chloride) in vial

Complementary drug

358113	vecuronium[18]	powder for injection, 10 mg (bromide) in vial

IMMUNOLOGICALS

Vaccines

No vaccines should be sent in the early phase of an emergency where there has been mass population movement before assessment. Rapid measles vaccination is however mandatory for any population of displaced persons , provided that the population has not been recently vaccinated. A cold chain needs to be set up for any vaccination programme.

OPHTHALMOLOGICAL PREPARATIONS

Antiinfective agents

358351	tetracycline	eye ointment, 1 % (hydrochloride)
358352	gentamicin	eye drops, 0.3% (as sulfate)

[18] Heat stable compared with alcuronium but more expensive

OXYTOCICS AND ANTIOXYTOCICS

Oxytocics

358411	ergometrine[19]	tablet, 0.2 mg (hydrogen maleate)
358413	ergometrine[19]	injection, 0.2 mg (hydrogen maleate) in 1-ml ampoule
358413	oxytocin[19]	injection ,10 IU in 1-ml ampoule

PSYCHOTHERAPEUTIC DRUGS

Drugs used in psychotic disorders

358613	chlorpromazine	tablet , 100 mg (hydrochloride)
		injection, 25 mg (hydrochloride)/ml in 2-ml ampoule

DRUGS ACTING ON THE RESPIRATORY TRACT

Antiasthmatic drugs

358713	aminophylline	injection, 25 mg/ml in 10 ml ampoule
348711	salbutamol	tablet, 4 mg (as sulfate)
358715	inhalation (aerosol),	0.1 mg (as sulfate) per dose

[19] The drug requires a cold chain for transportation and storage in a refrigerator

SOLUTIONS CORRECTING WATER, ELECTROLYTE AND ACID BASE DISTURBANCES

Parenteral[20]

358820	glucose	injectable solution , 5 % isotonic
		injectable solution, 50% hypertonic
358820	sodium chloride	injectable solution, 0.9 % isotonic
358820	compound solution of sodium lactate	injectable solution
358830	water for injection	10-ml ampoule

VITAMINS AND MINERALS

357830	ascorbic acid	tablet, 50 mg[21]
357820	retinol	soft gelatine capsule, 200,000 IU (as palmitate) (110 mg)
		tablet 10,000 IU (as palmitate) (5.5 mg) for pregnant women

[20] Intravenous solutions must always be supplied in plastic containers with an infusion set and needle(s). Glass containers are not acceptable

[21] In cases of scurvy 500 mg tablets are more appropriate.

Chapter 15 The New Emergency Health Kit 98

The New Emergency Health Kit
Drugs and medical supplies
for 10,000 people
for approximately 3 months

The following persons and organizations contributed to the development of this revision and their advice and support are gratefully acknowledged.

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List of contents

Introduction

In recent years the various organizations and agencies of the United Nations system have been called upon to respond to an increasing number of large-scale emergencies and disasters, many of which pose a serious threat to health. Much of the assistance provided in such situations by donor agencies, governments, voluntary organizations and others is in the form of drugs and medical supplies. But the practical impact of this aid is often diminished because requests do not reflect real needs or because these have not been adequately assessed. This can result in donations of unsorted, unsuitable and unintelligibly labelled drugs, or the provision of products which have passed their expiry date. Such problems are often compounded by delays in delivery and customs clearance.

The World Health Organization (WHO), which is the directing and coordinating authority for international health work within the United Nations system, took up the question of how emergency response could be facilitated through effective emergency preparedness measures. After several years of study, field testing and modifications, standard lists of essential drugs and medical supplies for use in an emergency were developed. The aim was to encourage the standardization of drugs and medical supplies used in an emergency to permit a swift and effective response with supplies that meet priority health needs. A further goal was to promote disaster preparedness, since such standardization means that kits of essential items can be kept in readiness to meet urgent requirements.

The WHO Emergency Health Kit, which resulted from this work, was developed in the early 1980s in collaboration with the Office of the United Nations High Commissioner for Refugees (UNHCR) and the London School of Hygiene and Tropical Medicine. In 1988 it was revised with the help of the Emergency Preparedness Programme (WHO, Geneva), the Unit of Pharmaceuticals (WHO, Geneva), UNHCR, UNICEF, Médecins sans Frontières (MSF), the League of Red Cross and Red Crescent Societies (Geneva), the Christian Medical Commission of the World Council of Churches and the International Committee of the Red Cross.

Photo: IDA

The kit has been adopted by many organizations and national authorities as a reliable, standardized, inexpensive, appropriate and quickly available source of the essential drugs and health equipment urgently needed in a disaster situation. Its contents are calculated to meet the needs of a population of 10,000 persons for three months. In 1988 it was renamed "The New Emergency Health Kit" because of the number and diversity of United Nations agencies and other bodies which had adopted this list of drugs and medical supplies for their emergency operations and which participated in its revision.

A booklet providing background information on the development of the kit, comments on the selection of items, treatment guidelines for prescribers, and some useful checklists for suppliers and prescribers was published in 1990. This second edition follows the same format. Chapter 1 (Essential drugs and supplies in emergency situations) is intended as a general introduction for health administrators and field officers. Chapter 2 (Comments on the selection of drugs, medical supplies and equipment included in the kit) contains more technical details and is intended for prescribers.

The latest review of the New Emergency Health Kit began in December 1996, and was brought about not so much by the need to change the concept or content of the kit, but rather to adapt the list of drugs to changes that had taken place, over the years, in the selection of drugs on the WHO Model List of Essential Drugs; and also to bring the kit in line with a new UN list of drugs recommended for use in acute emergencies (see references; Emergency Relief Items, Vol. 2, UNDP[1]). The most important changes are summarized on page 11. The opportunity was also taken to make a number of necessary revisions to the text and annexes and to add two annexes containing Guidelines for Drug Donations and Model Guidelines for the International Provision of Controlled Medicines for Emergency Care. The WHO Divisions of Child Health and Development, Control of Tropical Diseases, Emergency and Humanitarian Action, Emerging and other Communicable Diseases Surveillance and Control, and Family and Reproductive Health all contributed to revision of the 1998 text and annexes, in addition to the original partners and the United Nations Population Fund (UNFPA).

The WHO Action Programme on Essential Drugs has coordinated the review process and has issued this interagency document. The support of all persons and organizations who have contributed to the revision process is gratefully acknowledged.

Please note: this publication can be obtained at the following address. French, Spanish and Russian versions will also become available.

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1 UNDP. Emergency relief items, compendium of basic specifications, vol. 2. Medical supplies and equipment, selected essential drugs, guidelines for drug donations. New York: United Nations Development Programme; 1996.

Chapter 1

Essential drugs and supplies in emergency situations

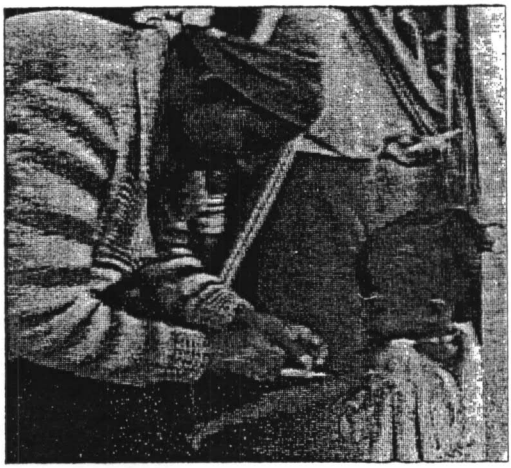


Photo: WHO/R Beghenotto

What is an emergency?

The term "emergency" is applied to various situations resulting from natural, political and economic disasters. The New Emergency Health Kit 98 (NEHK98) is designed to meet the primary health care needs of a displaced population without medical facilities, or a population with disrupted medical facilities in the immediate aftermath of a disaster. It must be emphasized that, although supplying drugs and medical supplies in the standard kits is convenient early in an emergency, specific local needs must be assessed as soon as possible and further supplies must be ordered accordingly.

> The NEHK98 is designed principally to meet the first primary health care needs of a displaced population without medical facilities. The kit is not recommended for re-supplying existing health care facilities.

Quantification of drug requirements

Morbidity patterns may vary considerably between emergencies. For example, in emergencies where malnutrition is common morbidity rates may be very high. For this reason an estimate of drug requirements from a distance can only be approximate, although certain predictions can be made based on past experience. For the present kit estimates have been based on the average morbidity patterns among refugee populations and the use of standard treatment guidelines. The quantities of drugs supplied will therefore only be adequate if prescribers follow these guidelines.

Contents of the kit

NEHK98 consists of two different sets of drugs and medical supplies, named a basic unit and a supplementary unit. To facilitate

distribution to smaller health facilities on site, the quantities of drugs and medical supplies in the basic unit have been divided into ten identical units for 1,000 persons each.

The basic unit contains drugs, medical supplies and some essential equipment for primary health care workers with limited training. It contains 12 drugs, none of which are injectable. Simple treatment guidelines, based on symptoms, have been developed to help the training of personnel in the proper use of the drugs. Copies of these treatment guidelines, an example of which is printed in Annexes 1 to 3, should be included in each unit. Additional copies can be obtained from the Action Programme on Essential Drugs, WHO, Geneva.

The supplementary unit contains drugs and medical supplies for a population of 10,000 and is to be used only by professional health workers or physicians. It does not contain any drugs or supplies from the basic unit and can therefore only be used when these are available as well.

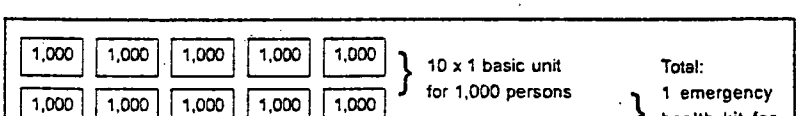
The selection and quantification of drugs for the basic and supplementary units have been based on recommendations for standard treatment regimens from technical units within WHO. A manual describing the standard treatment regimens for target diseases, developed in collaboration between Médecins sans Frontières and WHO, is available from Médecins sans Frontières at cost price and one copy in English, French and Spanish is included in each supplementary unit.

To facilitate identification in an emergency, one green sticker (the international colour code for medical items) should be placed on each parcel. The word "BASIC" should be printed on stickers for basic units.

The supplementary unit does not contain any drugs or supplies from the basic units. The supplementary unit should only be used together with one or more basic units.

Referral system

Health services can be decentralized by the use of basic health care clinics (the most peripheral level of health care) providing simple treatment using the basic units. Such a decentralization will: (1) increase the access of the population to curative care; and (2) avoid overcrowding of referral facilities by solving common health problems at the most peripheral level. Basic treatment protocols have been drawn up to allow these health workers to take the right decision on treatment or referral, according to the symptoms.



The first referral level should be staffed by professional health workers, usually medical assistants or doctors, who will use drugs, supplies and equipment from both the basic and the supplementary units. It should be stressed here that the basic and supplementary units have not been intended to enable these health workers to treat rare diseases or major surgical cases. For such patients a second level of referral is needed, usually a district or general hospital. Such facilities are normally part of the national health system and referral procedures are to be arranged with the local health authorities. The UN list[2] of medical supplies, equipment and drugs is intended to supply this level of the health care system.

Drug and supply management control

An appropriate drug management system must be in place as soon as possible to maximize cost efficiency and to gather information allowing for re-supply to be based on specific needs. An appropriate drug management system should be based on:

- case definition and treatment protocols for significant public health diseases;
- morbidity and mortality statistics (see Annex 4);
- random checks to compare drug consumption data (see Annex 4) with morbidity statistics.

Procurement of the kit

NEHK98 can be provided from a number of major pharmaceutical suppliers, some of which have a permanent stock of kits ready for shipment within 24 hours. It may however be desirable to secure procurement at the regional level to reduce the cost of shipping. The procuring agency should ensure that manufacturers comply with the guidelines for quality, packaging and labelling of drugs and all items are compatible with the specifications in the UN list of medical supplies, equipment and drugs[2].

It is important to note that many drugs in the kit can be considered as examples of a therapeutic group and that other drugs can often serve as alternatives. This should be taken into consideration when drugs are selected at the national level, since the choice of drugs may then be influenced by whether equivalent products are immediately available from local sources, and their comparative cost and quality. National authorities may wish to stockpile the same or equivalent drugs and supplies as part of their emergency preparedness programme. The kit can also serve as a useful baseline supply list of essential drugs and medical supplies for primary health care.

Immunization in emergency

Experience in past emergencies involving displaced populations has shown that

2 UNDP. Emergency relief items, compendium of basic specifications, vol. 2. Medical supplies and equipment, selected essential drugs, guidelines for drug donations. New York: United Nations Development Programme; 1996.

measles is one of the major causes of death amongst young children. The disease spreads rapidly in overcrowded conditions, and serious respiratory tract infections are frequent, particularly in malnourished children.

However, measles-related mortality is preventable. Measles vaccine administration should therefore be given a high priority, with all children between six months and five years old being immunized. Children immunized before nine months should be re-immunized as soon after nine months as possible. All children in the target age group should be immunized, irrespective of history. The occurrence of measles in a camp is not a contraindication.

Children with clinical measles should be treated promptly for complications, enrolled in a supplementary feeding programme and given appropriate doses of vitamin A.

> NEHK98 is not designed for immunization or nutritional programmes: supplementary supplies and equipment must be ordered after an assessment of needs (see Annex 7).

Reproductive health

Certain reproductive services have been defined as essential for a displaced population after an emergency. Such essential services include: provisions for professional midwifery care, emergency contraception for victims of rape, treatment of sexually transmitted infections and contraception in general. Supplies for the first two are included in the kit; others will have to be ordered separately according to need (see Annex 7).

Professional midwifery care is an essential service for which the necessary instruments and drugs are included in the kit. Sexual violence is widespread during the early phases of forced population movements. All possible measures should be taken to prevent and manage its occurrence and a small quantity of emergency contraception for victims of rape is included in the kit. It is acknowledged that cultural and religious beliefs may preclude some women and health workers from using this treatment, and it is strongly recommended that health workers assist the victim as much as possible in reaching an informed decision.

Comprehensive reproductive health services require to be integrated into the primary health care system as soon as possible and a referral system for obstetric emergencies must be made accessible to the population. It is also recommended that a qualified and experienced person be appointed as reproductive health coordinator. To assist a reproductive health programme the United Nations Population Fund (UNFPA) has designed a number of reproductive health kits for all levels of the health care system during an emergency (see Annex 7).

Post emergency needs

After the acute phase of an emergency is over and basic health needs have been covered by the basic and supplementary units, specific

needs for further supplies should be assessed as soon as possible. In most cases this will necessitate a quick description and, if possible, quantification of the morbidity profile (see Annex 4). It should characterize the most common diseases and should identify the exposed and high risk groups in the population (e.g. children below 5 years and pregnant women). These high risk groups should be the first target of the continuing health care programme. Any other factors that may influence requirements should also be taken into account, e.g. the demographic pattern of the community, the physical condition of the individuals, seasonal variations of morbidity and mortality, the impact of improved public health measures, the local availability of drugs and other supplies, drug resistance, usual medical practice in the country, capabilities of the health workers and the effectiveness of the referral system.

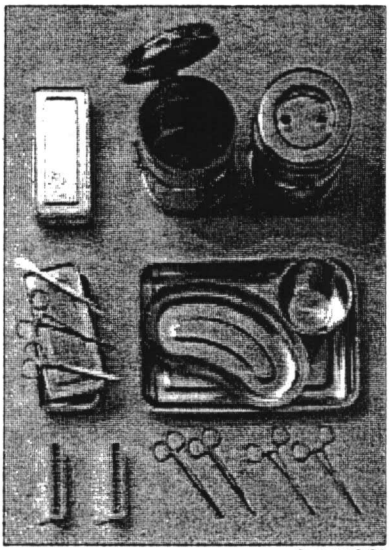


Photo: WHO/DA

It is not recommended to use NEHK98 for re-supplying health care systems.

Chapter 2

Comments on the selection of drugs, medical supplies and equipment included in the kit

Photo: WHO/RDA

The composition of NEHK 98 is based on epidemiological data, population profiles, disease patterns and certain assumptions borne out by emergency experience. These assumptions are:

- The most peripheral level of the health care system will be staffed by health workers with only limited medical training, who will treat symptoms rather than diagnosed diseases using the basic units and who will refer to the next level those patients who need more specialized treatment;
- Half of the population is 0–14 years of age;
- The average number of patients presenting themselves with the more common symptoms or diseases can be predicted;
- Standardized schedules will be used to treat these symptoms or diseases;
- The rate of referral from the basic to the next level is 10%;
- The first referral level of health care is staffed by experienced nurses, midwives, medical assistants or medical doctors, with no or very limited facilities for inpatient care. They will use the supplementary unit in conjunction with one or more basic units;
- If both the basic and first referral health care facilities are within reasonable reach of the target population, every individual will, on average, visit such facilities four times per year for advice or treatment. As a consequence the supplies in the kit, which are sufficient for approximately 10,000 outpatient consultations, will serve a population of 10,000 people for a period of approximately 3 months.

Selection of the drugs

Injectable drugs

There are no injectable drugs in the basic unit. Basic health workers with little training have usually not been taught to prescribe injections, neither are they trained to

administer them. Moreover, the most common diseases in their uncomplicated form do not generally require an injectable drug. Any patient who needs an injection must be referred to the first referral level.

Antibiotics

Infectious bacterial diseases are common at all levels of health care, including the most peripheral, and basic health workers should therefore have the possibility to prescribe an antibiotic. However, many basic health workers have not been trained to prescribe antibiotics in a rational way. Cotrimoxazole is the only antibiotic included in the basic unit, and this will enable the health worker to concentrate on taking the right decision between prescribing an antibiotic or not, rather than on the choice between several antibiotics. Cotrimoxazole has been selected because it is active against the most common bacteria found in the field, especially S. pneumoniae and H. influenzae for acute respiratory infections. It is also stable under tropical conditions, needs to be taken only twice daily and its side-effects (exfoliative dermatitis or bone marrow depression) are uncommon. In addition to this it is less expensive than other antibiotics. The risk of increasing bacterial resistance must be reduced by rational prescribing practice.

Medication for children

The only paediatric tablet included in the list is paracetamol tab 100 mg. Syrups for children are not included because of their instability, their short shelf life after reconstitution and their volume and weight. Instead, for children, half or quarter adult tablets may be crushed and administered with a small volume of fluid, with sweets or with food.

Drugs not included in the kit

The kit includes neither the common vaccines nor any drugs against communicable diseases such as tuberculosis[3] or leprosy. The vaccines needed and any plans for an expanded programme on immunization should be discussed with the national authorities as soon as possible; the same applies for programmes to combat communicable diseases. In general no special programme should be initiated unless there is sufficient guarantee for its continuation over a longer period.

In addition, drugs in the kit do not cover some specific health problems occurring in certain geographical areas, e.g. specific resistant malaria strains. The treatment of choice for eclamptic fits is intravenous and intramuscular magnesium sulfate. Staff may however be unfamiliar with its use and diazepam, which has other therapeutic indications, therefore remains in the kit. Ergometrine injection requires a cold chain because it is unstable if subjected to high ambient temperatures, and is therefore not included in the kit. Oxytocin is being supplied instead. No specific drugs are

3 The general prerequisites for the establishment of a tuberculosis control programme for refugees and displaced persons are: 1) the emergency phase is over; 2) security in and stability of the camp or site is envisioned for at least six months; 3) basic needs of water, adequate food and sanitation are available; and 4) essential clinical services and drugs are available.

included for the treatment of sexually transmitted infections.

The kit does not contain:
- vaccines
- drugs for tuberculosis
- drugs for leprosy
- ergometrine injections
- magnesium sulfate injections
- drugs for specific resistant malaria strains
- drugs for sexually transmitted infections
- drugs for regular contraception
- condoms

Selection of renewable supplies

Syringes and needles

Considering the risk of direct contamination with hepatitis and HIV during handling, needles are dangerous items. The health risk for the staff should be limited by the following means:

- limiting the number of injections;
- using disposable needles only;
- using disposable syringes whenever possible (always disposable autodestruct syringes in immunization campaigns);
- using safety boxes designed for the collection and incineration of used syringes and needles;
- strictly following the destruction procedures for disposable material.

It is less dangerous to handle syringes than needles. For this reason a system with resterilizable nylon syringes and disposable needles has been chosen for the supplementary unit. However, in the very first stage, when sterilization procedures are not yet established, some provision will be necessary for giving injections by means of fully disposable materials. A small number of disposable syringes are therefore provided in the supplementary unit and their disposal should be supervised by the person in charge. Resterilizable syringes are likely to be phased out in the future.

It is strongly recommended that all the disposable syringes in the kit are substituted by autodestruct, single use syringes as soon as the right products become commercially available.

Gloves

Disposable protective gloves are provided in the basic unit to protect health workers against possible infection during dressings or handling of infected materials. In any case a dressing should be applied or changed with the instruments provided in the kit. Surgical gloves, which should be resterilizable, are supplied in the supplementary unit. They are to be used for deliveries, sutures and minor surgery, all under medical supervision.

Selection of equipment

Resuscitation/surgical instruments

The kit has been designed for general medicine under primitive conditions, and for that reason no equipment for resuscitation or major surgery has been included. In situations of war, earthquakes or epidemics, specialized teams with medical equipment and supplies will be required.

Sterilization

A complete sterilization set is provided in the kit. The basic units contain two small drums each for sterile dressing materials. Two drums are included to enable the alternate sterilization of one at the first referral level while the other is being used in the peripheral facility. The supplementary unit contains a kerosene stove and two pressure sterilizers, a small one for sterilizing 2 ml and 5 ml syringes, and a larger one for the small drums with dressing materials and the instrument sets.

Dilution and storage of liquids

The kit contains several plastic bottles and a few large disposable syringes which are needed to dilute and store liquids (e.g. benzyl benzoate, chlorhexidine and gentian violet solution).

Water supply

The kit contains several items to help provide for clean water at the health facility. Each basic unit contains a 20 litre foldable jerrycan and two 12 litre plastic buckets. The supplementary unit contains a water filter with candles and tablets of sodium dichloroisocynanurate (NaDCC) to chlorinate the water.[4]

Major drug, equipment and supply changes since the 1990 edition

- morphine inj replaces pentazocine
- naloxone inj added
- probenecid tab deleted
- amoxicillin tab replaces ampicillin tab
- hydrocortisone tab replaces dexamethazone tab
- doxycycline tab replaces tetracycline tab
- silver sulfadiazine cream added
- hydrochlorothiazide tab replaces furosemide tab
- oxytocin inj replaces ergometrine
- salbutamol tab replaces aminophyline
- ethinylestradiol + levonorgestrel tab added
- sodium dichloroisocyanurate (NaDCC) tab replaces chloramine powder
- professional midwifery equipment added
- tubes of ointments have been recommended (not containers which are less practical)

4 Each effervescent tablet containing 1.67 g of NaDCC releases 1 g of available chlorine when disolved in water. NaDCC also goes under the name of sodium troclosene or sodium dichloro-s-triazinetrione.

Chapter 3

Composition of the New Emergency Health Kit 98

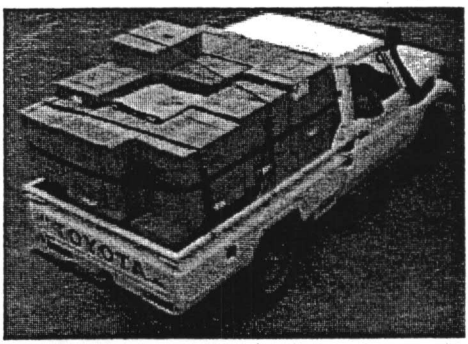


Photo: IDA

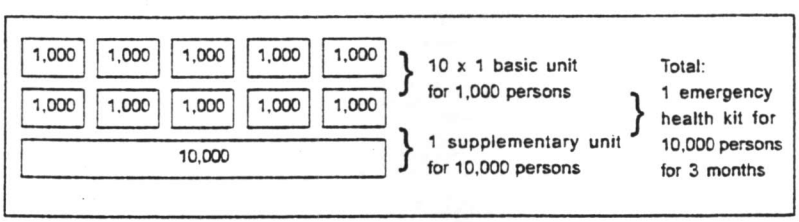
NEHK98 consists of 10 basic units and one supplementary unit.

10 basic units (for basic health workers), each unit for a population of 1,000 persons for 3 months. Each unit contains drugs, renewable supplies and basic equipment, and is packed in one carton.

One supplementary unit (for physicians and senior health workers, for a population of 10,000 people for three months). One supplementary unit contains:

- drugs (approximately 130 kg)
- essential infusions (approximately 180 kg)
- renewable supplies (approximately 60 kg)
- equipment (approximately 40 kg)

NB: The supplementary unit does not contain any drugs or medical supplies from the basic unit. To be operational, the supplementary unit should be used together with at least one or several basic units.



Basic unit (for 1,000 persons, 3 months)

Drugs

acetylsalicylic acid, tab 300 mg	tab	3,000
aluminium hydroxide, tab 500 mg	tab	1,000
benzyl benzoate, lotion 25%[5]	bottle 1 litre	1
chlorhexidine (5%)[6]	bottle 1 litre	1
chloroquine, tab 150 mg base[7]	tab	2,000
ferrous sulfate + folic acid, tab 200 + 0.25 mg	tab	2,000
gentian violet, powder	25 g	4
mebendazole, tab 100 mg	tab	500
ORS (oral rehydration salts)	sachet for 1 litre	200
paracetamol, tab 100 mg	tab	1,000
sulfamethoxazole + trimethoprim, tab 400 + 80 mg (cotrimoxazole)	tab	2,000
tetracycline eye ointment 1%	tube 5 g	50

Renewable supplies

absorbent cotton wool	kg	1
adhesive tape 2.5 cm x 5 m	roll	30
bar of soap (100–200 g)	bar	10
elastic bandage 7.5 cm x 5m	unit	20
gauze bandage with selvedge 7.5 cm x 5 m	roll	200
gauze compresses 10 x 10 cm, 12 ply	unit	500
ballpen, blue or black	unit	10
exercise book A4, hard cover[8]	unit	4

5 According to WHO recommendations, benzyl benzoate solution 25% concentration is being supplied. The use of 90% concentration is not recommended.

6 5% solution is WHO standard. Chlorhexidine 20% needs distilled water for dilution, otherwise precipitation may occur. Recommended alternatives include the combination of chlorhexidine 1.5% and cetrimide 15%.

7 The therapeutic dosage of chloroquine is usually expressed as milligrams of chloroquine base. A tablet of 150 mg chloroquine base (commonly used in anglophone countries) is equivalent to 204 mg chloroqine sulfate or 241 mg of chloroquine phosphate. Tablets of 100 mg chloroquine base (mostly used in francophone countries) are equivalent to 136 mg chloroquine sulfate or 161 mg chloroquine phosphate. For NEHK98, tablets of 150 mg base are recommended. The treatment guidelines (see Annex 1, page 23) are also expressed in tablets of 150 mg chloroquine base.

8 It is recommended that one exercise book be used for recording daily drug dispensing and another for daily basic morbidity data (see Annex 4).

health card + plastic cover[9]	unit	500
small plastic bag for drugs	unit	2,000
notepad A6	unit	10
thermometer, Celsius, clinical, flat type	unit	6
glove, examination, latex pre-powdered non sterile, disposable	unit	100
treatment guidelines for basic list[10]	unit	2

Equipment

nail brush, plastic, autoclavable	unit	2
bucket, plastic, approximately 12 litres	unit	2
gallipot, stainless steel, 100 ml	unit	1
kidney dish, stainless steel, approximately 26 x 14 cm	unit	1
dressing set (3 instruments + box)[11]	unit	2
dressing tray, stainless steel, approximately 30 x 15 x 3 cm	unit	1
drum for compresses with lateral clips 15 cm H, diam. 15 cm	unit	2
foldable jerrycan, 20 litres	unit	1
forceps Kocher, no teeth, 12–14 cm	unit	2
plastic bottle, 1 litre	unit	3
syringe Luer, disposable, 10 ml	unit	1
plastic bottle, 125 ml	unit	1
scissors straight/blunt, 12–14 cm	unit	2

Supplementary unit (for 10,000 persons for 3 months)

Drugs

Anaesthetics

ketamine, inj 50 mg/ml	10 ml/vial	25
lidocaine, inj 1%[12]	20 ml/vial	50

9 For sample health card (see Annex 5).

10 For sample treatment guidelines (see Annexes 1, 2 and 3).

11 Dressing set (3 instruments + box):
- 1 stainless steel box approximately 17 x 7 x 3 cm
- 1 pair surgical scissors, sharp/blunt, 12–14 cm
- 1 Kocher forceps, no teeth, straight, 12–14 cm
- 1 dissecting forceps, no teeth, 12–14 cm.

12 20 ml vials are preferred, although 50 ml vials may be used as an alternative.

Analgesics[13]		
morphine inj 10 mg/ml[14]	1 ml/ampoule	50
Recall from basic unit:		
acetylsalicylicacid, 300 mg/tab	(10 x 3,000) 30,000	
paracetamol, 100 mg/tab	(10 x 1,000) 10,000	
Anti-allergics		
hydrocortisone powder 100 mg	100 mg, powder for inj in vial	50
prednisolone, tab 5 mg	tab	100
epinephrine (adrenaline) see "respiratory tract"		
Antidotes		
naloxone inj 0.4 mg/ml[15]	1 ml/ampoule	20
Anticonvulsants/anti-epileptics		
diazepam, inj 5 mg/ml	2 ml/ampoule	200
phenobarbital tab 50 mg	tab	1,000
Anti-infective drugs		
amoxicillin, tab 250 mg	scored tab	3,000
ampicillin, inj 500 mg/vial	vial	200
benzathine benzylpenicillin, inj 2.4 million IU/vial (long acting penicillin)	vial	50
benzylpenicillin, inj 5 million IU /vial	vial	250
chloramphenicol, caps 250 mg	caps	2,000
chloramphenicol, inj 1 g/vial	vial	500
doxycycline, tab 100 mg	caps or tab	2,000

13 Alternative injectable analgesics include pentazocine and tramadol which are considered inferior and are therefore not included in the WHO Model List of Essential Drugs. It is however recognized that these constitute a practical alternative to morphine in those situations where opioids cannot be sent.

14 Import and export permits are normally required for shipment of morphine as it is a controlled drug coming under the UN Single Convention on Narcotic Drugs. Pentazocine (previously recommended in the NEHK) and tramadol (supplied by some humanitarian organizations), diazepam and phenobarbital are now controlled drugs in some countries and come under control measures additional to the UN Convention on Psychotropic Substances, resulting in the requirement for an import permit before authorization of an export permit. The Model guidelines for the international provision of controlled medicines for emergency care (see Annex 9) are designed to facilitate supply of all such controlled drugs in emergencies.

15 Naloxone is an opioid antagonist given intravenously for the treatment of opioid overdosage and to reverse the effects of therapeutic doses of opioids. It has been added because morphine is in the kit.

metronidazole, tab 250 mg	tab	2,000
nystatin, non-coated tab[16]	100,000 IU/tab	1,000
nystatin vaginal tab	100,000 IU/tab	1,000
procaine benzylpenicillin, inj 3–4 million IU/vial[17]	vial	750
quinine, inj 300 mg/ml[18]	2 ml/ampoule	100
quinine, sulfate, tab 300 mg	tab	3,000
sulfadoxine + pyrimethamine, tab 500 mg + 25 mg[19]	tab	300
Recall from basic unit:		
mebendazole, tab 100 mg	(10 x 500) 5,000	
cotrimoxazole, tab 400 + 80 mg	(10 x 2,000) 20,000	
chloroquine, tab 150 mg base	(10 x 2,000) 20,000	
Blood, drugs affecting the		
folic acid, tab 5 mg	tab	1,000
Recall from basic unit:		
ferrous sulfate + folic acid, tab 200 + 0.25 mg	(10 x 2000) 20,000	
Cardiovascular drugs		
methyldopa, 250 mg	tab	500
hydralazine, inj 20 mg	ampoule	20
Dermatological drugs		
polyvidone iodine 10%, sol.,[20]	200 ml bottle	10
silver sulfadiazine cream 1%	50 g. tube	30
benzoic acid 6% + salicylic acid 3% ointment	40 g tube	25

16 For the treatment of oral candidiasis; it may be replaced by an equivalent quantity of nystatin suspension.

17 The combination of procaine benzylpenicillin 3 million IU and benzylpenicillin 1 million IU (procaine penicillin fortified) is used in many countries and may be included as an alternative.

18 For the treatment of cerebral and resistant malaria cases. Intravenous injection of quinine must always be diluted in 500 ml glucose 5%.

19 For the treatment of resistant malaria strains (check national protocols).

20 Polyvidone iodine has been chosen because the use of iodine tincture in hot climates may result in toxic concentrations of iodine by partial evaporation of the alcohol.

Recall from basic unit:		
tetracyline eye ointment 1%	(10 x 50) 500	
gentian violet, powder 25 g	(10 x 4) 40	
benzyl benzoate, lotion 25%, litre	(10 x 1) 10	
Diuretics		
furosemide, inj 10 mg/ml	2 ml/ampoule	20
hydrochlorothiazide, tab 25 mg	tab	200
Gastrointestinal drugs		
promethazine, tab 25 mg	tab	500
promethazine, inj 25 mg/ml	2 ml/ampoule	50
atropine, inj 1 mg/ml	1 ml/ampoule	50
Recall from basic unit:		
aluminium hydroxide, tab 500 mg	(10 x 1,000) 10,000	
Emergency contraceptives[21]		
ethinylestradiol 50 micrograms + levonorgestrel 250 micrograms[22]	(pack of 4)	100
Oxytocics		
oxytocin inj 10 IU / ml[23]	1 ml ampoule	200
Psychotherapeutic drugs		
chlorpromazine, inj 25 mg/ml	2 ml/ampoule	20
Respiratory tract, drugs acting on		
salbutamol, tab 4 mg	tab	1,000
aminophylline, inj 25 mg/ml	10 ml/ampoule	50
epinephrine (adrenaline), inj 1 mg/ml	1 ml/ampoule	50

21 A small quantity of emergency contraceptives is included in the kit for victims of rape. It is acknowledged that cultural and religious beliefs may preclude some women and health workers from using this treatment. It is strongly recommended that health workers assist the victim as much as possible in reaching an informed decision.

22 Women who seek help within 72 hours of rape and wish to use emergency contraception to prevent pregnancy should take two tablets of ethinylestradiol 50 micrograms + levonorgestrel 250 micrograms followed by two more tablets 12 hours later.

23 For treatment and prevention of postpartum haemorrhage.

Solutions correcting water, electrolyte and acid-base disturbances[24]		
compound solution of sodium lactate (Ringer's lactate), inj sol., with giving set and needle	500 ml/bag	200
glucose, inj sol. 5%, with giving set and needle[25]	500 ml/bag	100
glucose, inj sol. 50%	50 ml/vial	20
water for injection	10 ml/plastic vial	2,000
Recall from basic unit:		
oral rehydration salts	(10 x 200) 2000	
Vitamins		
retinol (Vitamin A), caps 200,000 IU	caps	4,000
ascorbic acid, tab 250 mg	tab	4,000
Renewable supplies		
scalp vein infusion set, disposable 25 G (diam. 0.5 mm)	unit	300
scalp vein infusion set, disposable, 21G (diam. 0.8 mm)	unit	100
IV placement canula, disposable, 18G (diam. 1.3 mm)	unit	15
IV placement canula, disposable, 22G (diam. 0.8 mm)	unit	15
IV placement canula, disposable, 24G (diam. 0.7 mm)	unit	15
needle Luer IV, disposable 19G (diam. 1.1 mm x 38 mm)	unit	1,000
needle Luer IM, disposable, 21G (diam. 0.8 mm x 40 mm)	unit	2,000
needle Luer SC, disposable 25G (diam. 0.5 mm x 16 mm)	unit	100
spinal needle, disposable, 22G (diam. 0.7 x 40 mm) black	unit	25
spinal needle, disposable, 20G (diam. 0.9 x 90 mm) yellow	unit	25
syringe Luer, resterilizable, nylon, 2 ml (diam. 0.9 x 90 mm)[26]	unit	20
syringe Luer, resterilizable, nylon, 5 ml	unit	100
syringe Luer, resterilizable, nylon, 10 ml	unit	40
syringe Luer, disposable, 2 ml[26]	unit	400
syringe Luer, disposable, 5 ml	unit	500
syringe Luer, disposable, 10 ml	unit	200

24 Because of the weight, the quantity of infusions included in the kit is minimal. Look for local supply, once in the field.

25 Glucose 5%, bag 500 ml, for administration of quinine by infusion.

26 There is increasing international agreement to promote the use of disposable syringes and needles, and resterilizable syringes are likely to be phased out in the future. Disposable syringes should be substituted by autodestruct single use syringes as soon as proven practicable products become commercially available.

syringe Luer conical connector (for feeding), 60 ml	unit	20
feeding tube, CH 5 or 6 (premature baby), Luer tip, 40 cm disposable	unit	20
feeding tube, CH 8, Luer tip, 40 cm disposable	unit	50
feeding tube, CH 16, conical tip, 125 cm disposable	unit	10
urinary catheter (Foley), no. 12, disposable	unit	10
urinary catheter (Foley), no. 14, disposable	unit	5
urinary catheter (Foley), no. 18, disposable	unit	5
surgical gloves sterile and resterilizable no. 6.5	pair	50
surgical gloves sterile and resterilizable no. 7.5	pair	150
surgical gloves sterile and resterilizable no. 8.5	pair	50
safety box for disposal of used syringes and needles 5L[27]	unit	20
Recall from basic unit:		
glove, examination, non sterile disposable	(100 units x 10)	1,000
sterilization test tape (for autoclave)	roll	2
sodium dichloroisocyanurate (NaDCC) tabs 1.67 g	tab	1,200
thermometer, Celsius, clinical, flat type	unit	10
spare bulb for otoscope	unit	4
batteries R6 alkaline AA size (for otoscope)	unit	12
Recall from basic unit:		
thermometer, Celsius, clinical, flat type	(6 units x 10)	60
ballpens	(10 units x 10)	100
hardcover exercise book	(4 units x 10)	40
health card + plastic cover	(500 units x 10)	5,000
plastic bag for drugs	(2,000 units x 10)	20,000
small notepads (A6)	(10 units x 10)	100
urine collecting bag with valve, 2,000 ml	unit	10
glove, examination, latex non sterile large	unit	100
glove, examination, latex non sterile medium	unit	100
glove, examination, latex non sterile small	unit	100
mucus extractor, disposable	unit	5
suture, synthetic absorbable, braided, 70cm metric size DEC. 3 (USP 00), with cutting needle 3/8 circle, 30mm	(4 x 36 units)	144

27 WHO/UNICEF standard E10/IC2: boxes should be prominently marked.

surgical blade (surgical knives) no. 22 for handle no. 4	unit	50
tape umbilical non sterile 3 mm wide x 100 m spool	unit	1
razor blade	unit	100
tongue depressor (wooden, disposable)	unit	100
gauze roll 90 m x 0.90 m	roll	3
gauze compresses, 10 x 10 cm, 12 ply, sterile	unit	1,000
Recall from basic unit:		
absorbent cotton wool	(1 kg x 10) 10	
adhesive tape 2.5 cm x 5 cm	(30 rolls x 10) 300	
bar of soap (100–200g/bar)	(10 bars x 10) 100	
elastic bandage, 7.5 cm x 5 m	(20 units x 10) 200	
gauze bandage with selvedge, 7.5 x 5 m	(200 rolls x 10) 2,000	
gauze compress 10 x 10 cm, 12 ply, non sterile	(500 units x 10) 5,000	

Equipment

apron, utility plastic reusable	unit	2
clinical stethoscope, dual cup	unit	4
obstetrical stethoscope (metal)	unit	1
sheeting, plastic PVC clear 90 cm x 180 cm	unit	2
sphygmomanometer (adult)	unit	4
razor non disposable	unit	2
scale for adult	unit	1
scale, hanging, 25 kg x 100 g (Salter type) + trousers	unit	3
tape measure (cm/mm)	unit	5
tape measure, mid-upper arm circumference, MUAC	unit	10
towel HUCK, 430 mm x 500 mm	unit	2
drum for compresses, lateral ellipses H: 10 cm, diam. 15 cm	unit	2
Recall from basic unit:		
drum for compresses, lateral ellipses H: 15 cm, diam. 15 cm	(2 units x 10) 20	
otoscope + set of reusable paediatric specula	unit	2
tourniquet	unit	2
dressing tray, stainless steel, approximately 30 x 20 x 3 cm	unit	1
kidney dish, stainless steel, approximately 26 x 14 cm	unit	2
scissors straight/blunt, 12/14 cm	unit	2
forceps Kocher no teeth, 12/14 cm	unit	2

Recall from basic unit:		
kidney dish, stainless steel, approximately 26 x 14 cm	(1 unit x 10) 10	
gallipot, stainless steel, 100 ml	(1 unit x 10) 10	
dressing tray, stainless steel, approximately 30 x 20 x 3 cm	(1 unit x 10) 10	
scissors straight/blunt, 12–14 cm	(2 units x 10) 20	
forceps Kocher no teeth, 12–14 cm	(2 units x 10) 20	
abscess/suture set (7 instruments + box)[28]	unit	2
dressing set (3 instruments + box)[29]	unit	5
delivery set[30]	unit	1
Recall from basic unit:		
dressing set (3 instruments + box)	(2 units x 10) 20	
pressure sterilizer, 15 litres (type: Prestige 7503, double rack)	unit	1
pressure sterilizer 21 litres with basket	unit	1
kerosene stove, single burner, tank capacity 1–2 litres (type UNICEF 017. 0000)	unit	2

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28 One suture set should be reserved for repair of postpartum vaginal tears.

Abscess/suture set (7 instruments + box):
- 1 stainless steel box approx. 20 x 10 x 5 cm
- 1 dissecting forceps with teeth, 12–14 cm
- 1 Kocher forceps with teeth, straight, 12–14 cm
- 1 Pean forceps straight, 12–14 cm
- 1 pair surgical scissors sharp/blunt, 12–14 cm
- 1 probe, 12–14 cm
- 1 Mayo-Hegar needle holder, 18 cm
- 1 handle scalpel, no 4

29 Dressing set (3 instruments + box):
- 1 stainless steel box approx. 17 x 7 x 3 cm
- 1 pair surgical scissors sharp/blunt, 12–14 cm
- 1 Kocher forceps, no teeth, straight, 12–14 cm
- 1 dissecting forceps, no teeth, 12–14 cm

30 Delivery set (3 instruments + box):
- 1 stainless steel box approx. 20 x 7 x 3 cm
- 1 scissors straight 14–15 cm B/B SS
- 1 scissors dissecting straight Mayo 16–18 cm SS
- 1 Forceps haemostat straight Rochester Pean 15–17 cm SS

water filter with candles, 10/20 litres (type UNICEF 561.9902)	unit	3
nail brush, plastic, autoclavable	unit	2
Recall from basic unit:		
plastic bottle, 1 litre	(3 units x 10) 30	
syringe Luer, disposable, 10 ml	(1 unit x 10) 10	
plastic bottle, 125 ml	(1 unit x 10) 10	
nail brush, plastic, autoclavable	(2 units x 10) 20	
bucket plastic, 12 litres	(2 unit x 10) 20	
foldable jerrycan, 20 litres	(1 unit x 10) 10	
MSF Clinical guidelines (diagnostic and treatment manual)[31]	unit	2

31 Clinical guidelines – diagnostic and treatment manual is available at cost price in English, French and Spanish from Médecins sans Frontières.

Annex 1

Basic unit: treatment guidelines

These treatment guidelines are intended to give simple guidance for the training of primary health care workers using basic units. In the dosage guidelines, five age groups have been distinguished, except for the treatment of diarrhoea with oral rehydration fluid where six age and weight categories are used. When dosage is shown as 1 tab x 2, one tablet should be taken in the morning and one before bedtime. When dosage is shown as 2 tab x 3, two tablets should be taken in the morning, two should be taken in the middle of the day and two before bedtime.

Photo: CICR/G. Leblanc

The treatment guidelines contain the following diagnostic/symptom groups:

- anaemia
- pain
- diarrhoea (see detailed diagnosis and treatment schedules in Annex 2)
- fever
- respiratory tract infections (see detailed diagnosis and treatment schedules in Annex 3)
- ear infections
- measles
- eyes
- skin conditions
- sexually transmitted and urinary tract infections
- preventive care in pregnancy
- worms.

Anaemia

Weight / Age / Diagnosis / Symptom	0 - <4 kg 0 - <2 mths.	4 - <8 kg 2 mths. - <1 yr.	8 - <15 kg 1 - <5 yrs.	15 - <35 kg 5 - <15 yrs.	35 kg + 15 yrs. +
Severe anaemia (oedema, dizziness, shortness of breath)	Refer				
Moderate anaemia (pallor and tiredness)	Refer	ferrous sulfate + folic acid 1 tab daily for at least 2 months	ferrous sulfate + folic acid 2 tab daily for at least 2 months	ferrous sulfate + folic acid 3 tab daily for at least 2 months	ferrous sulfate + folic acid 3 tab daily for at least 2 months

Pain

Weight / Age / Diagnosis / Symptom	0 - <4 kg 0 - <2 mths.	4 - <8 kg 2 mths. - <1 yr.	8 - <15 kg 1 - <5 yrs.	15 - <35 kg 5 - <15 yrs.	35 kg + 15 yrs. +
Pain (headache, joint pain, toothache)		paracetamol tab 100 mg 1/2 tab x 3	paracetamol tab 100 mg 1 tab x 3	ASA[32,33] tab 300 mg 1 tab x 3	ASA tab 300 mg 2 tab x 3
Stomach pain			Refer	aluminium hydroxide 1/2 tab x 3 for 3 days	aluminium hydroxide 1 tab x 3 for 3 days

32 ASA = acetylsalicylic acid.

33 For children under 12 paracetamol is to be preferred because of the risk of Reye's Syndrome.

Diarrhoea

Weight / Diagnosis Symptom / Age*	0 - <5 kg Less than 4 months	5 - 7.9 kg 4 - 11 months	8 - 10.9 kg 12 - 23 months	11 - 15.9 kg 2 - 4 years	16 - 29.9 kg 5 - 14 years	30 kg + 15 years or older
Diarrhoea with some dehydration (Plan B, WHO) Annex 2c	Approximate amount of ORS solution to give in the first 4 hours.					
Quantity of ORS in mls.	200 - 400	400 - 600	600 - 800	800 - 1,200	1,200 - 2,200	2,200 - 4,000
Diarrhoea lasting more than two weeks or in malnourished or poor condition patient	Give ORS according to dehydration stage and refer.					
Bloody diarrhoea[34] (check the presence of blood in stools)	Give ORS according to dehydration stage and refer.					
Diarrhoea with severe dehydration (Plan C, WHO) Annex 2d	Refer patient for nasogastric tube and/or IV treatment.					
Diarrhoea with no dehydration (Plan A, WHO), Annex 2b	Continue to feed. Advise the patient to return to the health worker in case of frequent stools, increased thirst, sunken eyes, fever or when the patient does not eat or drink normally, or does not get better within three days, or develops blood in the stool or repeated vomiting.					

* Use the patients age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated be multiplying the patient's weight (in grams) times 0.075.

Use of drugs for children with diarrhoea

- ANTIBIOTICS should ONLY be used for dysentery and for suspected cholera cases with severe dehydration. Otherwise they are ineffective and should NOT be given.
- ANTIPARASITIC drugs should ONLY be used for:
  - Amoebiasis, after antibiotic treatment of bloody diarrhoea for shigella has failed or trophozoites of E. Histolytica containing red blood cells are seen in the faeces.
  - Giardiasis, when diarrhoea has lasted at least 14 days and cysts or trophozoites of Giardia are seen in faeces or small bowel fluid.
- ANTIDIARRHOEAL DRUGS and ANTIEMETICS should NEVER be used. None has proven value and some are dangerous.

34 Protocol to be established according to epidemiological data. See references page 69.

Fever

Diagnosis / Symptom — Weight / Age	0 – <4 kg 0 – <2 mths.	4 – <8 kg 2 mths. – <1 yr.	8 – <15 kg 1 – <5 yrs.	15 – <35 kg 5 – <15 yrs.	35 kg + 15 yrs. +
Fever in malnourished or poor condition patient or when in doubt	Refer				
Fever with chills[35] assuming it is malaria	Refer	chloroquine tab 150 mg base 1/2 tab at once, then 1/2 tab after 24h and 1/2 tab after 48h	chloroquine tab 150 mg base 1 tab at once, then 1 tab after 24h and 1/2 tab after 48h	chloroquine tab 150 mg base 2 tab at once, then 2 tab after 24h and 1 tab after 48h	chloroquine tab 150 mg base 4 tab at once, then 4 tab after 24h and 2 tab after 48h
Fever with cough	Refer	See "Respiratory tract infections" (on following page)			
Fever (unspecified)	Refer	paracetamol tab 100 mg 1/2 tab x 3 for 1 to 3 days	paracetamol tab 100 mg 1 tab x 3 for 1 to 3 days	ASA[36] tab 300 mg 1 tab x 3 for 1 to 3 days	ASA tab 300 mg 2 tab x 3 for 1 to 3 days

NB
Resistance to chloroquine is increasing and it is difficult to give a global recommendation for the treatment of malaria. There is an international trend to replace chloroquine with sulfadoxine + pyrimethamine. It is recommended to seek advice from the national malaria programme.

35 Chloroquine 150 mg base is equivalent to approximately 250 mg chloroquine phosphate or to approximately 200 mg chloroquine sulfate. See also footnote 8 on page 13.

36 For children under 12 paracetamol is to be preferred because of the risk of Reye's Syndrome.

Respiratory tract infections

Diagnosis / Symptom \ Weight / Age	0 - <4 kg 0 - <2 mths.	4 - <8 kg 2 mths. - <1 yr.	8 - <15 kg 1 - <5 yrs.	15 - <35 kg 5 - <15 yrs.	35 kg + 15 yrs. +
Severe pneumonia Annex 3	Give the first dose of cotrimoxazole (see pneumonia) and refer.				
Pneumonia Annex 3	Refer	cotrimoxazole tab 400 mg SMX + 80 mg TMP 1/2 tab x 2 for 5 days	cotrimoxazole tab 400 mg SMX + 80 mg TMP 1 tab x 2 for 5 days	cotrimoxazole tab 400 mg SMX + 80 mg TMP 1 tab x 2 for 5 days	cotrimoxazole tab 400 mg SMX + 80 mg TMP 2 tab x 2 for 5 days
		Reassess after 2 days; continue (breast) feeding, give fluids, clear the nose; return if breathing becomes faster or more difficult, or not able to drink or when the condition deteriorates.			
No pneumonia: cough or cold Annex 3	Refer	paracetamol[38] tab 100 mg 1/2 tab x 3 for 1 to 3 days	paracetamol tab 100 mg 1 tab x 3 for 1 to 3 days	ASA® tab 300 mg 1 tab x 3 for 1 to 3 days	ASA tab 300 mg 2 tab x 3 for 1 to 3 days
		Supportive therapy; continue (breast) feeding, give fluids, clear the nose; return if breathing becomes faster or more difficult, or not able to drink or when the condition deteriorates.			
Prolonged cough (over 30 days)	Refer				

Ear infections

Acute ear pain and/or ear discharge for less than 2 weeks	Refer	cotrimoxazole tab 400 mg SMX + 80 mg TMP 1/2 tab x 2 for 5 days[37]	cotrimoxazole tab 400 mg SMX + 80 mg TMP 1 tab x 2 for 5 days[37]	cotrimoxazole tab 400 mg SMX + 80 mg TMP 1 tab x 2 for 5 days	cotrimoxazole tab 400 mg SMX + 80 mg TMP 2 tab x 2 for 5 days
Ear discharge for more than 2 weeks, no pain or fever	Clean the ear once daily by syringe without needle using lukewarm clean water. Repeat until water comes out clean. Dry repeatedly with clean piece of cloth.				

37 If fever is present.

38 For children under 12 paracetamol is to be preferred because of the risk of Reye's Syndrome.

Measles

Weight / Diagnosis Symptom / Age	0 - <4 kg 0 - <2 mths.	4 - <8 kg 2 mths. - <1 yr.	8 - <15 kg 1 - <5 yrs.	15 - <35 kg 5 - <15 yrs.	35 kg + 15 yrs. +
Measles		Treat respiratory tract disease according to symptoms. Treat conjunctivitis as "Red eyes". Treat diarrhoea according to symptoms. Continue (breast) feeding, give retinol (vitamin A).			

Eyes

Red eyes (conjunctivitis)	Apply tetracycline eye ointment 3 times a day for 7 days. If not improved after 3 days or in doubt, refer.

Skin conditions

Wounds: extensive, deep or on face	Refer	
Wounds: limited and superficial	Clean with clean water and soap or diluted chlorhexidine solution[35]. Gently apply gentian violet solution[40] once a day.	
Severe burns (on face or extensive)	Treat as for mild burns and refer.	
Mild moderate burns	Immerse immediately in cold water, or use a cold wet cloth. Continue until pain eases then, treat as wounds.	
Severe bacterial infection (with fever)	Refer	
Mild bacterial infection	Clean with clean water and soap or diluted chlorhexidine solution.[35] Apply gentian violet solution[40] twice a day. If not improved after 10 days refer.	
Fungal infections	Apply gentian violet solution[40] once a day for 5 days.	
Infected scabies	Bacterial infection: clean with clean water and soap or diluted chlorhexidine solution[35]. Apply gentian violet solution[40] twice a day. When infection is cured:	
	Apply diluted benzyl benzoate[41] once a day for 3 days.	Apply non diluted benzyl benzoate 25% once a day for 3 days.
Non infected scabies	Apply diluted benzyl benzoate[41] once a day for 3 days.	Apply non diluted benzyl benzoate 25% once a day for 3 days.

Sexually transmitted and urinary tract infections

Suspicion of sexually transmitted or urinary tract infection	Refer

Preventive care in pregnancy

Weight / Age / Diagnosis / Symptom	0 - <4 kg 0 - <2 mths.	4 - <8 kg 2 mths. - <1 yr.	8 - <15 kg 1 - <5 yrs.	15 - <35 kg 5 - <15 yrs.	35 kg + 15 yrs. +
Anaemia for treatment see under anaemia					ferrous sulfate + folic acid 1 tab daily throughout pregnancy
Malaria for treatment see under fever					chloroquine[42] tab 150 mg base 2 tab weekly throughout pregnancy

NB
Resistance to chloroquine is increasing and it is difficult to give a global recommendation for malaria prophylaxis in pregnancy. It is recommended to seek advice from the national malaria programme.

39 Chlorhexidine 5% must always be diluted before use: 20 ml in 1 litre of water. Take the one litre plastic bottle supplied with the kit, put 20 ml of chlorhexidine solution into the bottle using the 10 ml syringe supplied and fill up the bottle with boiled or clean water. Chlorhexidine 1.5% + cetrimide 15% solution should be used in the same dilution.

40 Gentian violet 0.5% concentration = 1 teaspoon of gentian violet powder per litre of boiled/clean water. Shake well, or use warm water to disolve all powder.

41 Dilute by mixing one half litre benzyl benzoate 25% with one half litre clean water in the one litre plastic bottle supplied with the kit.

42 Chloroquine 150 mg base is equivalent to approximately 250 mg chloroquine phosphate or to approximately 200 mg chloroquine sulfate. See also footnote 8, page 13.

Worms[43]

Weight / Diagnosis / Symptom / Age	0 – <4 kg 0 – <2 mths.	4 – <8 kg 2 mths. – <1 yr.	8 – <15 kg 1 – <5 yrs.	15 – <35 kg 5 – <15 yrs.	35 kg + 15 yrs. +
Roundworm Pinworm			mebendazole tab 100 mg 2 tab once	mebendazole tab 100 mg 2 tab once	mebendazole tab 100 mg 2 tab once
Hookworm			mebendazole tab 100 mg 1 tab x 2 for 3 days	mebendazole tab 100 mg 1 tab x 2 for 3 days	mebendazole tab 100 mg 1 tab x 2 for 3 days

43 Note: treatment of hookworm in pregnancy with mebendazole is recommended in endemic areas: mebendazole can be safely given in the second and third trimesters of pregnancy.

Annex 2

Assessment and treatment of diarrhoea

Annex 2a: Assessment of diarrhoeal patients for dehydration

	First assess your patient for dehydration		
	A	B	C
1. Look at: general condition	well, alert	"restless, irritable"	"lethargic or unconscious; floppy"
eyes[44]	normal	sunken	very sunken and dry
tears	present	absent	absent
mouth and tongue[45]	moist	dry	very dry
thirst	drinks normally, not thirsty	"thirsty, drinks eagerly"	"drinks poorly or not able to drink"
2. Feel: skin pinch[46]	goes back quickly	"goes back slowly"	"goes back very slowly"
3. Decide:	The patient has no signs of dehydration	If the patient has two or more signs, including at least one "sign" there is is some dehydration	If the patient has two or more signs, including at least one "sign" there is severe dehydration
4. Treat:	Use Treatment Plan A	Weigh the patient, if possible and use Treatment Plan B	Weigh the patient and use Treatment Plan C urgently

Source: WHO. The treatment of diarrhoea, a manual for physicians and other senior health workers. Geneva: World Health Organization; 1995. WHO/CDR/95.3

44 In some infants and children the eyes normally appear somewhat sunken. It is helpful to ask the mother if the child's eyes are normal or more sunken than usual.

45 Dryness of the mouth and tongue can also be palpated with a clean finger. The mouth may always be dry in a child who habitually breathes through the mouth. The mouth may be wet in a dehydrated patient owing to recent vomiting or drinking.

46 The skin pinch is less useful in infants or children with marasmus (severe wasting) or kwashiorkor (severe undernutrition with oedema) or in obese children.

Annex 2b: Treatment Plan A to treat diarrhoea at home

Use this plan to teach the mother to:

- continue to treat at home her child's current episode of diarrhoea;
- give early treatment for future episodes of diarrhoea.

Explain the three rules for treating diarrhoea at home:

1. Give the child more fluids than usual to prevent dehydration

- Use recommended home fluids. These include: ORS solution, food-based fluids (such as soup, rice water and yogurt drinks) and plain water. Use ORS solution for children described in the box below. (Note: if the child is under 6 months and not yet taking solid food, give ORS solution or water rather than food-based fluid.)
- Give as much of these fluids as the child will take. Use the amounts shown below for ORS as a guide.
- Continue giving these fluids until the diarrhoea stops.

2. Give the child plenty of food to prevent undernutrition

- Continue to breast-feed frequently.
- If the child is not breast-fed, give the usual milk.
- If the child is six months or older, or already taking solid food:
  - also give cereal or another starchy food mixed, if possible, with pulses, vegetables, and meat or fish; add 1 or 2 teaspoonfuls of vegetable oil to each serving;
  - give fresh fruit juice or mashed banana to provide potassium;
  - give freshly prepared foods; cook and mash or grind food well;
  - encourage the child to eat: offer food at least 6 times a day;
  - give the same food after diarrhoea stops, and give an extra meal each day for two weeks.

3. Take the child to the health worker if the child does not get better in three days or develops any of the following:

- many watery stools
- repeated vomiting
- marked thirst
- eating or drinking poorly
- fever
- blood in the stool

Children should be given ORS solutions at home if:

- they have been on Treatment Plan B or C;
- they cannot return to the health worker if the diarrhoea gets worse;
- it is national policy to give ORS to all children who see a health worker for diarrhoea.

If the child will be given ORS solution at home, show the mother how much ORS to give after each loose stool and give her enough packets for two days.

Age	Amount of ORS to be given after each loose stool	Amount of ORS to provide for use at home
Less than 24 months	50 – 100 ml	500 ml/day
2 to 10 years	100 – 200 ml	1,000 ml/day
10 years or more	as much as wanted	2,000 ml/day

- Describe and show the amount to be given after each stool using a local measure.

Show the mother how to mix ORS.
Show her how to give ORS.

- Give a teaspoonful every 1–2 minutes for a child under 2 years.
- Give frequent sips from a cup for older children.
- If the child vomits, wait 10 minutes. Then give the solution more slowly (for example, a spoonful every 2–3 minutes).
- If diarrhoea continues after the ORS packets are used up, tell the mother to give other fluids as described in the first rule above or return for more ORS.

Annex 2c: Treatment Plan B to treat dehydration

Approximate amount of ORS solution to give in the first 4 hours						
Age*	Less than 4 months	4 - 11 months	12 - 23 months	2 - 4 years	5 - 14 years	15 years or older
Weight	0 - <5 kg	5 - 7.9 kg	8 - 10.9 kg	11 - 15.9 kg	16 - 29.9 kg	30 kg +
In ml	200 - 400	400 - 600	600 - 800	800 - 1,200	1,200 - 2,200	2,200 - 4,000
In local measure						

* Use the patient's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the patient's weight (in grams) times 0.075.

- If the child wants more ORS than shown, give more.
- Encourage the mother to continue breast-feeding.
- For infants under six months who are not breast-fed, also give 100–200 ml clean water during this period.

Observe the child carefully and help the mother give ORS solution.

- Show her how much solution to give the child.
- Show her how to give it – a teaspoonful every 1–2 minutes for a child under 2 years, frequent sips from a cup for an older child.
- Check from time to time to see if there are problems.
- If the child vomits, wait 10 minutes and then continue giving ORS, but more slowly, for example, a spoonful every 2–3 minutes.
- If the child's eyelids become puffy, stop the ORS and give plain water or breast milk. Give ORS according to Plan A when the puffiness is gone.

After four hours, reassess the child using the assessment chart, then select Plan A, B or C to continue treatment.

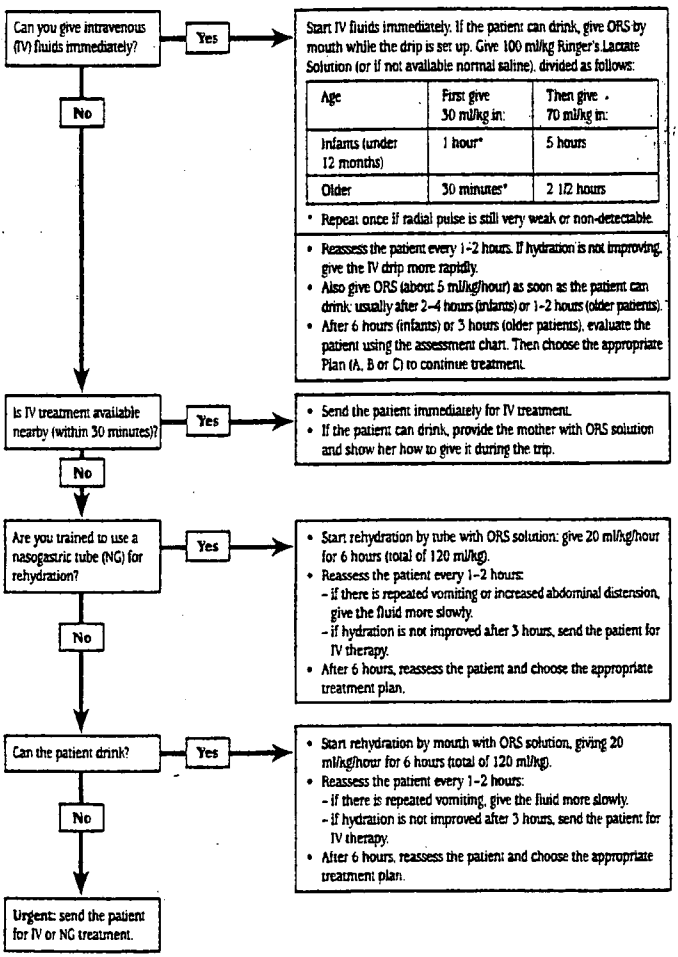
- If there are no signs of dehydration, shift to Plan A. When dehydration has been corrected, the child usually passes urine and may also be tired and fall asleep.
- If signs indicating some dehydration are still present, repeat Plan B, but start to offer food, milk and juice as described in Plan A.
- If signs indicating severe dehydration have appeared, shift to Plan C.

If the mother must leave before completing Treatment Plan B:

- Show her how much ORS to give to finish the 4-hour treatment at home;
- Give her enough ORS packets to complete rehydration, and for 2 more days as shown in Plan A;
- Show her how to prepare ORS solution;
- Explain to her the three rules in Plan A for treating her child at home:
  - to give ORS or other fluids until diarrhoea stops;
  - to feed the child;
  - bring the child back to the health worker, if necessary.

Annex 2d: Treatment Plan C to treat severe dehydration quickly

Follow the arrows. If the answer is "yes" go across. If "no" go down.



NB: If possible, observe the patient at least six hours after rehydration to be sure the mother can maintain hydration giving ORS solution by mouth. If the patient is above two years and there is cholera in your area, give an appropriate oral antibiotic after the patient is alert.

Use of drugs for children with diarrhoea

- ANTIBIOTICS should ONLY be used for dysentery and for suspected cholera cases with severe dehydration. Otherwise they are ineffective and should NOT be given.
- ANTIPARASITIC drugs should ONLY be used for:
  - Amoebiasis, after antibiotic treatment of bloody diarrhoea for shigella has failed or trophozoites of E. Histolytica containing red blood cells are seen in the faeces.
  - Giardiasis, when diarrhoea has lasted at least 14 days and cysts or trophozoites of Giardia are seen in faeces or small bowel fluid.
- ANTIDIARRHOEAL DRUGS and ANTIEMETICS should NEVER be used. None has proven value and some are dangerous.

Annex 3

Management of the child with cough or difficult breathing

Assess the child

Ask

- How old is the child?
- Is the child coughing? For how long?
- Is the child able to drink (for children age 2 months up to 5 years)?
- Has the young infant stopped feeding well (for children less than 2 months)?
- Has the child had fever? For how long?
- Has the child had convulsions?

Look and listen (the child must be calm)

- Count the breaths in one minute.
- Look for chest indrawing.
- Look and listen for stridor.
- Look and listen for wheeze. Is it recurrent?
- See if the child is abnormally sleepy, or difficult to wake.
- Feel for fever, or low body temperature (or measure temperature).
- Look for severe undernutrition.

Decide how to treat the child

The child aged less than two months:	see Annex 3a
The child aged two months up to five years:	
• who is not wheezing	see Annex 3b
• who is wheezing	refer
Treatment instructions	see Annex 3c
• give an antibiotic	
• advise mother to give home care	
• treatment of fever.	

Annex 3a: Child less than two months old

Signs:	No fast breathing (LESS than 60 a minute) and No severe chest indrawing	Fast breathing (60 per minute or MORE) or Severe chest indrawing	Not able to drink Convulsions Abnormally sleepy or difficult to wake Stridor in calm child Wheezing or Fever or low body temperature
Classify as:	No pneumonia – cough or cold	Severe pneumonia	Very severe disease
Treatment:	• Advise mother to give following homecare: – keep infant warm – breast-feed frequently – clear nose if it interferes with feeding • Advise mother to return quickly if: – illness worsens – breathing is difficult – breathing becomes fast – feeding becomes a problem	• Refer URGENTLY to hospital • Give first dose of an antibiotic • Keep infant warm (If referral is not feasible, treat with an antibiotic and follow closely)	• Refer URGENTLY to hospital • Give first dose of an antibiotic • Keep infant warm (If referral is not feasible, treat with an antibiotic and follow closely)

Annex 3b: Child two months to five years old

Signs:	• No chest indrawing and • No fast breathing (less than 50 per minute if child 2–12 months of age or 40 per minute if child 1–5 years)	• No chest indrawing and • Fast breathing (50 per minute or more if child 2–12 months of age or 40 per minute if child 1–5 years)	• Chest indrawing	• Not able to drink • Convulsions • Abnormally sleepy or difficult to wake • Stridor in calm child or • Severe under-nutrition
Classify as:	No pneumonia: cough or cold	Pneumonia	Severe pneumonia	Very severe disease
Treat-ment:	• If coughing more than 30 days, refer for assessment • Assess and treat ear problem or sore throat if present • Assess and treat other problems • Advise mother to give home care • Treat fever if present	• Advise mother to give home care • Give an antibiotic • Treat fever if present • Advise mother to return in 2 days for reassessment, or if the child is getting worse	• Refer urgently to hospital • Give first dose of antibiotics • Treat fever if present (If referral is not possible, treat with an antibiotic and follow closely)	• Refer urgently to hospital • Give first dose of antibiotics • Treat fever if present • If cerebral malaria is possible, give an antimalarial drug

Reassess in 2 days a child who is taking an antibiotic for pneumonia:			
Signs:	Improving • Less fever • Eating better • Breathing slower	The same	Worse • Not able to drink • Has chest indrawing • Has other danger signs
Treatment:	• Finish 5 days of antibiotics	• Change antibiotic or • Refer	• Refer urgently to hospital

Annex 3c: Treatment instructions

Give an antibiotic

- Give first dose of antibiotic in the clinic.
- Instruct mother on how to give the antibiotic for five days at home (or to return to clinic for daily procaine penicillin injection).

Age	COTRIMOXAZOLE trimethoprim (TMP) + sulfamethoxazole (SMX)			AMOXICILLIN		PROCAINE PENICILLIN
or	2 times daily for 5 days			3 times daily for 5 days	1 time daily	for 5 days
Weight	Adult tablet single strength (80 mg TMP + 400 mg SMX)	Paediatric table (20 mg TMP + 100 mg SMX)	Syrup (40 mg TMP + 200 mg SMX)	Tablet 250 mg	Syrup 125 mg in 5 ml	Intra-muscular injection
Less than 2 months (<6 kg)*	1/4**	1**	2.5 ml**	1/4	2.5 ml	200,000 units
2 months up to 12 months (6–9 kg)	1/2	2	5.0 ml	1/2	5.0 ml	400,000 units
12 months up to 5 years (10–19 kg)	1	3	7.5 ml	1	10 ml	800,000 units

* Give oral antibiotic for five days at home if referral is not feasible.

** If the child is less than one month old, give 1/2 paediatric tablet or 1.25 ml syrup twice daily. Avoid cotrimoxazole in infants less than one month of age who are premature or jaundiced. Syrups and paediatric tablets are mentioned here for completeness sake knowing that they are not available in the kit.

Advise mother to give home care (for child age 2 months up to 5 years)

- Feed the child
  - feed the child during illness
  - increase feeding during illness
  - clear the nose it it interferes with feeding
- Increase fluids
  - offer the child extra to drink
  - increase breastfeeding
  - soothe the throat and relieve cough with a safe remedy
- Most important: for the child classified as having no pneumonia, cough or cold, watch for the following signs and return quickly if they occur:
  - breathing becomes difficult
  - breathing becomes fast
  - child not able to drink
  - child becomes sicker

} This child may have pneumonia

Treat fever

• Fever is high (>39°C)	• Fever is not high (38–39°C)
• Give paracetamol	• Advise mother to give more fluids

In falciparum malarious area:
- any fever
  or
- history of fever

- Give an antimalarial (or treat according to your national malaria programme recommendations)

- Fever for more than 5 days

- Refer for assessment

PARACETAMOL doses:
- every six hours

Age or Weight	100 mg tablet	500 mg tablet
2 months up to 12 months (6–9 kg)	1	1/4
12 months up to 3 years (10–14 kg)	1	1/4
3 years up to 5 years (15–19 kg)	1 1/2	1/2

Fever alone is not a reason to give an antibiotic, except in a young infant (age less than 2 months).

Give first dose of an antibiotic and refer urgently to hospital.

Annex 4

Sample data collection forms

Daily morbidity data

Location: Clinic:

Date:

	Children under 5 years old	Children 5 years and older, and adults	Total
Diarrhoea with blood			
Diarrhoea without blood			
Faver/suspected malaria			
Malnutrition			
Measles			
Meningitis			
Severe acute respiratory infections/pneumonia			
Sexually transmitted infections			
Others			
Totals			

Number of cases referred to other services:

Other information:

Weekly mortality statistics

Location: Total population:

Week:

Cause of death	Children under 5 years old		Children 5 years and older, and adults		Total	
	Male	Female	Male	Female	Male	Female
ARI[47]/pneumonia						
Diarrhoea						
Diarrhoea with blood						
Fever/suspected malaria						
Malnutrition						
Maternal deaths						
Measles						
Meningitis						
Others						
Totals						

Other information:

47 ARI = Acute respiratory infection

Daily drug consumption form

Date: Location:

Item/drug	Quantities dispensed*	Total
1. acetylsalicylic acid		
2. aluminium hydroxide		
3. chloroquine		
4. cotrimoxazole		
5. ferrous sulfate + folic acid		
6. gentian violet powder		
7. mebendazole		
8. ORS		
9. paracetamol		
10. tetracycline eye ointment		
11.		
12.		
13.		
14.		
15.		
16.		
17.		

* For example: 10 + 30 + 20...

Annex 5 Sample health card

Health Card
Carte de Santé

Card No.
Carte No.

Date of registration
Date d'enregistrement

Date of arrival at site
Date d'arrivée sur le lieu

Site
Lieu

Section/House No.
Section/Habitation No.

Family name
Nom de famille

Given names
Prénoms

Date of birth or age
Date de naissance ou âge

Or
Ou

Years
Ans

Sex
Sexe

M/F

Name commonly known by
Nom d'usage habituel

Mother's name
Nom de la mère

Father's name
Nom du père

Height
Taille

CM

Weight
Poids

KG

Percentage weight/height
Pourcentage poids/taille

CHILDREN
ENFANTS

Feeding programme
Programme d'alimentation

Immunization
Immunisation

Measles
Rougeole

Polio

Date

1

2

BCG

Date

Others
Autres

3

DPT Polio
DTC Polio

WOMEN
FEMMES

Pregnant
Enceinte

Yes/No
Oui/Non

No. of pregnancies
No. de grossesses

No. of children
No. d'enfants

Lactating
Allaitante

Yes/No
Oui/Non

Tetanus
Tétanos

Date

1

2

3

4

5

Feeding programme
Programme d'alimentation

COMMENTS
OBSERVATIONS

General *(Family circumstances, living conditions, etc.)*
Générales *(Circonstances familiales, condition de vie, etc.)*

Health *(Brief history, present condition)*
Médicales *(Résumé de l'état actuel)*

DATE	CONDITION (Signs/symptoms/ diagnosis) ETAT (Signes/symptômes/ diagnostic)	TREATMENT (Medication/dose time) TRAITEMENT (Médication/durée de la dose)	COURSES (Medication due/given) APPLICATION (Médication requise/ effectuée)	OBSERVATIONS (Change in condition) NAME OF HEALTH WORKER OBSERVATIONS (Changement d'état) NOM DE L'AGENT DE SANTE

Annex 6

Guidelines for suppliers

Specifications for drugs and materials

Drugs, supplies and equipment in the kit should comply with specifications and advice given in Guidelines for drug donations. Geneva: World Health Organization; 1996 (WHO/DAP/96.2) and in Emergency relief items, compendium of basic specifications. vol.2. New York: UNDP/IAPSO; 1996.

Packaging

1. Each package of drugs should contain a leaflet (insert) giving directions for use, warnings and precautions. However, such leaflets should be considered an essential supplement to labelling and not an alternative.
2. The tablets or capsules should be packed in sealed waterproof containers with replaceable lids, protecting the contents from light and humidity.
3. Liquids should be packed in unbreakable leak-proof bottles or containers.
4. Containers for all pharmaceutical preparations must conform to the latest edition of internationally recognized pharmacopoeial standards.
5. Ampoules must either have break-off necks, or sufficient files must be provided.
6. Each basic unit should be packed in one carton. The supplementary unit must be packed in cartons of a maximum weight of 50 kg. The cartons should preferably have two handles attached. Drugs, renewable supplies, infusions and equipment should all be packed in separate cartons, with corresponding labels.
7. Each carton must be marked with a green label (the international colour code for medical supplies in emergency situations). The word "BASIC" must be printed on each green label for the basic unit.

Packing list

Each consignment must be accompanied by a list of contents, stating the number of cartons, and the type and quantity of drugs and other supplies in each carton.

Information slips

Each basic unit carton and a number of the supplementary unit cartons should contain an information slip in four languages (English, French, Spanish and Russian) which reads as follows:

English

"NEHK98 is primarily intended for displaced populations without medical facilities; it may also be used for initial supply of primary health care facilities where the normal system of provision has broken down. It is not intended as a re-supply kit and, if used as such, may result in the accumulation of items and drugs which are not needed.

It is recognized that some of the supplies and drugs contained in the kit may not be appro-priate for all cultures and countries. This is inevitable as it is a standardized emergency kit, designed for worldwide use, which is prepacked and kept ready for immediate dispatch.

The kit is not designed for immunization programmes, cholera, meningitis or specific epidemics such as those caused by Ebola virus."

French

La nouvelle trousse sanitaire d'urgence 1998 est principalement destinée aux populations déplacées n'ayant pas accès à des soins médicaux. Elle peut également être utilisée pour fournir des soins de santé primaires, partout où le système habituel s'est effondré. Elle ne doit en aucun cas servir de réapprovisionnement car cela pourrait entraîner une accumulation inutile de matériel et de médicaments.

Dans la mesure où cette trousse est standardisée, destinée à être utilisée dans le monde entier et préemballée afin d'être distribuée immédiatement en cas de nécessité, il est inévitable qu'une partie du matériel et des médicaments qu'elle contient ne conviennent pas à tous les pays et à toutes les cultures.

Cette trousse n'est ni conçue pour les programmes de vaccination (choléra, méningite), ni pour des épidémies spécifiques comme celles dues au virus Ebola.

Spanish

«El nuevo botiquín médico de emergencia está destinado principalmente a las poblaciones desplazadas carentes de servicios médicos; podrá utilizarse también para la prestación inicial de servicios de atención primaria de salud donde el sistema normal de prestación esté paralizado. No tiene por objeto reabastecer el botiquín, pues si se utiliza con este fin ello puede dar lugar a que se acumulen artículos y medicamentos innecesarios.

Se reconoce que algunos de los suministros y medicamentos contenidos en el botiquín pueden no ser apropiados en todos los contextos culturales y países. Esto es inevitable, ya que se trata de un botiquín estándar de emergencia destinado para su uso en todo el mundo, preempaquetado y listo para su envío inmediato.

El botiquín no está destinado a los programas de inmunización ni a combatir el cólera, la meningitis o epidemias particulares como la provocada por el virus de Ébola.»

Russian

"АОНП98[1] предназначается для перемещенных лиц, не имеющих доступа к службам медико-санитарной помощи; она может также использоваться для первичных поставок необходимых лекарственных средств службам первичной медико-санитарной помощи, при нарушениях ритма в работе служб, обеспечивающих поставку им медицинских изделий и препаратов. Аптечка не рассчитана на пополнение имеющихся в ней запасов, ибо это может привести к ненужному накоплению лекарств и материалов, в которых нет необходимости.

Укомплектование аптечки лекарственными средствами и другими изделиями медицинского назначения может не соответствовать запросам всех стран и представителей различных культур. Это представляется неизбежным, поскольку аптечка представляет собой стандартизированный набор, подготовленный и сохраняемый для немедленной отправки в любую точку Земного шара.

Данная аптечка не предназначена для программ иммунизации, борьбы с холерой, менингитом или особыми эпидемиями, как, например, те, которые вызываются вирусом Эбола."

[1] Примечание редактора. АОНП98 - аптечка для оказания неотложной помощи.

Annex 7

Other kits for emergency situations

The following additional kits covering immunization, reproductive health and nutrition may be provided after assessment of needs. Please see Annex 11 for the addresses of Medecins sans Frontieres (MSF), OXFAM and the United Nations Population Fund (UNFPA).

Immunization

Immunization kit for 10,000 immunizations using 5 teams

The kit may be used for epidemic control or prevention of measles, meningitis and yellow fever. It is composed of cold chain, logistic and medical material divided into 7 modules including a generator, refrigeration, cold chain transport and medical equipment, logistics and registration material, and renewable medical items. Vaccines must be ordered separately.

MSF code: KMEDKIMM3

Nutritional support—feeding kits

OXFAM and MSF have developed kits for nutritional support. All the kits are packed by OXFAM and should be ordered through them. For organizational reasons, the kits have different OXFAM and MSF codes but have identical contents.

Survey kits

This kit contains equipment for measuring weight and height of children to assess nutritional status and materials needed for nutritional surveys by two teams.

OXFAM anthropometric kit, kit 1/2

MSF Kit anthropometric nutritional survey code: KMEDMNUT40

Registration kits

These contain material needed for registering children and record keeping for feeding programmes.

OXFAM registration, kit 2A/2 – for supplementary feeding (wet)

MSF registration, 250 moderate malnourished children/3 months code: KMEDMNUT61

OXFAM registration, kit 3A/2 – for supplementary feeding (dry)

MSF registration, 500 dry feeding/3 months, code: KMEDMNUT71

OXFAM registration, kit 4A/2 for therapeutic feeding
MSF registration, 100 severely malnourished children/3 months
code: KMEDMNUT51

Supplementary feeding (wet) kit

Designed for 250 people, moderately malnourished children or other vulnerable groups and includes feeding and cooking equipment. Recent guidelines discourage the use of wet supplementary feeding programmes but do recommend they are only implemented when populations have limited access to fuel and water, where security conditions place people at risk when taking rations home or for groups who are in need of additional food but are unable to cook for themselves.

MSF wet feeding equipment 250 moderately malnourished individuals
code: KMEDMNUT62
OXFAM kit 2/2

Supplementary feeding (dry) kit

Designed for 500 people, moderately malnourished children or other vulnerable groups and includes equipment for mixing and distributing food. It is not intended for general food distribution of an entire population in need of food aid.

MSF dry feeding equipment 500 moderately malnourished children
code: KMEDMNUT72
OXFAM kit 3/2

Therapeutic feeding kit

Designed for therapeutic feeding of 100 severely malnourished children. The kit should only be used by trained staff who are able to recognize and respond to the main health problems associated with severe malnutrition. There should be access to medical care as the kit contains no drugs.

MSF therapeutic feeding equipment 100 severely malnourished children
code: KMEDMNUT52
OXFAM kit 4/2

Reproductive health kits for emergencies

The following 13 subkits are available through UNFPA and follow the numbering below.

Subkits designed for 10,000 people for 3 months

0-(A) Training and administration

Administration equipment for training health workers and health personnel

1. Condom

   120 gross (17,280) condoms with safe sex leaflets

2. Clean delivery

   200 individual packets containing material and pictorial instruction sheet for self delivery plus material for traditional birth attendants

3. Post rape/emergency contraception

   Emergency contraceptive tablets in packs of 4 (100 packs) plus erythromycin and cefixime with explanatory leaflets on emergency contraception

4. Oral and injectable contraception

   Designed to provide oral or injectable contraception to former users

5. Sexually transmitted disease

   Designed to provide antibiotics and condoms using the syndromic approach for the major sexually transmitted diseases

Subkits designed for 30,000 people for 3 months

6. Delivery

   For trained personnel, midwives, nurses with midwifery skills and medical doctors to perform normal deliveries, repair episiotomies and perineal tears under local anaesthetic and stabilize dangerous situations before transfer to a referral unit, (eclampsia and haemorrhage)

7. Intra-uterine device

   Equipment and material for trained personnel to place IUDs either as emergency contraception or as non-emergency contraception at the request of women and to remove IUDs (antibiotics included)

8. Complications of abortion

   Equipment and material to perform uterine evacuation and if necessary give antibiotics

9. Vaginal examination, vaginal/cervical tears

   Equipment to allow vaginal examination and suturing of cervical and vaginal tears

10. Vacuum extraction

    Provides a Bird vacuum extractor to assist in vaginal delivery by using vacuum extraction method to deliver the newborn

Subkits designed for referral level: surgical/obstetric, 150,000 people for 3 months

11. Referral level (part A) Surgical/obstetric reusable equipment
    Referral level (part B) Drugs and disposable equipment
    Equipment materials and drugs provide for caesarian sections, resuscitation of mothers and babies, treatment of sexually transmitted infections, and complications of pregnancy and delivery
12. Transfusion
    Material for grouping, cross-matching blood and HIV testing

Annex 8

Guidelines for Drug Donations[48]

Selection of drugs

1. All drug donations should be based on an expressed need and be relevant to the disease pattern in the recipient country. Drugs should not be sent without prior consent by the recipient.

Justification and explanation

This provision stresses the point that it is the prime responsibility of the recipients to specify their needs. It is intended to prevent unsolicited donations, and donations which arrive unannounced and unwanted. It also empowers the recipients to refuse unwanted gifts.

Possible exceptions

In acute emergencies the need for prior consent by the recipient may be waived, provided the drugs are amongst those from the WHO Model List of Essential Drugs[49] that are included in the UN list of emergency relief items recommended for use in acute emergencies.[50]

2. All donated drugs or their generic equivalents should be approved for use in the recipient country and appear on the national list of essential drugs, or, if a national list is not available, on the WHO Model List of Essential Drugs, unless specifically requested otherwise by the recipient.

Justification and explanation

This provision is intended to ensure that drug donations comply with national drug policies and essential drugs programmes. It aims at maximizing the positive impact of the donation, and prevents the donation of drugs which are unnecessary and/or unknown in the recipient country.

Possible exceptions

An exception can be made for drugs needed in sudden outbreaks of uncommon or newly emerging diseases, since such drugs may not be approved for use in the recipient country.

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48 Reprinted from: Guidelines for drug donations. Geneva: World Health Organization; 1996. WHO/DAP/96.2.

49 Included in: The Use of Essential Drugs. Geneva: World Health Organization; 1997. Technical Report Series no. 867.

50 Emergency relief items. Compendium of basic specifications, vol. 2: Medical supplies, equipment and selected essential drugs. New York: United Nations Development Programme; 1996.

3. The presentation, strength and formulation of donated drugs should, as much as possible, be similar to those commonly used in the recipient country.

Justification and explanation

Most staff working at different health care levels in the recipient country have been trained to use a certain formulation and dosage schedule and cannot constantly change their treatment practices. Moreover, they often have insufficient training in performing the necessary dosage calculations required for such changes.

Quality assurance and shelf-life

4. All donated drugs should be obtained from a reliable source and comply with quality standards in both donor and recipient country. The WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce[51] should be used.

Justification and explanation

This provision prevents double standards: drugs of unacceptable quality in the donor country should not be donated to other countries. Donated drugs should be authorized for sale in the country of origin, and manufactured in accordance with international standards of Good Manufacturing Practice (GMP).

Possible exceptions

In acute emergencies the use of the WHO Certification Scheme may not be practical. However, if it is not used, a justification should be given by the donor. When donors provide funds to purchase drugs from local producers, those which comply with national standards should not be excluded on the sole grounds that they do not meet quality standards of the donor country.

5. No drugs should be donated that have been issued to patients and then returned to a pharmacy or elsewhere, or were given to health professionals as free samples.

Justification and explanation

Patients return unused drugs to a pharmacy to ensure their safe disposal; the same applies to drug samples that have been received by health workers. In most countries it is not allowed to issue such drugs to other patients, because their quality cannot be guaranteed. For this reason returned drugs should not be donated either. In addition to quality issues, returned drugs are very difficult to manage at the receiving end because of broken packages and small quantities involved.

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51 Included in: WHO Expert Committee on specifications for pharmaceutical preparations. Geneva: World Health Organization; 1996. Annex 10. Technical Report Series no. 863.

6. After arrival in the recipient country all donated drugs should have a remaining shelf-life of at least one year.

Justification and explanation
In many recipient countries, and especially under emergency situations, there are logistical problems. Very often the regular drug distribution system has limited possibilities for immediate distribution. Regular distribution through different storage levels (e.g. central store, provincial store, district hospital) may take six to nine months. This provision especially prevents the donation of drugs just before their expiry as in most cases such drugs would only reach the patient after expiry.

Possible exceptions
An exception should be made for drugs with a total shelf-life of less than two years, in which case at least one-third of the shelf-life should remain. An exception can also be made for direct donations to specific health facilities, provided the responsible professional at the receiving end is aware of the shelf-life and the remaining shelf-life allows for proper administration prior to expiration. In all cases it is important that the date of arrival be communicated to the recipient well in advance.

Presentation, packing and labelling

7. All drugs should be labelled in a language that is easily understood by health professionals in the recipient country; the label on each individual container should at least contain the International Nonproprietary Name (INN, or generic name), batch number, dosage form, strength, name of manufacturer, quantity in the container, storage conditions and expiry date.

Justification and explanation
All donated drugs, including those under brand name, should be labelled also with their INN or the official generic name. Most training programmes are based on the use of generic names. Receiving drugs under different and often unknown brand names and without the INN is confusing for health workers and can even be dangerous for patients. In case of injections, the route of administration should be indicated.

8. As much as possible, donated drugs should be presented in larger quantity units and hospital packs.

Justification and explanation
Large quantity packs are cheaper, less bulky to transport and conform better with public sector supply systems in most developing countries. This provision also prevents the donation of drugs in sample packages, which are impractical to manage. In precarious situations, the

donation of paediatric syrups and mixtures may be inappropriate because of logistical problems and their potential misuse.

9. All drug donations should be packed in accordance with international shipping regulations, and be accompanied by a detailed packing list which specifies the contents of each numbered carton by INN, dosage form, quantity, batch number, expiry date, volume, weight and any special storage conditions. The weight per carton should not exceed 50 kilograms. Drugs should not be mixed with other supplies in the same carton.

Justification and explanation

This provision is intended to facilitate the administration, storage and distribution of donations in emergency situations, as the identification and management of unmarked boxes with mixed drugs is very time and labour intensive. This provision specifically discourages donations of small quantities of mixed drugs. The maximum weight of 50 kg ensures that each carton can be handled without special equipment.

Information and management

10. Recipients should be informed of all drug donations that are being considered, prepared or actually underway.

Justification and explanation

Many drug donations arrive unannounced. Detailed advance information on all drug donations is essential to enable the recipient to plan for the receipt of the donation and to coordinate the donation with other sources of supply. The information should at least include: the type and quantities of donated drugs including their International Nonproprietary Name (INN or generic name), strength, dosage form, manufacturer and expiry date; reference to earlier correspondence (for example, the letter of consent by the recipient); the expected date of arrival and port of entry; and the identity and contact address of the donor.

11. In the recipient country the declared value of a drug donation should be based upon the wholesale price of its generic equivalent in the recipient country, or, if such information is not available, on the wholesale world-market price for its generic equivalent.

Justification and explanation

This provision is needed in the recipient country to prevent drug donations being priced according to the retail price of the product in the donor country, which may lead to elevated overhead cost for import tax, port clearance, and handling in the recipient country. It may also result in a corresponding decrease in the public sector drug budget in the recipient country.

Possible exception

In case of patented drugs (for which there is no generic equivalent) the wholesale price of the nearest therapeutic equivalent could be taken as a reference.

12. Costs of international and local transport, warehousing, port clearance and appropriate storage and handling should be paid by the donor agency, unless specifically agreed otherwise with the recipient in advance.

Justification and explanation

This provision prevents the recipient from being forced to spend effort and money on the clearance and transport of unannounced consignments of unwanted items, and also enables the recipient to review the list of donated items at an early stage.

Annex 9

Model Guidelines for the International Provision of Controlled Medicines for Emergency Medical Care[52]

Introduction

A sudden rise in the need for medical care in emergency situations following natural or man-made disasters creates an acute shortage of medical supplies. Several international organizations and nongovernmental organizations (NGOs) are actively involved in the provision of humanitarian assistance by delivery of medical supplies in emergency situations. However, they are often faced with serious difficulties in providing several essential medicines containing narcotic drugs or psychotropic substances partly because of the regulatory requirements concerning their importation and exportation. The lack of these medicines results in additional human suffering by depriving those in need of adequate pain relief and sedation.

In order to improve the provision of medical care for disaster-stricken peoples, there is an urgent need to work out a practical solution to this problem.

Drugs included in the kit which come under international control measures are morphine, diazepam and phenobarbital. Though not included in the NEHK98 the previously recommended analgesic pentazocine is increasingly coming under international control and ketamine may be nationally controlled.

Cause of the problem

Based on operational experiences, humanitarian aid agencies perceive the problem as follows:

The international transportation of humanitarian supplies containing narcotic drugs and psychotropic substances is regarded by the control authorities as "exportation" requiring prior import authorizations from the authorities of the receiving country. As such, the import/export authorization system makes the quick international transportation of controlled drugs to sites of emergencies virtually impossible. In addition, the rigorous application of the estimate system can further complicate the procedure. While the International Narcotics Control Board

52 Reprint of: Model guidelines for the international provision of controlled medicines for emergency medical care. Geneva: World Health Organization; 1996. WHO/PSA/96.17.

(INCB) has advised control authorities that emergency humanitarian deliveries are considered as being consumed in the exporting country and included as such in the estimate of the exporting country, in reality, authorities had often followed the procedure for normal import/export transactions. This procedure often takes too long to meet the acute need for relief in some emergency situations, particularly when the control authorities in the receiving country are rendered dysfunctional, or are not in a position to issue import authorizations for the inhabitants in the disaster-stricken area of the country.

Consequences

As a consequence, all humanitarian aid agencies have abandoned the provision of narcotic drugs in their emergency medical supplies. Instead, pentazocine or buprenorphine (in Schedule III of the Convention on Psychotropic Substances, 1971) has been provided as an alternative for narcotic analgesics. Even this has become increasingly difficult, as more and more governments have introduced the export/import authorization and the "assessment" systems for Schedule III and IV psychotropic substances in response to the resolution adopted by the Economic and Social Council (ECOSOC). The same applies to diazepam and phenobarbital in Schedule IV of the 1971 Convention.

Furthermore, difficulty has been encountered even with ephedrine, ergometrine, ketamine, tramadol, thiopental, and chlorpromazine as some national control authorities apply similar export/import control systems to these medicines.

Search for a solution

WHO brought this issue to the attention of the INCB in an effort to find a practical solution. The INCB, in its report for 1994, recommended that control obligations could be limited to the authorities of exporting countries in emergency situations. This principle was endorsed at the 38th session of the UN Commission on Narcotic Drugs in 1995, and was further reinforced by its resolution entitled "Timely provision of controlled drugs for emergency care" adopted at the 39th session in 1996. This and a similar resolution adopted by the 49th session of the World Health Assembly request WHO to prepare model guidelines to assist national authorities with simplified regulatory procedures for this purpose, in consultation with the relevant UN bodies and interested governments.

These model guidelines are prepared in response to the above resolutions. In essence, the procedures proposed would allow certain suppliers to make international shipments of controlled medicines at the request of recognized agencies providing humanitarian assistance without prior export/import authorizations in emergency situations, following defined procedures acceptable to the control authorities and the INCB.

Definitions

The definitions listed below are used in this document.

Emergency

Any acute situation (e.g. earthquakes, floods, hurricanes, epidemics, conflicts, displacement of populations) in which the health conditions of a group of individuals are seriously threatened unless immediate and appropriate action is taken, and which demands an extraordinary response and exceptional measures.

Availability of control authorities

Control authorities are considered unavailable when an emergency occurs which results in a disruption of the function of such authorities to issue import authorizations.

When an emergency occurs in areas outside the control of the government, a solution should be found, on a case by case basis, through discussions with the control authorities of the exporting countries and the INCB.

Control authorities

Control authorities mean the competent national authorities designated by their governments in accordance with the Single Convention on Narcotic Drugs, 1961, and the Convention on Psychotropic Substances, 1971 (ref. United Nations publication "Competent national authorities under the international drug control treaties", available from the United Nations).

Operator

International, governmental and/or nongovernmental organizations engaged in the provision of humanitarian assistance in health matters recognized by the control authorities of exporting countries (e.g. UNICEF, UNHCR, WHO, ICRC (International Committee of the Red Cross), IFRC (International Federation of Red Cross and Red Crescent Societies), MSF (Medecins sans Frontières), national aid agencies and bona fide NGOs).

Supplier

Supplier of drugs for humanitarian assistance at the request of operators: a supplier may either be a separate entity or a section or department of an operator.

Purpose and principle

The model guidelines are aimed at enabling operators to supply, across international boundaries, essential narcotic drugs and psychotropic substances for emergency medical care.

To strike a delicate balance between the need for the timely provision of essential medicines, and the need to minimize the risk of their diversion, the procedures should be based on the principle of limiting control obligations to the control authorities of exporting countries.

Scope of application

These procedures would be applicable to the international provision of essential narcotic and psychotropic medicines by a limited number of operators in acute emergency situations, either with or without control authorities in the receiving country, as well as to less urgent humanitarian assistance by these operators in situations where the control authorities are not available in the receiving country.

Selection of suppliers

Suppliers should be limited to those recognized by the control authorities of exporting countries. They should at least have:

1. adequate experience as a supplier of good quality emergency medical supplies;
2. managerial capability to assess the appropriateness of requests for the simplified procedure from operators;
3. adequate level of stock and a responsible pharmacist;
4. sufficient knowledge about the relevant international conventions;
5. standard agreement with the control authorities of exporting countries (see section VI below).

Outline of standard agreement between suppliers[53] and control authorities of exporting countries

The standard agreement should at least cover:

(1) Criteria for acceptance of shipment requests from operators (a model form is attached at the end).

The criteria for immediate acceptance of shipment requests from operators should at least specify the essential information to be furnished to the supplier concerning:

53 When an operator is also a supplier, the agreement will be between the operator and the control authorities.

a. credibility of the requesting operator

A pre-determined list of credible operators ought to be prepared. A credible operator should (i) be an established organization; (ii) have adequate experience for international provision of humanitarian medical assistance; (iii) have responsible medical management (medical doctor(s) or pharmacist(s)); and (iv) appropriate logistic support.

b. nature of the emergency and the urgency of the request

A statement to the supplier on the nature of the emergency by the operator, or if appropriate, by a UN agency.

c. availability of control authorities in the receiving country.

d. diversion prevention mechanism after delivery

Indicate if the requesting operator itself is the user of the supplies. If not, the name and organization of the person responsible for receipt and internal distribution of the supplies should be indicated. As far as possible, the recipients in the receiving country should be identified.

(2) Timing and mode of reporting to the control authorities and the INCB

When control authorities are available in the receiving country, they should be notified as soon as possible by the control authorities of the exporting country and the operator of a consignment of the emergency delivery, while their import authorization may not have to be required under the circumstances of an emergency situation.

Suppliers should inform the control authorities of the exporting country of each emergency shipment being made in response to a request from an operator so that the control authorities can intervene if necessary.

Suppliers should submit to the control authorities of the exporting country an annual report on emergency deliveries and quantities of drugs involved as well as their destinations in duplicate, so that one copy can be forwarded to the INCB.

Suppliers, or operators through the suppliers, should inform the control authorities of the exporting countries, with copy to the INCB, of any problems encountered in the working of emergency deliveries.

(3) Other relevant matters

As appropriate, the agreement may include provisions on other relevant matters such as inspection and guidance by the control authorities. Although the quantities involved would be rather small, it may touch upon estimated/assessed requirements based on the principle that the drugs provided should be regarded as having been "consumed" in the exporting country.

Summary of the request procedure

(1) Operator's role

The operator should make a written request for emergency supplies of controlled substances to the supplier, using the attached model form. The operator is responsible for:

- information provided on the form;
- actual handling of controlled drugs at the receiving end or adequate delivery to the reliable recipient;
- reporting to the control authorities of the receiving country (whenever they are available) as soon as possible;
- reporting to the control authorities of the receiving country on unused quantities, if any, when the operator is the end-user or to arrange for the end-user to do so;
- reporting to the control authorities of the exporting country through the supplier, with copy to the INCB, any problems encountered in the working of emergency deliveries.

(2) Supplier's role

Before responding to the request from the operator, the supplier should be convinced that the nature of the emergency justifies the application of the simplified procedure without export/import authorizations. The supplier is also responsible for:

- submitting immediately a copy of the shipment request to the control authorities of the exporting country;
- submitting an annual report on emergency deliveries and quantities of drugs involved as well as their destinations, with copy to the INCB;
- reporting to the control authorities of the exporting country, with copy to the INCB, any problems encountered in the working of emergency deliveries.

(3) Control authorities' role

The control authorities of the exporting country should inform their counterpart in the receiving country (whenever they are available) of the emergency deliveries.

The control authorities of the receiving country have the right to refuse the importation of such deliveries. Emergency deliveries need not be included in the estimate of the receiving country, since they are regarded as having been consumed in the exporting country.

Model shipment request/notification form for emergency supplies of controlled substances

Operator:

Name: _____

Address: _____

Name of the responsible medical director/pharmacist: _____

Title: _____

Phone No. _____ Fax No. _____

Requests the supplier:[54]

Name: _____

Address: _____

Responsible pharmacist: _____

Phone No. _____ Fax No. _____

For an emergency shipment[55] of the following medicine(s) containing controlled substances:

Name of product (in INN/generic name) and dosage form, amount of active ingredient per unit dose, number of dosage units in words and figures

Narcotic drugs as defined in the 1961 Convention (e.g. morphine, pethidine, fentanyl)
[e.g. Morphine injection 1 ml ampoule; morphine sulfate corresponding to 10 mg of morphine base per ml; two hundred (200) ampoules]

_____

_____

_____

_____

_____

54 If the operator is exporting directly from its emergency stock, it should be considered as a supplier.

55 Emergency deliveries do not affect the estimate of the recipient country since they have already been accounted for in the estimate of the exporting country.

Psychotropic substances as defined in the 1971 Convention (e.g. buprenorphine, pentazocine, diazepam, phenobarbital)

Others (nationally controlled in the exporting country, if applicable)

To the following recipient (whichever applicable):

Country of final recipient:

Responsible person for receipt:

Name:

Organization/Agency:

Address:

Phone No. Fax No.

For use by/delivery to:

Location: Organization/Agency

Consignee (If different from above e.g. transit in a third country):

Name: Organization/Agency

Address:

Phone No. Fax No.

Nature of emergency (Brief description of the emergency motivating the request):

Availability of, and action taken to contact the control authorities in the receiving country:

_____

_____

_____

_____

I certify that the above information is true and correct. My Organization will:

- Take responsibility for receipt, storage, delivery to the recipient/end-user, or use for emergency care (strike out what is not applicable) of the above controlled medicines;
- Report the importation of the above controlled medicines as soon as possible to the control authorities (if available) of the receiving country;
- Report the quantities of unused controlled medicines, if any, to the control authorities of the receiving country (if available), or arrange for the end-user to do so (strike out what is not applicable).

Title: _____ Date: _____

Location: _____ _____

(Signature)

Annex 10

References

The books and documents referenced below may be obtained from the following addresses. Some are available free of charge.

WHO Publications, Distribution and Sales, 20 Avenue Appia, 1211 Geneva 27, Switzerland. Tel: 41 22 791 2476, fax: 41 22 791 4857, e-mail: publications@who.ch, World-Wide-Web site: http://www.who.ch

Kumarian Press, Inc., 14 Oakwood Ave., West Hartford, CT 06119-2127, USA. Tel: 1 860 233 5895, fax: 1 860 233 6072

Médecins sans Frontières: International Office: Médecins sans Frontières, 39 rue de la Tourelle, 1040 Brussels, Belgium. Tel: 32 2 2801881, fax: 32 2 2800173
Belgium: Médecins sans Frontières, Dupréstreet 94 – 1090 Brussels Jette. Tel: 32 2 474 7474, fax: 32 2 474 7575
France: Médecins sans Frontières, 8 rue Sabin – 75544 Paris Cedex 11. Tel: 33 1 40 212929, fax: 33 1 48 066868
Luxembourg: Médecins sans Frontières, 70 route de Luxembourg – 7240 Bereldange. Tel: 352 33 2515, fax: 352 33 5133
Netherlands: Artsen Zonder Grenzen, Max Euweplein 40 – Postbus 10014, 1001 EA Amsterdam. Tel: 31 20 5208700, fax: 31 20 6205170
Spain: Médicos Sin Fronteras, Nou de la Rambla 26 – 08001 Barcelona. Tel: 34 9 3 3046100, fax: 34 9 3 3046102
Switzerland: Médecins sans Frontières, 12 rue du Lac – Case postale 6090, 1211 Geneva 6. Tel: 41 22 849 8484, fax: 41 22 849 8488

UNFPA/Emergency Relief Operations, 9 Chemin des Anémones, 1219 Geneva, Switzerland. Tel: 41 22 979 9314, fax: 41 22 979 9049, e-mail: peirroti@itu.ch, World-Wide-Web site: http://www.unfpa.org/index.html
Dedicated reproductive health kits have been designed by the United Nations Population Fund. Further information on their availability, content and cost may be obtained from the above address.

UNHCR Headquarters, Case Postale 2500, 1211 Geneva Dépot 2, Switzerland. Tel: 41 22 739 8111, fax: 41 22 739 7377

Drugs and drug management

WHO. Drugs used in parasitic diseases. 2nd. ed. WHO Model Prescribing Information. Geneva: World Health Organization; 1995. ISBN 92 4 140104 4

WHO. Drugs used in sexually transmitted diseases and HIV infection. WHO Model Prescribing Information. Geneva: World Health Organization; 1995. ISBN 92 4 140105 2

WHO. Drugs used in skin diseases. WHO Model Prescribing Information. Geneva: World Health Organization; 1997. ISBN 92 4 140106 0

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Annex 11

Useful addresses

Christian Medical Commission, Churches' Action for Health, World Council of Churches, 150 rte. de Ferney, PO Box 2100, 1211 Geneva 2, Switzerland. Tel: 41 22 791 6111, fax: 41 22 791 0361, e-mail: koa@wcc-coe.org

International Committee of the Red Cross, 19, Avenue de la Paix, 1202 Geneva, Switzerland. Tel. 41. 22 734 60 01, telex: 41 4 226 CCR CH, fax: 41 22 733 20 57

International Dispensary Association, PO Box 37098, 1030 AB Amsterdam, Netherlands. Tel: 31 20 4033051, fax: 31 20 4031854, e-mail: ida_sale@euronet.nl

International Federation of Red Cross and Red Crescent Societies, 17 ch. des Crêts, Petit Saconnex, PO Box 372, 1211 Geneva, Switzerland. Tel: 41 22 730 4222, telex: 412 133 FRC CH, fax: 41 22 733 0395

International Office: Médecins sans Frontières, 39 rue de la Tourelle, 1040 Brussels, Belgium. Tel: 32 2 2801881, fax: 32 2 2800173

OXFAM, 274 Banbury Road, Oxford OX2 7DZ, United Kingdom. Tel: 44 1865 311 311, telex: 83610, fax: 44 1865 312 224

Pharmaceutical Programme, Community Initiatives Support Services International, PO Box 73860, Nairobi, Kenya. Tel: 254 2 445020, fax: 254 2 440306

United Nations Children's Fund, Supply Division, Freeport, DK-2100 Copenhagen Ø, Denmark. Tel: 45 35 37 35 37, fax: 45 35 26 94 21, e-mail: supply@unicef.dk

United Nations Development Programme, Interagency Procurement Services Office, Midtermolen 3, PO Box 2530, 2100 Copenhagen Ø, Denmark. Tel: 45 35 46 7000, telex: 27 368 iaps-dk, fax: 45 35 46 7001, e-mail: registry.iapso@undp.org

United Nations High Commissioner for Refugees, Case Postale 2500, 1211 Geneva 2 Dépot, Switzerland. Tel: 41 22 739 8111, telex: 28741 HCR CH, fax: 41 22 739 7377

United Nations Population Fund, UNFPA/ERO, 9 Chemin des Anémones, 1219 Geneva, Switzerland. Tel: 41 22 979 9314, fax: 41 22 979 9049 e-mail: pierotti@itu.ch, World-Wide-Web site: http://www.unfpa.org/index.html, or UNFPA Procurement Office, New York, 220 E 42nd Street, New York, NY 10017, USA. Tel: 212 297 5392, fax: 212 297 5250, e-mail: saunders@unfpa.org

World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland. Tel: 41 22 791 2111, fax: 41 791 0746

Organizations which have collaborated in the preparation of the New Emergency Health Kit 98

World Health Organization
20 Avenue Appia
1211 Geneva 27
Switzerland

Christian Medical Commission,
Churches' Action for Health,
World Council of Churches
150 rte. de Ferney
PO Box 2100
1211 Geneva 2
Switzerland

International Committee of the Red Cross
19 Avenue de la Paix
1202 Geneva
Switzerland

International Dispensary Association
PO Box 37098
1030 AB Amsterdam
Netherlands

International Federation of Red Cross
and Red Crescent Societies
17 ch. des Crêts
Petit Saconnex
PO Box 372
1211 Geneva
Switzerland

Médecins sans Frontières
39 rue de la Tourelle
1040 Brussels
Belgium

Oxfam
274 Banbury Road
Oxford OX2 7DZ
United Kingdom

United Nations Children's Fund
Supply Division
Freeport, DK-2100 Copenhagen Ø
Denmark

United Nations High Commissioner
for Refugees
Case Postale 2500
1211 Geneva 2 Dépot
Switzerland

United Nations Population Fund
UNFPA/ERO
9 Chemin des Anemones
1219 Geneva
Switzerland

NOTES

Chapter 16 Reproductive Health Kits For Emergencies

THE REPRODUCTIVE HEALTH KIT

The International conference on Population and Development held in Cairo, in September 1994 stressed the importance of reproductive health programmes in all situations. In emergency situations, the total package of reproductive health is often difficult to implement. That is why the concept of Minimal Initial Service Package (MISP) was created in June 1995 during the Inter-Agency Symposium on Reproductive Health in Refugee Situations.

The MISP incorporates basic reproductive health services to be provided during the initial acute phase of an emergency situation, including during the setting up of a refugee camp. It includes the following aspects; human resources in the form of a co-ordinator for reproductive health, guidelines and training for implementation of selected interventions and different material resources including essential drugs, basic equipment and contraceptives necessary to implement reproductive health services. The Reproductive Health Kit incorporates these necessary material resources and assembled by UNFPA is divided into three blocks, each block consists of various subkits.

Blocks or individual subkits can be purchased from UNFPA.

Block one contains 6 subkits. Each subkit is designed for 10,000 persons/3 months. The subkits contain mostly disposable supplies:

Training and administration subkit	Subkit 0
Condom subkit	Subkit 1
Clean Delivery subkit	Subkit 2
Post Rape subkit	Subkit 3
Oral and injectable Contraception kit	Subkit 4
STD subkit	Subkit 5

Block two composes 5 subkits containing disposable and reusable material. In order to prevent wastage of this reusable and expensive material, these subkits are designed to be used for a population of 30,000 persons/3 months. However, this certainly does not exclude these subkits from being ordered for a camp less than 30,000 persons:

Delivery subkit	Subkit 6
IUD subkit	Subkit 7
Management of complications of abortion subkit	Subkit 8
Suture of cervical and vaginal tears subkit	Subkit 9
Vacuum extraction subkit	Subkit 10

Block three is composed of 2 subkits for referral/surgical obstetrics level containing disposable and reusable material. In most countries this level of kit normally serves a population of approximately 150,000 persons for a period of 3 months. In refugee situations, referrals are generally sent to the nearest local hospital that will often need to be supported with equipment and supplies in order to be able to provide the necessary services for this additional population:

Referral level subkit for Reproductive Health	Subkit 11
Transfusion subkit	Subkit 12

The Reproductive Health kit has been designed in a manner that enables the subkits to respond to a particular need or requirement. Thus each of the different subkits contains all the materials necessary for it to be ordered separately as a complete 'stand alone' solution to a particular situation (e.g.: Is the New Emergency Health Kit 98 in use; Is the kit destined for a health post or health centre; Is there a well organised and well equipped hospital in the vicinity where referrals can be sent, etc.).

IMPORTANT: Some kits are designed for use by qualified and trained health personnel. The training required for use of each subkit is detailed in a booklet obtainable through UNFPA or though their web site.

Every item in the Reproductive Health Kit has been chosen with the underlying aim of standardizing as much as possible with the NEHK 98.

Further information may be obtained from:

United Nations Population Fund
(UNFPA)
220 East 42nd Street
New York, NY 10017, USA
Tel: (1-212) 297 5381/5392
Fax: (1-212) 297 4916/5250
Internet: www.unfpa.org
e-mail: saunders@unfpa.org

CHAPTER 17 Revised Guidelines for Drug Donations

Table of contents

Introduction

These *Guidelines for drug donations* have been developed by the World Health Organization (WHO) in cooperation with the major international agencies active in humanitarian relief.

The first version was issued in May 1996 and represented the consensus of WHO, Churches' Action for Health of the World Council of Churches, the International Committee of the Red Cross, the International Federation of the Red Cross and Red Crescent Societies, Médecins Sans Frontières, the Office of the United Nations High Commissioner for Refugees, OXFAM, and the United Nations Children's Fund. In 1999 the number of co-sponsors expanded to include Caritas Internationalis, Pharmaciens Sans Frontières, UNAIDS, the United Nations Development Programme, the United Nations Population Fund and the World Bank.

The *Guidelines* aim to improve the quality of drug donations, not to hinder them. They are not an international regulation, but are intended to serve as a basis for national or institutional guidelines, to be reviewed, adapted and implemented by governments and organizations dealing with drug donations.

The original *Guidelines* were based on several rounds of consultation and comments by over 100 humanitarian organizations and individual experts. In 1996 WHO was requested by the World Health Assembly, in resolution WHA49.14, to review the experiences with the guidelines after one year. In autumn 1997 WHO's Action Programme on Essential Drugs, therefore initiated a global review of first-year experiences. The results of the review are presented in the forthcoming document *First-year experiences with the Interagency guidelines for drug donations*. The evaluation formed the basis for the changes in the text. In general experiences with the *Guidelines* were very positive. However, there were complaints that the authorities in some recipient countries strictly adhered to the *Guidelines*, without regard for the exceptions specifically included and as a result useful donations were lost. The problems noted with Guideline 6, "*that donated drugs should have a remaining shelf-life of 12 months upon arrival in the recipient country*," reflected misunderstanding or failure to refer to the stated exceptions to that guideline, rather than to the text of the *Guidelines* themselves. In this revised edition Guideline 6 has therefore been modified. It now allows for direct donations of drugs with a remaining shelf-life of less than one year, to specific health facilities, provided assurance can be given that the drugs can be used prior to expiration.

There are many different scenarios for drug donations. They may take place in acute emergencies or as part of development aid in non-emergency situations. They may be corporate donations (direct or through private voluntary organizations), aid by governments, or donations aimed directly at single health facilities. And although there are legitimate differences between these scenarios, there are many basic rules for an appropriate donation that apply to all. The *Guidelines* aim to describe this common core of "Good Donation Practice".

This document starts with a discussion on the need for guidelines followed by a presentation of the four core principles for drug donations. The guidelines for drug donations are presented in Chapter III. When necessary for specific situations, possible exceptions to the general guidelines are indicated. Chapter IV gives some suggestions on other ways that donors may help, and Chapter V contains practical advice on how to implement a policy on drug donations.

These *Guidelines* are not international regulations, they are intended to serve as a basis for national or institutional guidelines, to be reviewed, adapted and implemented by governments and organizations dealing with drug donations.

Changes incorporated into the 1999 edition

- p 270. Update of introduction
- p 277-278. Modification and expansion of Guideline 6, and its justification and explanation
- p 281-282. Additional paragraph: *Manage drugs with less than one-year expiry*
- p 282. Additional paragraph: *Ensure rapid customs clearance of donated drugs*
- p 282-283. Additional paragraph: *Avoid donations of drugs with short expiry dates*
- p 283. Additional paragraph: *Establish donor coordination*
- p 285. Two further examples of problems with drug donations
- p 286. Acknowledgements

I. The need for guidelines

In the face of disaster and suffering there is a natural human impulse to reach out and help those in need. Medicines are an essential element in alleviating suffering, and international humanitarian relief efforts can greatly benefit from donations of appropriate drugs.

Unfortunately, there are also many examples of drug donations which cause problems instead of being helpful. A sizeable disaster does not always lead to an objective assessment of emergency medical needs based on epidemiological data and past experience. Very often an emotional appeal for massive medical assistance is issued without guidance on what are the priority needs. Numerous examples of inappropriate drug donations have been reported (see Annex). The main problems can be summarized as follows:

- Donated drugs are often not relevant for the emergency situation, for the disease pattern or for the level of care that is available. They are often unknown by local health professionals and patients, and may not comply with locally agreed drug policies and standard treatment guidelines; they may even be dangerous.

- Many donated drugs arrive unsorted and labelled in a language which is not easily understood. Some donated drugs come under trade names which are not registered for use in the recipient country, and without an International Nonproprietary Name (INN, or generic name) on the label.

- The quality of the drugs does not always comply with standards in the donor country. For example, donated drugs may have expired before they reach the patient, or they may be drugs or free samples returned to pharmacies by patients or health professionals.

- The donor agency sometimes ignores local administrative procedures for receiving and distributing medical supplies. The distribution plan of the donor agencies may conflict with the wishes of national authorities.

- Donated drugs may have a high declared value, e.g. the market value in the donor country rather than the world market price. In such cases import taxes and overheads for storage and distribution may be unnecessarily high, and the (inflated) value of the donation may be deducted from the government drug budget.

- Drugs may be donated in the wrong quantities, and some stocks may have to be destroyed. This is wasteful and creates problems of disposal at the receiving end.

There are several underlying reasons for these problems. Probably the most important factor is the common but mistaken belief that in an acute emergency any

type of drug is better than none at all. Another important factor is a general lack of communication between the donor and the recipient, leading to many unnecessary donations. This is unfortunate because in disaster situations and war zones inappropriate drug donations create an extra workload in sorting, storage and distribution and can easily overstretch the capacity of precious human resources and scarce transport volume. Often, the total handling costs (duties, storage, transport) are higher than the value of the drugs. Stockpiling of unused drugs can encourage pilfering and black market sales.

Donating returned drugs (unused drugs returned to a pharmacy for safe disposal, or free samples given to health professionals) is an example of double standards because in most countries their use would not be permitted due to quality control regulations. Apart from quality aspects, such donations also frustrate management efforts to administer drug stocks in a rational way. Prescribers are confronted with many different drugs and brands in ever changing dosages; patients on long-term treatment suffer because the same drug may not be available the next time. For these reasons this type of donation is forbidden in an increasing number of countries and is generally discouraged.

In the early 1980s the first guidelines for drug donations were developed by international humanitarian organizations, such as the Christian Medical Commission of the World Council of Churches, later called Churches' Action for Health[1] and the International Committee of the Red Cross. In 1990 the WHO Action Programme on Essential Drugs, in close collaboration with the major international emergency aid agencies, issued a first set of WHO guidelines for donors,[2] later refined by the WHO Expert Committee on the Use of Essential Drugs.[3] In 1994 the WHO office in Zagreb issued specific guidelines for humanitarian assistance to former Yugoslavia.[4]

In view of the existence of these different drug donation guidelines, the need was felt for one comprehensive set of guidelines that would be endorsed and used by all major international agencies active in emergency relief. For this reason a first draft was prepared by the WHO Action Programme on Essential Drugs and further refined in close collaboration with the division of Drug Management and Policies and the division of Emergency and Humanitarian Action, major international relief organizations and a large number of international experts. The final text represents the consensus between WHO, Churches' Action for Health of the World Council of Churches, the International Committee of the Red Cross, the International Federation of Red Cross and Red Crescent Societies, Médecins Sans Frontières, the Office of the United Nations High Commissioner for Refugees, OXFAM and the United Nations Children's Fund. In the process comments by over 100 humanitarian organizations and individual experts were taken into consideration.

The examples of inappropriate donations quoted above constitute ample reasons to develop international guidelines for drug donations. In summary, guidelines are needed because:

- Donors intend well, but often do not realize the possible inconveniences and unwanted consequences at the receiving end.

- Donor and recipient do not communicate on equal terms. Recipients may need support in specifying how they want to be helped.

- Drugs do not arrive in a vacuum. Drug needs may vary between countries and from situation to situation. Drug donations must be based on a sound analysis of the needs, and their selection and distribution must fit within existing drug policies and administrative systems. Unsolicited and unnecessary drug donations are wasteful and should not occur.

- The quality requirements of drugs are different from other donated items, such as food and clothing. Drugs can be harmful if misused, they need to be identified easily through labels and written information, they may expire, and they may have to be destroyed in a professional way.

II. Core principles

The twelve articles of the Guidelines for Drug Donations are based on four core principles. The first and paramount principle is that a drug donation should benefit the recipient to the maximum extent possible. This implies that all donations should be based on an expressed need and that unsolicited drug donations are to be discouraged. The second principle is that a donation should be given with full respect for the wishes and authority of the recipient, and be supportive of existing government health policies and administrative arrangements. The third principle is that there should be no double standards in quality: if the quality of an item is unacceptable in the donor country, it is also unacceptable as a donation. The fourth principle is that there should be effective communication between the donor and the recipient: donations should be based on an expressed need and should not be sent unannounced.

Core principles of a donation

1. Maximum benefit to the recipient
2. Respect for wishes and authority of the recipient
3. No double standards in quality
4. Effective communication between donor and recipient

III. Guidelines for drug donations

Selection of drugs

1. All drug donations should be based on an expressed need and be relevant to the disease pattern in the recipient country. Drugs should not be sent without prior consent by the recipient.

Justification and explanation
This provision stresses the point that it is the prime responsibility of the recipients to specify their needs. It is intended to prevent unsolicited donations, and donations which arrive unannounced and unwanted. It also empowers the recipients to refuse unwanted gifts.
Possible exceptions
In acute emergencies the need for prior consent by the recipient may be waived, provided the drugs are amongst those from the WHO Model List of Essential Drugs[5] that are included in the UN list of emergency relief items recommended for use in acute emergencies.[6]

2. All donated drugs or their generic equivalents should be approved for use in the recipient country and appear on the national list of essential drugs, or, if a national list is not available, on the WHO Model List of Essential Drugs, unless specifically requested otherwise by the recipient.

Justification and explanation
This provision is intended to ensure that drug donations comply with national drug policies and essential drugs programmes. It aims at maximizing the positive impact of the donation, and prevents the donation of drugs which are unnecessary and/or unknown in the recipient country.
Possible exceptions
An exception can be made for drugs needed in sudden outbreaks of uncommon or newly emerging diseases, since such drugs may not be approved for use in the recipient country.

3. The presentation, strength and formulation of donated drugs should, as much as possible, be similar to those commonly used in the recipient country.

Justification and explanation
Most staff working at different health care levels in the recipient country have been trained to use a certain formulation and dosage schedule and cannot constantly change their treatment practices. Moreover, they often have insufficient training in performing the necessary dosage calculations required for such changes.

Quality assurance and shelf-life

4. All donated drugs should be obtained from a reliable source and comply with quality standards in both donor and recipient country. The WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce' should be used.

Justification and explanation
This provision prevents double standards: drugs of unacceptable quality in the donor country should not be donated to other countries. Donated drugs should be authorized for sale in the country of origin, and manufactured in accordance with international standards of Good Manufacturing Practice (GMP).
Possible exceptions
In acute emergencies the use of the WHO Certification Scheme may not be practical. However, if it is not used, a justification should be given by the donor. When donors provide funds to purchase drugs from local producers, those which comply with national standards should not be excluded on the sole grounds that they do not meet quality standards of the donor country.

5. No drugs should be donated that have been issued to patients and then returned to a pharmacy or elsewhere, or were given to health professionals as free samples.

Justification and explanation
Patients return unused drugs to a pharmacy to ensure their safe disposal; the same applies to drug samples that have been received by health workers. In most countries it is not allowed to issue such drugs to other patients, because their quality cannot be guaranteed. For this reason returned drugs should not be donated either. In addition to quality issues, returned drugs are very difficult to manage at the receiving end because of broken packages and small quantities involved.

6. After arrival in the recipient country all donated drugs should have a remaining shelf-life of at least one year. An exception may be made for direct donations to specific health facilities, provided that: the responsible professional at the receiving end acknowledges that (s)he is aware of the shelf-life; and that the quantity and remaining shelf-life allow for proper administration prior to expiration. In all cases it is important that the date of arrival and the expiry dates of the drugs be communicated to the recipient well in advance.

Justification and explanation
In many recipient countries, and especially under emergency situations, there are logistical problems. Very often the regular drug distribution system has limited possibilities for immediate distribution. Regular distribution through different storage levels (e.g. central store, provincial store, district hospital) may take six to nine months. This provision especially prevents the donation of drugs just before their expiry, as in most cases such drugs would only reach the patient after expiry. It is important that the recipient official responsible for acceptance of the donation is fully aware of the quantities of drugs being donated, as overstocking may lead to wastage. The argument that short-dated products can be donated in the case of acute emergencies, because they will be used rapidly, is incorrect. In emergency situations the systems for

reception, storage and distribution of drugs are very often disrupted and overloaded, and many donated drugs tend to accumulate.

Additional exception

Besides the possible exception for direct donations mentioned above, an exception should be made for drugs with a total shelf-life of less than two years, in which case at least one-third of the shelf-life should remain.

Presentation, packing and labelling

7. All drugs should be labelled in a language that is easily understood by health professionals in the recipient country; the label on each individual container should at least contain the International Nonproprietary Name (INN, or generic name), batch number, dosage form, strength, name of manufacturer, quantity in the container, storage conditions and expiry date.

Justification and explanation

All donated drugs, including those under brand name, should be labelled also with their INN or the official generic name. Most training programmes are based on the use of generic names. Receiving drugs under different and often unknown brand names and without the INN is confusing for health workers and can even be dangerous for patients. In case of injections, the route of administration should be indicated.

8. As much as possible, donated drugs should be presented in larger quantity units and hospital packs.

Justification and explanation

Large quantity packs are cheaper, less bulky to transport and conform better with public sector supply systems in most developing countries. This provision also prevents the donation of drugs in sample packages, which are impractical to manage. In precarious situations, the donations of paediatric syrups and mixtures may be inappropriate because of logistical problems and their potential misuse.

9. All drug donations should be packed in accordance with international shipping regulations, and be accompanied by a detailed packing list which specifies the contents of each numbered carton by INN, dosage form, quantity, batch number, expiry date, volume, weight and any special storage conditions. The weight per carton should not exceed 50 kilograms. Drugs should not be mixed with other supplies in the same carton.

Justification and explanation

This provision is intended to facilitate the administration, storage and distribution of donations in emergency situations, as the identification and management of unmarked boxes with mixed drugs is very time and labour intensive. This provision specifically discourages donations of small quantities of mixed drugs. The maximum weight of 50 kg ensures that each carton can be handled without special equipment.

Information and management

10. Recipients should be informed of all drug donations that are being considered, prepared or actually underway.

Justification and explanation
Many drug donations arrive unannounced. Detailed advance information on all drug donations is essential to enable the recipient to plan for the receipt of the donation and to coordinate the donation with other sources of supply. The information should at least include: the type and quantities of donated drugs including their International Nonproprietary Name (INN or generic name), strength, dosage form, manufacturer and expiry date; reference to earlier correspondence (for example, the letter of consent by the recipient); the expected date of arrival and port of entry; and the identity and contact address of the donor.

11. In the recipient country the declared value of a drug donation should be based upon the wholesale price of its generic equivalent in the recipient country, or, if such information is not available, on the wholesale world-market price for its generic equivalent.

Justification and explanation
This provision is solely needed to prevent drug donations being valued in the recipient country according to the retail price of the product in the donor country. This may lead to elevated overhead cost for import tax, port clearance, and handling in the recipient country. It may also result in a corresponding decrease in the public sector drug budget in the recipient country.
Possible exception
In the case of patented drugs (for which there is no generic equivalent) the wholesale price of the nearest therapeutic equivalent could be taken as a reference.

12. Costs of international and local transport, warehousing, port clearance and appropriate storage and handling should be paid by the donor agency, unless specifically agreed otherwise with the recipient in advance.

Justification and explanation
This provision prevents the recipient from being forced to spend effort and money on the clearance and transport of unannounced consignments of unwanted items, and also enables the recipient to review the list of donated items at an early stage.

Kit IV. Other ways donors can help

The new emergency health

In the acute phase of an emergency, or in the case of displacements of refugee populations without any medical care, it is better to send a standardized kit of drugs and medical supplies that is specifically designed for this purpose. For example, The new emergency health kit,[8] which has been widely used since 1990 and was updated in 1998, contains drugs, disposable supplies and basic equipment needed for general medical care for a population of 10,000 for three months. Its contents are based on a consensus among major international aid agencies. It is permanently stocked by several major international suppliers (for example, the International Dispensary Association, Médecins Sans Frontières and the United Nations Children's Fund) and can be available within 48 hours. It is especially relevant in the absence of specific requests.

Donations in cash

After the acute phase of the emergency is over, a donation in cash for local or regional purchase of essential drugs is usually much more welcome than further drug donations in kind. Such a cash contribution is very supportive to the activities of the local government or coordinating committee, it is supportive to the local and regional pharmaceutical industry, and it may also be more cost-effective. In addition, prescribers and patients are usually more familiar with locally produced drugs.

Additional guidelines for drug donations as part of development aid

When drug donations are given between governments as humanitarian support to long-lasting complex emergencies and as regular development (commodity) aid there is usually more time to consider specific demands from the recipient's side. On the other hand, there is also time to link more restrictions to the donation, e.g. to products from manufacturers in the donor country, and to drugs registered for use in the recipient country.

It should be recognized that drugs do not arrive in an administrative vacuum. Drug donations should not create an abnormal situation which may obstruct or delay national capacity building in selection, procurement, storage, distribution and rational use of drugs. Special care should therefore be taken that the donated drugs respond to an expressed need, comply with the national drug policy, and are in accordance with national treatment guidelines in the recipient country. Administratively, the drugs should be treated as if they were procured. This means that they should be registered or authorized for use in the country through the same procedure that is used for government tenders. They should be entered into the inventory, distributed through the existing distribution channels and be subject to the same quality assurance procedures. If cost-sharing procedures are operational in the recipient country, the donated drugs should not automatically be distributed free of charge.

V. How to implement a policy on drug donations

Management of drug donations by the recipient

Define national guidelines for drug donations
It is difficult for a recipient to refuse a donation that has already arrived. Prevention is therefore better than cure. Recipients should indicate to their prospective donors what kind of assistance they need, and how they would like to receive it. If this information is provided in a professional way, most donors will appreciate it and will comply.

Therefore, recipients should first formulate their own national guidelines for drug donations, on the basis of the international guidelines. They can also be included in the national drug policy. These national guidelines should then be officially presented and explained to the donor community. Only after they have been presented and officially published can they be enforced.

Define administrative procedures for receiving drug donations
It is not enough for the recipient to adopt and publish the general guidelines on the selection, quality, presentation and management of drug donations. Administrative procedures need to be developed by the recipient to maximize the potential benefit of drug donations. As much as possible such arrangements should be linked with existing drug supply systems, but there are several decisions to be made which apply to donations only. Examples of such important issues, which have to be addressed in each country, are:

- Decide who is responsible for defining the needs, and who will prioritize them.
- Decide who coordinates all drug donations.
- Which documents are needed when a donation is planned; who should receive them.
- Which procedure is used when donations do not follow the guidelines?
- What are the criteria for accepting/rejecting a donation; decide who makes the final decision.
- Decide who coordinates reception, storage and distribution of the donated drugs.
- How are donations valued and entered into the budget/expenditure records?
- How will inappropriate donations be disposed of?

Specify the needs for donated drugs
The third important action by the recipient is to specify the needs for donated drugs as much as possible. This puts the onus on the recipient to carefully prepare such requests, indicating the required quantities and prioritizing the items. The more information given, the better. Information on donations that are already in the pipeline, or anticipated, is very helpful to other potential donors. Full information from the side of the recipient is greatly appreciated by donors and pays off in the long run.

Manage drugs with less than one-year expiry
Drugs do not become toxic or ineffective on their date of expiry but may slowly deteriorate depending on the product, formulation and storage conditions. Some

become toxic but most simply lose their efficacy. An expiry date is the date given on the individual container (usually on the label) of a drug product, up to and including which the product is expected to remain within specifications, if stored correctly. It is established for each batch by adding the shelf-life period to the date of manufacture. The recommendation that all drugs should have a remaining shelf-life of at least one year upon arrival in a recipient country is to allow for the all too frequent in-country distribution delays. It gives a measure of security that patients will receive drugs of good quality.

A specific exception to the one year shelf-life requirement can be made for donated drugs provided that: they are direct donations to specific health facilities; the responsible professional acknowledges that (s)he is aware they are short dated; and the quantity and the remaining shelf-life allow for proper administration, distribution and prescription prior to expiration. Experience has shown that some recipient governments have applied the *Guidelines* very strictly, without due consideration of the possible exceptions to the general rule. This has resulted in unnecessary impounding and disposal of valuable donations.

Ensure rapid customs clearance of donated drugs
Rapid customs clearance is required for all donated drugs. Customs and health ministry officials managing drug donations covered by the *Guidelines* have the responsible task of allowing entry for useful donations, while rejecting short-dated donations for which satisfactory distribution provisions have not been made.

Manage donated drugs carefully
The value of donated drugs can be considerable, and the gift should be treated with due expedition and care. On arrival the drugs should be inspected and their receipt confirmed to the donor agency. They should then be stored and distributed in accordance with normal principles of good pharmacy practice, and under the responsibility of adequately trained professionals. There must be due vigilance to ensure that donated products are not diverted for export, commercial sale, or into illicit channels. Good donation management also includes agreed systems of accountability.

Action required from donor agencies

Donors should always respect the four core principles for drug donations presented above. Donors should also respect the national guidelines for drug donations and respond to the priority needs indicated by the recipient. Unannounced donations should be prevented as much as possible.

Avoid donations of drugs with short expiry dates
The fundamental problem of donated drugs with short expiry dates has troubled recipients for many years. On the other hand global experiences indicate that well managed donor organizations and pharmaceutical companies are generally able to avoid donating products with short expiry dates. Some large companies have product outreach programmes under which products are specifically donated from normal inventories, on the basis of an agreed-upon schedule, to meet recipients' needs.

One objective of the *Guidelines* is to reduce donations of drugs with short expiry dates through better inventory control on the part of donor companies and intermediaries, and through better communications. Donors and intermediaries should avoid donations of drugs with short expiry dates as much as possible.

Inform the public
The general public in the donor country is not always aware of the common problems with drug donations. It is therefore important that governments in donor countries make some effort to create more public awareness on "good donor practice". The best moment for this is probably at the time of the public appeal through the media.

Establish donor coordination
Within the recipient country it is recommended that the different donors collaborate in the establishment of a coordinating body. In emergency situations this is essential. This body should determine the needs, priorities, storage, logistics and distribution, and act as the central contact point in discussion with the recipient government authorities.

The responsible government department should supply relief agencies with as much information as possible about requested and approved donations. Conversely, relief agencies should keep the donor coordinating body and the responsible government department fully informed of the specific identity, arrival dates, quantities, and expiry dates of donations. This will greatly assist the co-ordinating body in the recipient country to plan for the proper reception of the donations, and to identify the need for additional supplies.

Within donor countries all organizations should likewise establish a coordinating body at headquarters level, to ensure that appropriate donation policies and processes are followed.

The argument that products with short expiry dates can be donated in the case of acute emergencies, because they will be used rapidly, is incorrect. In emergency situations the systems for reception, storage and distribution of drugs is very often disrupted and overloaded, and many donated drugs tend to accumulate.

Annex: Examples of problems with drug donations

Armenia, 1988
After the earthquake, 5,000 tons of drugs and medical supplies worth US$ 55 million were sent. This quantity far exceeded needs. It took 50 people six months to gain a clear picture of the drugs that had been received. Eight percent of the drugs had expired on arrival, and 4% were destroyed by frost. Of the remaining 88%, only 30% were easy to identify and only 42% were relevant for an emergency situation. The majority of the drugs were only labelled with brand names.[9]

Eritrea, 1989
During the war for independence, despite careful wording of appeals, many inappropriate donations were received. Examples were: seven truck loads of expired aspirin tablets that took six months to burn; a whole container of unsolicited cardiovascular drugs with two months to expiry; and 30,000 half-litre bottles of expired amino-acid infusion that could not be disposed of anywhere near a settlement because of the smell.[10]

Sudan, 1990
A large consignment of drugs was sent to war-devastated southern Sudan. Each box contained a collection of small packets of drugs, some partly used. All were labelled in French, a language not spoken in Sudan. Most drugs were inappropriate, some could be dangerous. These included: contact lens solution, appetite stimulants, mono-amine oxidase inhibitors (dangerous in Sudan), X-ray solutions, drugs against hypercholesterolaemia, and expired antibiotics. Of 50 boxes, 12 contained drugs of some use.[11]

France, 1991
Pharmaciens Sans Frontières collected 4 million kg of unused drugs from 4,000 pharmacies in France. These were sorted out in 88 centres in the country. Only about 20% could be used for international aid programmes, and 80% were burnt.[12]

Russian Federation, 1992
Russian pharmaceutical production has fallen far below its 1990 level, and donations of drugs have been welcomed. However, initial enthusiasm soured when the nature of some donations was discovered. Examples of donations include: 189,000 bottles of dextromethorfan cough syrup; pentoxifylline and clonidine as the only antihypertensive items; triamterene and spironolactone as diuretics; pancreatic enzyme and bismuth preparations as the only gastrointestinal drugs.[13]

Guinea Bissau, 1993
In September 1993 eight tons of donated drugs were sent; all were collected from pharmacies in quantities between 1 and 100 tablets. The donation contained 22,123 packages of 1,714 different drugs which were very difficult to manage and greatly interfered with government efforts to rationalize drug supply and drug use.[14]

Lithuania, 1993
Eleven women in Lithuania temporarily lost their eyesight after using a donated drug. The drug, closantel, was a veterinary anthelmintic but was mistakenly given to treat endometritis. The drug had been received without product information or package insert, and doctors had tried to identify the product by matching its name with those on leaflets of other products.[15]

Former Yugoslavia, 1994, 1995

Of all drug donations received by the WHO field office in Zagreb in 1994, 15% were completely unusable and 30% were not needed.[16] By the end of 1995, 340 tons of expired drugs were stored in Mostar. Most of these were donated by different European nations.[17]

Rwanda, 1994

Big quantities of a sophisticated antibiotic were donated to refugee camps in Rwanda. Drugs were donated in bulk through private voluntary organizations. Refugee workers were not used to using the drug; most of it was recalled; the remainder posed disposal problems.[18,19]

Bosnia and Herzegovina, 1992-96

Between 1992 and mid 1996 an estimated 17,000 metric tons of inappropriate donations were received with an estimated disposal cost of US$34 million.[20]

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CHAPTER 18 Guidelines For The Safe Disposal of Unwanted Pharmaceuticals

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1.1 Background

During conflicts and natural disasters large quantities of pharmaceuticals are often donated as part of humanitarian assistance. Undoubtedly many of the pharmaceuticals save lives and alleviate suffering, but some donations given by well-meaning but uninformed people may cause problems. Pharmaceuticals may arrive past or near their expiry date, may be inappropriate for the needs, be unrecognizable because they are labelled in a foreign language or may have been sent in unwanted quantities. Donated pharmaceuticals with a long shelf-life may be mismanaged, particularly in the confusion during and after armed conflict or a natural disaster. Staff and storage space may be lacking and the pharmaceutical management system in disarray. Such problems also occur when drug donations form part of development assistance. Smaller quantities of pharmaceutical waste may accumulate in the absence of emergency situations, due to inadequacies in stock management and distribution, and to lack of a routine system of disposal. Safe disposal of these unwanted or expired drugs often creates a major problem.

These disposal guidelines are based on a report on the safe disposal of unwanted and unusable drugs in Mostar, which had accumulated during the war in Bosnia and Herzegovina. Quantifying pharmaceutical waste may be difficult. One report states that 50–60% of the 27,800-34,800 metric tons of medical supplies donated to Bosnia and Herzegovina between 1992 and mid-1996 were considered to be inappropriate, and by mid-1996 there were an estimated 17,000 metric tons of unusable drugs stockpiled in warehouses and clinics throughout the country[1]. These dramatic figures are contested: something in the region of 1,000 metric tons is considered by some to be more reasonable. A recent figure of 2,000 metric tons of pharmaceutical waste in Croatia is regarded as accurate. Unusable donated drugs hindered the efficient operation of pharmacies in many of the states of the former Yugoslavia and represented a significant disposal problem.

1.2 Prevention of waste from pharmaceutical donations

Appropriate donations

Inappropriate donations may be minimized by donors adhering to the interagency *Guidelines for Drug Donations*[2]. The key principles are that drugs donated shall address the expressed needs of the recipients and that the date of expiration on arrival shall be no less than one year, unless there is clear evidence from the recipients that they have the logistic and managerial capacity to store and distribute shorter-dated drugs efficiently. The blind donation of pharmaceuticals based on unsubstantiated assumptions of recipient needs and logistic capacities is a major factor in the production of pharmaceutical waste.

Good donations may be wasted

Mismanagement of received donations may turn a good donation into pharmaceutical waste.

1.3 The cost of disposal of waste pharmaceuticals

The cost of waste pharmaceutical high temperature incineration

Pharmaceuticals are ideally disposed of by high temperature (i.e. above 1,200°C) incineration. Such incineration facilities, equipped with adequate emission control, are mainly to be found in the industrialized world. Quotations for disposing of the pharmaceutical waste in Croatia and Bosnia and

Herzegovina in this way range from US$2.2/kg to US$4.1/kg. To incinerate the current stockpile of waste pharmaceuticals in Croatia would therefore cost between US$4.4 million and US$8.2 million.

Quoted weights of pharmaceutical waste

The gross weights mentioned previously include packaging. Actual pharmaceutical contents may be half, or less than half, of the gross weight.

1.4 Purpose of the guidelines

These guidelines provide advice on the implementation of safe disposal of unusable pharmaceuticals in emergencies and in countries in transition where official assistance and advice may not be available. They are not meant to supersede local, regional or national laws regarding disposal of drugs, but to provide assistance where there is insufficient guidance or none at all.

A number of methods for safe disposal of pharmaceuticals are described. These are methods which involve minimal risks to public health and the environment, and include those suitable for countries with limited resources and equipment. The adoption of the guidelines by ministries of health, environment and other relevant ministries, and their practical application, will contribute to the safe and economical elimination of stockpiles of unusable pharmaceuticals.

The best environmental option for pharmaceutical destruction is purpose-built high temperature incineration with adequate flue gas cleaning. However, this is not the only method that can be used to achieve adequate disposal. Indeed many countries do not possess such a facility. It is for this reason that these guidelines are suggested as practical interim alternatives to assist those charged with the safe disposal of unwanted pharmaceuticals. The current guidelines propose a number of marginally less safe treatments and disposal methods, which are however acceptable from the relative risk point of view, when balanced against the risks related to improper or non-disposal (see Section 1.8).

What the guidelines do not cover

There is no attempt to cover the management of other wastes generated by health institutions, for example, infectious waste, photographic chemicals, solvents, wastes with a high content of heavy metals (e.g. mercury and cadmium), chemical laboratory wastes, or radioactive waste. The management of health care wastes generated in normal conditions (i.e. neither during nor after emergencies) is not included. Specialized advice for these categories of waste is available from WHO[3,4,5].

The wider subject of normal drug supply and management[6] is not covered. This includes drug waste minimization and waste separation within the health institution. It is assumed that management procedures and staffing are in place to cover these aspects. In the event of insufficient qualified staff and management capacity to undertake safe disposal then the pharmaceutical waste must be securely stored.

1.5 Who will find the guidelines useful?

These guidelines can be used by all relevant health authorities, competent to authorize the use or disposal of drugs. In many countries drug disposal will also involve environmental and waste management authorities, and experts at ministerial, regional and local level. Depending on the situation in the country, the appropriate authority may be a department responsible for pharmaceutical management within the ministry of health, the drug regulatory authority (if different from the former), a regional or local health authority (pharmaceutical officer) or the ministry of environment, etc. It is the responsibility of the qualified appropriate authority to implement the guidelines in coordination with regional and local health authorities, as well as with the directors of health facilities that face the problems of drug disposal.

A local task force or advisory committee should be established at an early stage to assess, analyse and address the problem of drug disposal, and to monitor activities. Furthermore, it is suggested that such a task force has a maximum of five members and that meetings are held as near to the site of the stockpile as possible. Members may be chosen from:

- the drug regulatory authority or ministry of health;
- the ministry of the environment;
- the audit section of the ministry of health;
- institutional pharmacists;
- a qualified hazardous waste expert may be appointed by the authority to be responsible for pharmaceutical waste disposal. If this is done the person appointed should become a member of the task force. The individual can be an expert in environmental management, a registered water chemist, hydrogeologist or sanitary engineer. The choice of expert depends on the technical problems to be faced.

Nongovernmental organizations with pharmaceutical programmes may also have to deal with unusable waste stocks of pharmaceuticals that require disposal. Disposal should be undertaken in conjunction with the relevant authority where such exists.

In non-emergency situations large stockpiles do not usually accumulate, and waste pharmaceuticals are best disposed of on a routine basis, small quantities at a time. This should be organized on a local and institutional level.

1.6 Administrative aspects of writing–off unwanted pharmaceuticals

Few countries have adequate administrative provisions for writing–off pharmaceutical stock. In the public sector drugs are the property of the state, for which strict accounting procedures are necessary. If procedures exist at all, they tend to be complicated and time-consuming, and in practice the disposal of expired stock is difficult. This applies both to drugs that are procured through the normal channels and to donated drugs.

Administrative and regulatory procedures concerning safe disposal of pharmaceuticals, that are in line with national drug and environment legislation, should be adopted and implemented in countries that receive drug donations.

Simplifying procedures in general would probably be the best solution. One approach would be to state that donated drugs are not entered into the government inventory or considered state property unless specifically accepted as such. In this case any drug that is not officially accepted can be destroyed without the need for governmental approval; however, correct disposal procedures must be followed. A further solution would be to establish special, simplified, administrative procedures for writing–off unwanted donations.

1.7 Steps to be taken

A series of steps need to be taken when disposing of unwanted pharmaceuticals, and these are briefly summarized below.

Decision

The hospital, district or regional pharmacist or organizations with pharmaceutical programmes decide when action needs to be initiated, because of an accumulation of unwanted pharmaceuticals which are unfit for human consumption and for veterinary treatment.

Approval

Approval and sanctioning of disposal of pharmaceuticals must be sought from the appropriate authority. This authority will differ from country to country and may be the department responsible for pharmaceutical management within the ministry of health, the drug regulatory authority, or the regional or local health authority (pharmaceutical officer). In some countries the ministry of the environment should be involved. The guidelines are particularly useful in emergency situations or for countries in transition where official regulations have not yet been developed. In non-emergency situations when significant quantities of donated pharmaceuticals are disposed of, for whatever reason, it may be necessary and judicious to inform the donor.

Planning

Planning, in terms of funding, necessary expertise, human resources, professional time, space, equipment, material and available disposal options will be required. This is essential before practical steps can be taken to start disposal. To obtain a rough estimate of the volume of materials to be sorted, it is recommended that measurements are made using a tape measure, and conversion from volume of material to weight is made using a density figure of 0.2 metric tons/cubic metre.

Forming work teams

Work should be conducted by teams consisting of supervising pharmacists and general medical workers, who are preferably pharmaceutical technicians or experienced pharmaceutical warehouse personnel. The size of each team, and the ratio of experts to workers, will be determined by the volume and composition of the stockpiles, and working conditions at the sites.

Health and safety of work teams

All workers should wear appropriate protective equipment including overalls and boots at all times, and gloves, masks and caps when appropriate. Masks should be worn when tablets or capsules are being crushed as part of the disposal technique (for example, inertization, see Section 2.4) and when there is a risk of powders being liberated. Particular care is required when handling antineoplastics.

Sorting

The objective of sorting is to separate the pharmaceuticals into separate categories for which different disposal methods are required. The separation should be made into those that can be safely used and returned to the pharmaceutical supply system and those that require disposal by different methods. For example, controlled drugs (e.g. narcotics), antineoplastic drugs and antibiotics all require special methods of disposal. Substantial investment in human resources may be required for identifying and separating pharmaceuticals.

Disposal

Disposal options vary considerably between situations, and the ideal solution may not be feasible. The aim of these guidelines is to propose the simplest, safest and most practical alternatives.

Security

Controlled substances (e.g. narcotics and psychotropics) require tight security and control. In some countries, scavenging of material from landfills is a frequent problem, and, disposed drugs may be recovered and sold by the scavengers. Measures are therefore necessary to prevent diversion during sorting, and pilfering of drugs from landfills. Immobilization (see Sections 2.3 and 2.4) is the best method of preventing pilfering from a store or landfill. If, as a last resort, pharmaceuticals must be discarded direct to a landfill then they must be covered immediately with a large quantity of municipal waste.

1.8 Consequences of improper disposal or non-disposal

In general, expired pharmaceuticals do not represent a serious threat to public health or to the environment. Improper disposal may be hazardous if it leads to contamination of water supplies or local sources used by nearby communities or wildlife. Expired drugs may come into the hands of scavengers and children if a landfill is insecure. Pilfering from a stockpile of waste drugs or during sorting may result in expired drugs being diverted to the market for resale and misuse. Most pharmaceuticals past their expiry date become less efficacious and a few may develop a different adverse drug reaction profile. There are some categories of expired drugs or defective disposal practices that carry a public health risk. The main health risks are summarized below.

- Contamination of drinking water must be avoided. Landfills must be sited and constructed in a way that minimizes the possibility of leachate entering an aquifer, surface water or drinking water system.
- Non-biodegradable antibiotics, antineoplastics and disinfectants should not be disposed of into the sewage system as they may kill bacteria necessary for the treatment of sewage. Antineoplastics should not be flushed into watercourses as they may damage aquatic life or contaminate drinking water. Similarly, large quantities of disinfectants should not be discharged into a sewerage system or watercourse but can be introduced if well diluted.
- Burning pharmaceuticals at low temperatures or in open containers results in release of toxic pollutants into the air. Ideally this should be avoided.
- Inefficient and insecure sorting and disposal may allow drugs beyond their expiry date to be diverted for resale to the general public. In some countries scavenging in unprotected insecure landfills is a hazard.
- In the absence of suitable disposal sites and qualified personnel to supervise disposal, unwanted pharmaceuticals present no risk provided they are securely stored in dry conditions. If stored in their original packing there is a risk of diversion and to avoid this they are best stored in drums with the pharmaceuticals immobilized, as described in Section 2.3 on waste encapsulation.

1.9 Public information

The public should be informed about the problem of safe disposal of donated expired pharmaceuticals. Key points to present to the media are:

1. the vast majority of pharmaceuticals are donated with the intention to help; there are only rare occurrences of "dumping" by unscrupulous companies to gain tax relief or off-load unwanted stock;
2. when pharmaceuticals pass their expiry date they do not automatically become hazardous, they simply becomes less efficacious;
3. most pharmaceuticals are relatively harmless to the environment; they do not present a serious threat to the public or environment unless handled recklessly;
4. the risk from disposal of pharmaceuticals is low provided it is properly handled;
5. pharmaceutical disposal should be undertaken at minimum financial cost and with minimum risk to public health and the environment considering the local circumstances;
6. disposal of pharmaceuticals should be carried out under the supervision of regional and national authorities, who organize it according to strict criteria; it must not be carried out by individuals.

Information on pharmaceutical disposal must be carefully handled as it may be politicized and sensationalized. If the public and media are not kept judiciously informed of the efforts to dispose of expired pharmaceuticals safely, the disposal work may be severely hampered by misinformation propagated by uninformed journalists and politicians. Good public relations, including comprehensive dissemination of information, is, therefore, an important element in achieving satisfactory safe disposal.

2. DISPOSAL METHODS

Constraints in funding for disposal of waste pharmaceuticals necessitate cost-effective management and methods. The main way to achieve this is to sort the material to minimize the need for expensive or complicated disposal methods. Pharmaceutical sorting categories are described in Section 3 and the recommended disposal methods for each pharmaceutical sorting category in Section 4. Firstly however, the various disposal methods are briefly described here and summarized in Table 1.

2.1 Return to donor or manufacturer

Wherever practical the possibility of returning unusable drugs for safe disposal by the manufacturer should be explored; particularly drugs which present disposal problems, such as antineoplastics. For unwanted, unrequested donations, especially those that arrive past or unreasonably near their expiry date it may be possible to return them to the donor for disposal.

Cross–frontier transfer of pharmaceutical waste

There are currently no international conventions regulating transfer of pharmaceutical products across frontiers. However, expired or spoiled pharmaceuticals are considered as hazardous waste and as such, if transferred across frontiers, become regulated and subject to the Basel Convention on the Transfrontier Shipment of Hazardous Wastes[7,8,9]. This involves prescribed procedures to obtain permission to cross international borders along the transit route prior to actual transport. These procedures can take several months to complete.

2.2 Landfill

To landfill means to place waste directly into a land disposal site without prior treatment or preparation. Landfill is the oldest and the most widely practiced method of disposing of solid waste. Three types are recognized.

Open uncontrolled non-engineered dump

A non-engineered dump is probably the most common land disposal method in developing countries. Untreated waste discharged into an uncontrolled, non-engineered open dump does not protect the local environment and should not be used. Discarding of untreated waste pharmaceuticals into such a site is not recommended except as a last resort. They should preferably be discharged after immobilization by encapsulation or inertization. As a last resort, where it is not possible to immobilize the waste pharmaceuticals, then the untreated wastes must be covered rapidly with large quantities of municipal waste to prevent scavenging. It should be noted that discarding in open, uncontrolled dumps with insufficient isolation from the aquifer or other watercourses can lead to pollution, with the risk of drinking water contamination in the worst cases.

Engineered landfill

Such a landfill has some features to protect from loss of chemicals into the aquifer. Direct deposit of pharmaceuticals is second best to discharging immobilized pharmaceutical waste into such a landfill.

Highly engineered sanitary landfill

Properly constructed and operated landfill sites offer a relatively safe disposal route for municipal solid wastes, including waste pharmaceuticals[10]. The top priority is protection of the aquifer. An appropriate landfill consists of an evacuated pit isolated from watercourses and above the water table. Each day's solid waste is compacted and covered with soil to maintain sanitary conditions. The term "safe sanitary landfill" refers to such a site that is adequately situated, constructed and managed. Upgrading an uncontrolled waste disposal site to a reasonable standard should be considered, and advice is available from WHO[11].

2.3 Waste immobilization: encapsulation

Encapsulation involves immobilizing the pharmaceuticals in a solid block within a plastic or steel drum. Drums should be cleaned prior to use and should not have contained explosive or hazardous materials previously. They are filled to 75% capacity with solid and semi-solid pharmaceuticals, and the remaining space is filled by pouring in a medium such as cement or cement/lime mixture, plastic foam or bituminous sand. For ease and speed of filling, the drum lids should be cut open and bent back. Care should be taken to avoid cuts to hands when placing pharmaceuticals in the drums. Once the drums are filled to 75% capacity, the mixture of lime, cement and water in the proportions 15:15:5 (by weight) is added and the drum filled to capacity. A larger quantity of water may be required sometimes to attain a satisfactory liquid consistency. Steel drum lids should then be bent back and sealed, ideally by seam or spot welding. The sealed drums should be placed at the base of a landfill and covered with fresh municipal solid waste. For ease of movement, the drums may be placed on pallets which can then be put on a pallet transporter.

Encapsulation of antineoplastic drugs requires a slightly different technique (see Section 4.6).

2.4 Waste immobilization: inertization

Inertization is a variant of encapsulation and involves removing the packaging materials, paper, cardboard and plastic, from the pharmaceuticals. Pills need to be removed from their blister packs. The pharmaceuticals are then ground and a mix of water, cement and lime added to form a homogenous paste. Worker protection in the form of protective clothing and masks is required as there may be a dust hazard. The paste is then transported in the liquid state by concrete mixer truck to a landfill and decanted into the normal urban waste. The paste then sets as a solid mass dispersed within the municipal solid waste. The process is relatively inexpensive and can be carried out with unsophisticated equipment. The main requirements are a grinder or road roller to crush the pharmaceuticals, a concrete mixer, and supplies of cement, lime and water.

The approximate ratios by weight used are as follows:

- pharmaceutical waste: 65%
- lime: 15%
- cement: 15%
- water: 5% or more to form a proper liquid consistency.

2.5 Sewer

Some liquid pharmaceuticals, e.g. syrups and intravenous (IV) fluids, can be diluted with water and flushed into the sewers in small quantities over a period of time without serious public health or environmental affect. Fast flowing watercourses may likewise be used to flush small quantities of well-diluted liquid pharmaceuticals or antiseptics. The assistance of a hydrogeologist or sanitary engineer may be required in situations where sewers are in disrepair or have been war damaged.

2.6 Burning in open containers

Pharmaceuticals should not be destroyed by burning at low temperature in open containers, as toxic pollutants may be released into the air. Paper and cardboard packaging, if they are not to be recycled, may be burnt. Polyvinyl chloride (PVC) plastic however must not be burnt. While burning pharmaceutical waste is not advocated as a method of disposal, it is recognized that it is not infrequently used. It is strongly recommended that only very small quantities of waste pharmaceuticals be disposed of in this way.

2.7 Medium temperature incineration

In many countries there are no high temperature, two–chamber incinerators designed to handle more than 1% halogenated compounds. Such incinerators meet strict emission control standards, such as those published by the European Union[12]. However, it is likely that only medium temperature furnaces and incinerators will be available. In emergency situations the responsible authorities may consider it acceptable to treat expired solid form pharmaceuticals using a two–chamber incinerator that operates at the minimum temperature of 850°C, with a combustion retention time of at least two seconds in the second chamber. Many older municipal solid waste incinerators are medium temperature incinerators and the use of these facilities is encouraged as an interim measure, rather than less safe options, such as inadequate discharge to a landfill. In this case, it is recommended that the pharmaceutical waste is diluted with large quantities of municipal waste (approximately 1:1000). Such incinerators are not designed to incinerate halogenated compounds safely. The very low halogen content in most pharmaceuticals is likely to result in negligible halogen content in the combustion gases.

Halogen content of pharmaceutical waste

Pharmaciens Sans Frontières, working in Bosnia (Mostar), found the halogen content of donated pharmaceuticals for disposal to be very low; well below the maximum permissible values for incinerators/ plants licensed for non-halogen wastes in the European Union.

2.8 Novel high temperature incineration

Industries which use high temperature technology, such as cement kilns[13], coal fired thermal power stations or foundries usually have furnaces that operate at temperatures well in excess of 850°C, have long combustion retention times and disperse exhaust gases via tall chimneys, often to high altitudes. Many countries do not possess and cannot justify economically, expensive and sophisticated chemical waste disposal facilities, so the use of an industrial plant provides a viable and cheap alternative.

Cement kilns are particularly suited for the disposal of expired pharmaceuticals, chemical waste, used oil, tyres, etc. Several features of cement kilns make them suitable for pharmaceutical disposal. During burning the cement raw materials reach temperatures of 1450°C while the combustion gases reach temperatures up to 2000°C. The gas residence time at these high temperatures is several seconds. In these conditions all organic waste components are effectively disintegrated. Some potentially dangerous or toxic combustion products become adsorbed into the cement clinker product or are removed in the heat exchange equipment.

Cement producers in many countries are keen to use alternative fuels, as their use reduces the fuel bill without adversely affecting the quality of the cement. With appropriate environmental impact control mechanisms in place there will be even less impact on the surrounding area. It is recommended that discussions be held with cement companies and the appropriate environmental agencies to arrange for waste to be disposed of using a cement kiln.

Pharmaceuticals should be introduced into the furnace as a reasonably small proportion of the total fuel feed. It is suggested that as a sensible "rule of thumb" no more than 5% of the fuel fed into the furnace at any one time is pharmaceutical material. Cement kilns typically produce 1,500 to 8,000 metric tons of cement per day and therefore quite large quantities of pharmaceutical material can be disposed of in a short period. It may be necessary to remove packaging and/or to grind the pharmaceuticals to avoid clogging and blockage of the fuel feed mechanisms.

Annex I gives more details of European Community regulations on high temperature incineration of hazardous wastes. Incinerators conforming to these regulations may be used for the disposal of halogenated compounds, X-ray contrast media and povidone iodine; lower temperature incinerators should not be used.

2.9 Chemical decomposition

If an appropriate incinerator is not available, the option of chemical decomposition can be used in accordance with the manufacturer's recommendations, followed by landfill. This method is not recommended unless chemical expertise is readily available. Chemical inactivation is tedious and time consuming, and stocks of the chemicals used in treatment must be made available at all times. For disposal of a small quantity of antineoplastic drugs this method may be practical. However for large quantities, for example, more than 50 kg of antineoplastics, chemical decomposition is not practical, as even small consignments need to be treated through repeated application of this method.

Table 1: Summary of disposal methods in and after emergencies

Disposal methods	Types of pharmaceutical	Comments
Return to donor or manufacturer, transfrontier transfer for disposal	All bulk waste pharmaceuticals, particularly antineoplastics.	Usually not practical - transfrontier procedures may be time consuming.
High temperature incineration with temperatures greatly in excess of 1200°C	Solids, semisolids, powders, antineoplastics, controlled substances.	Expensive.
Medium temperature incineration with two–chamber incinerator with minimum temperature of 850°C. Cement kiln incineration	In the absence of high temperature incinerators, solids, semi-solids, powders. Controlled substances.	Antineoplastics best incerated at high temperature
Immobilization Waste encapsulation	Solids, semi-solids, powders, liquids, antineoplastics, controlled substances.	
Inertization	Solids, semi-solids, powders, antineoplastics, controlled substances.	
Landfill Highly engineered sanitary landfill	Limited quantities of untreated solids, semi-solids and powders. Disposal of waste pharmaceuticals after immobilization preferable. PVC plastics.	
Engineered landfill	Waste solids, semi-solids and powders, preferably after immobilization. PVC plastics.	
Open uncontrolled non-engineered dump	As last resort untreated solids, semi -solids, powders – must be covered immediately with municipal waste. **Immobilization** of solids, semi-solids, powders **is preferable**.	Not for untreated controlled substances.
Sewer	Diluted liquids, syrups, intravenous fluids, small quantities of diluted disinfectants (supervised).	Antineoplastics, and undiluted disinfectants antiseptics not recom mended.
Fast–flowing watercourse	Diluted liquids, syrups, intravenous fluids; small quantities of diluted disinfectants (supervised).	Antineoplastics, and undi luted disinfectants and antiseptics not recommended.
Burning in open containers	As last resort, packaging, paper, cardboard.	Not acceptable for PVC plastics or pharmaceuticals.
Chemical decomposition	Not recommended unless special chemical expertise and materials available.	Not practical for quantities over 50 kg.

3. Sorting categories

3.1 The objectives of sorting

The objective of sorting is to separate the pharmaceuticals into categories that require different disposal methods. The appropriate safe disposal method recommended will depend principally on the pharmaceutical dosage form of the drugs. Segregated temporary storage areas or receptacles must be provided for each sorted category.

Practical advice on sorting

Sorting involves an initial overall evaluation of the stockpile and subsequent division of pharmaceuticals into those suitable for use and those to be discarded. For those to be discarded a decision is made on the best method of disposal. To be efficient items should only be handled once. Pharmaceuticals suitable for use should remain in their packaging. The pharmaceuticals to be discarded should, when necessary, be separated from their packaging as late in the process as possible.

The sorting process includes:

- identifying each item;
- making a decision on whether it is usable;
- if usable, leaving packaging intact;
- if not usable, making a judgement on the optimal method of disposal and sorting accordingly;
- leaving packages and boxes intact until reaching their location, prior to definitive disposal or transport to an institution for use.

3.2 Optimum conditions for sorting

Sorting should be done in the open or in a well ventilated and, if necessary, heated covered structure designated by the local authority. Sorting should be done as close as possible to the stockpile in an orderly way, with all sorted material clearly labelled and separated at all times. Staff supplied with protective equipment (gloves, boots, overalls, dust masks, etc.), should work under the direct supervision of a pharmacist, and should receive training on the sorting criteria, and health and safety risks associated with handling the materials.

Once sorted, the pharmaceuticals should be carefully packed into steel drums or into containers such as sturdy cardboard boxes, with the contents clearly indicated on the outside of the containers. The materials should be kept in a dry secure and preferably separate room to avoid being confused with in-date pharmaceuticals, until disposal is carried out.

3.3 Sorting categories

The top priority of the sorting process is to separate out the pharmaceuticals that are categorized as controlled substances (e.g. narcotics), antineoplastic (cytotoxic-anti-cancer) drugs and any other hazardous non-pharmaceutical products that may have been mixed among the pharmaceuticals. These must all be stored in separate, secure designated areas prior to their separate, safe disposal.

The remaining unwanted pharmaceuticals must be further sorted into different categories by dosage form, (capsules, powders, solutions, suppositories, syrups, tablets). The following sorting categories and subcategories are suggested.

3.4 Pharmaceuticals and other materials which can still be used

A large proportion of the volume of a typical stockpile of waste drugs is not occupied by the pharmaceuticals themselves, but rather by other items, such as medical material and equipment, food, clothing, boxes, pallets, and general rubbish. The first step in dealing with these stockpiles is to remove and dispose of these non-drug, non-chemical items. All such items should be clearly separated from pharmaceuticals and chemicals.

Non-pharmaceutical useful materials
Medical equipment, beds, wheelchairs, dressings, clothing, laboratory glassware, etc. can either be utilized by the institution or by other facilities, recycled, cannibalized for spare parts or disposed to a landfill.

Useful pharmaceuticals
If feasible, pharmaceuticals within their expiry date and considered useful should be separated out and immediately used by the institution or reallocated according to the needs and instructions of the regional health authorities. A list can be prepared giving details of the items available, quantities and expiry dates and circulated to others who can use the materials. **While this separation is logical and appealing, experience indicates that it may not always be an efficient use of time and resources.**

Chemicals
Acids, alkalis, reagents, phenol-based chemicals used for cleaning floors, disinfectants, etc. can be put to good use. If large quantities of these items are found a list may be prepared and offered to other potential users, such as hospitals, universities, or school laboratories, etc.

3.5 Expired or unwanted pharmaceuticals

Pharmaceuticals that should never be used and should always be considered as **pharmaceutical waste** are:

- all expired pharmaceuticals;
- all unsealed syrups or eye drops (expired or unexpired);
- all cold chain damaged unexpired pharmaceuticals that should have been stored in a cold chain but were not (for example: insulin, polypeptide hormones, gamma globulins and vaccines);
- all bulk or loose tablets and capsules. If unexpired these should only be used when the container is still sealed, properly labelled or still within the original unbroken blister packs;
- all unsealed tubes of creams, ointments, etc. (expired or unexpired).

Sorted by active ingredient (special disposal needed):

- controlled substances; e.g. narcotics, psychotropic substances;
- anti-infective drugs;
- antineoplastics;
- cytotoxic-anti–cancer drugs, toxic drugs;
- antiseptics and disinfectants.

The last three groups require special consideration. For more information refer to Sections 4.4, 4.5, 4.6 and 4.7.

Sorted by dosage form (all other pharmaceuticals):

solids, semi-solids and powders

- tablets, capsules, granules, powders for injection, mixtures, creams, lotions, gels, suppositories, etc.;

liquids

- solutions, suspensions, syrups, etc.;
- ampoules;

aerosol canisters

- including propellant-driven sprays and inhalers.

3.6 Hazardous or potentially hazardous non-pharmaceutical materials

All non-pharmaceutical, potentially dangerous waste such as chemicals, cleaning solutions, batteries and waste oil must be dealt with on a case-by-case basis by the hazardous waste expert, and must not be handled by the pharmaceutical teams unless expressly directed to do so. This waste requires separate and careful labelling and storage until disposal.

3.7 Recyclable material

Waste paper, cloth, packing materials, clothes, gauze and wooden items, such as pallets, can be recycled, burned or disposed of as normal waste to a landfill. Plastic, metal and glass items can be reused (glassware can be given to laboratories, mechanical items given to scrap dealers), recycled (if facilities are available) or disposed of in a landfill. Depending on the type of material and its proposed reuse, appropriate treatment, such as cleaning or disinfection, may be needed. Other general rubbish can be disposed of in a landfill. If a recycling programme exists for the reuse of such materials they can be separated from the pharmaceuticals prior to their disposal in the landfill.

4. Recommended disposal methods by sorting category

4.1 Solids, semi-solids and powders

Anti-infective drugs, controlled drugs and antineoplastics

If it is not possible to return these to the manufacturer or adequate incineration is unavailable then encapsulation or inertization is recommended before discharge to a landfill (refer to Sections 4.4, 4.5 and 4.6). Anti-infective drugs and antineoplastics are encapsulated to delay release to the environment and avoid high concentrations. Controlled drugs should be immobilized under supervision of the pharmacist, the police or a judicial representative, depending on the local regulations.

Other drugs

Small quantities of solid and semi-solid pharmaceuticals, typically not more than 1% of the total daily waste, can be disposed of directly in a landfill with large volumes of municipal solid waste, if no other suitable method is available. The figure of 1% is based on expert opinion rather than scientific evidence. It is further postulated that in emergencies and situations where the stockpile is large (many hundreds of tons), then 5-10% of the total daily municipal waste would be an acceptable daily disposal figure, where disposal of municipal waste is greater than 50 metric tons per day. In this case the landfill should be well managed and the disposal should be for a fixed period of time.

The pharmaceutical solid waste should be disposed of at the base of the working face of the landfill and covered immediately by fresh municipal waste. Security measures to prevent scavenging should be in place. Pharmaceuticals classed as readily biodegradable organic material in the solid or semi-solid form, e.g. vitamins, can also be disposed of in a landfill.

Large quantities of solid and semi-solid pharmaceuticals are best destroyed by high temperature incineration as previously described. Medium temperature incineration is however widely practiced for solid form pharmaceuticals, provided that the pharmaceuticals are "diluted" in large quantities of municipal waste. Many countries however do not have access to either high or medium temperature incineration plants, and the use of the encapsulation method represents an acceptable, but not always feasible, method of disposal for large quantities of pharmaceuticals.

Procedure
Solids, semi-solids and powders should be removed from their outer packaging but remain in their inner packaging and placed in clean plastic or steel drums, for treatment according to the encapsulation method. Removing outer packaging dramatically reduces the volume for disposal for methods such as encapsulation. Small quantities of pharmaceuticals still within their packaging may be discharged into a landfill as described above. They should be immediately covered with municipal waste. Outer packaging should be disposed of as non-drug, non-chemical materials by recycling or burning.

The separation of materials should be as follows:

- tablets and capsules in plastic/foil blisters should be removed from all outer packaging but not from blisters;
- tablets and capsules in bottles should be removed from outer packaging but not bottles;
- tablets and effervescents in tubes should be removed from outer packaging but not from tubes;
- powders in sachets or bottles should be removed from outer packaging but not from sachets or bottles.

Any large quantities of a single type of drug should be checked by the supervising pharmacist to ensure that the drug is not an anti-infective drug, antineoplastic or controlled substance. If the drug is an antineoplastic, it should be treated according to the procedure for antineoplastics outlined in Section 4.6. Controlled substances should be treated as normal solids, but with supervision according to local regulations. See Sections 4.3 and 4.4 for treatment of anti-infective drugs. Very large quantities of loose tablets should be mixed with other medicines in several different steel drums to avoid very high concentrations of a single drug in any one drum.

4.2 Liquids

Pharmaceuticals with no or low toxicity

Pharmaceuticals that can be classed as readily biodegradable organic material include liquid vitamins that may be diluted and flushed into a sewer. Harmless solutions of different concentrations of certain salts, amino acids, lipids or glucose may also be disposed of in sewers.

Other liquid pharmaceuticals (except controlled drugs, antineoplastics or anti-infective drugs)

Small quantities of other liquid pharmaceuticals, which are not controlled substances, anti-infective drugs, or antineoplastics, can be flushed into sewers. If there are no sewers or there is no functioning sewage treatment plant, liquid pharmaceuticals can be first diluted with large volumes of water and poured into large watercourses, providing they are immediately dispersed and diluted by the flowing river water.

Liquid pharmaceutical waste may be disposed of using the cement encapsulation procedure (see Section 2.3), high temperature incineration or in cement kilns (see Section 2.8).

It is not acceptable to discharge liquid pharmaceuticals, diluted or not, into slow moving or stagnant surface waters.

4.3 Ampoules

These can be crushed on a hard impermeable surface (e.g. concrete) or in a metal drum or bucket using a stout block of wood or a hammer. Workers doing this should wear protective equipment, such as eye protection, boots, clothing and gloves. The crushed glass should be swept up, placed in a container suitable for sharp objects, sealed and disposed of in a landfill. The liquids released from the ampoules should be diluted and disposed of as described above.

Ampoules should not be burnt or incinerated as they will explode, possibly causing injury to operators and damage to the furnace or incinerator. Melted glass will also clog up the grate of a furnace or incinerator if the operating temperature is above the melting point of glass.

Volatile liquids in small quantities can be allowed to evaporate in the open air.

NB: Ampoules of antineoplastics or anti-infective drugs must not be crushed and the liquid discharged to sewers. They should be treated using the encapsulation or inertization disposal methods described above.

4.4 Anti-infective drugs

Anti-infective drugs should not be discarded in an untreated form. Generally they are unstable and are best incinerated, and if that is not possible encapsulated or inertized. Liquid anti-infective drugs may be diluted in water, left for two weeks and disposed to the sewer.

4.5 Controlled substances

Controlled substances must be destroyed under supervision of a pharmacist or the police depending on national regulations. Such substances must not be allowed into the public domain as they may be abused. They should either be rendered unusable, by encapsulation or inertization, and then dispersed among the municipal solid waste in a landfill, or incinerated.

4.6 Antineoplastics

Antineoplastic drugs, previously called cytotoxics or anti-cancer drugs, have the ability to kill or stop growth of living cells. They are used in the chemotherapy of cancer which is usually performed in specialized treatment centres. It is extremely unlikely that they would form part of an aid donation in emergencies. However, if unwanted and discharged into the environment they can have very serious effects, such as interfering with reproductive processes in various life forms. Their disposal must therefore be handled with care.

Antineoplastics should be segregated from other pharmaceuticals and kept separately in clearly marked containers with rigid walls[9]. They should ideally be safely packaged and returned to the supplier for disposal.

If this option is not possible they must be destroyed in a two-chamber incinerator which operates at a high temperature of at least 1200°C in the secondary chamber, and is fitted with gas cleaning equipment. An after-burner (i.e. the secondary chamber) is important for the destruction of cytotoxic waste, as it is possible that antineoplastic solutions could become aerosolized following the initial combustion in the primary chamber. As a result, without a higher temperature secondary chamber, degraded antineoplastic material may be emitted from the chimney. The secondary combustion chamber consequently ensures that such antineoplastic substances are fully incinerated.

Antineoplastic drugs/waste should never be disposed of in a landfill other than after encapsulation or inertization. Work teams handling these drugs must avoid crushing cartons or removing the product from its packages. They may only be discharged in a sewerage system after chemical decomposition and must not be discharged untreated into surface water drains or natural watercourses.

Special treatment for antineoplastics

For antineoplastics drums should be filled to 50% capacity with drugs, after which a well-stirred mixture of lime, cement and water in the proportions of 15:15:5 (by weight), should be added and the drums filled to capacity. A larger quantity of water may be required sometimes to attain a satisfactory liquid consistency. The drums should then be sealed by seam or spot welding and left to set for 7 to 28 days. This will form a firm, immobile, solid block in which the wastes are relatively securely isolated. The drums are then placed at the working face of a landfill which has been lined with an impermeable layer of clay or membrane.

Antineoplastic drug disposal

Methods of disposal:

1. return to supplier;
2. high temperature incineration;
3. waste encapsulation;

Methods of disposal of antineoplastics *not* to be used:

4. low and medium temperature incineration;
5. disposal to sewers and water courses;
6. directly to landfill.

4.7 Disinfectants

In general disinfectants do not have an expiry date. They can be stored and gradually used over time so there is no real need to dispose of them. Large quantities of disinfectants must not be flushed into the sewer, as they may kill the bacteria in a sewage works and so stop the biological treatment of the sewage. Similarly large quantities should not be put into watercourses since the disinfectants will damage aquatic life. Small quantities of diluted disinfectant may be disposed of by discharge to a sewer providing the operation is supervised by a pharmacist and the quantities are strictly controlled to set limits. The guideline control proposed is 50 litres total per day, with the disposal spread over the whole working day.

If possible, disinfectants should be used, for example for toilet cleaning in hospitals. Some disinfectants with strong bactericidal and antiviral activity, such as Lysol (50% cresylic acid), may have an expiry date. If this date has past, the material can still be used for general disinfection purposes at an appropriate dilution decided by a pharmacist, or disposed of in a chemical waste disposal facility or a cement kiln. Many countries do not have chemical waste disposal facilities, so the materials may have to be shipped out of the country. However this is an expensive and complicated operation and should only be contemplated if there is no viable alternative.

The World Health Organization publishes chemical safety sheets for common disinfectants and pesticides. The sheets provide data on the chemical composition of the substance and indicate suitable methods of disposal. The sheets may be obtained from WHO[14].

4.8 Aerosol canisters

Disposable aerosol canisters and inhalers should not be burnt or incinerated, as high temperatures may cause them to explode, possibly causing injury to operators and/or damage to the furnace or incinerator. Provided they do not contain poisonous substances they should be disposed of in a landfill, dispersed among municipal solid wastes.

Table 2: Summary of pharmaceutical categories and disposal methods in and after emergencies

Category	Disposal methods	Comments
Solids **Semi-solids** **Powders**	Landfill Waste encapsulation Waste inertization Medium and high temperature incineration (cement kiln incinerator)	No more than 1% of the daily municipal waste should be disposed of daily in an untreated form (non-immobilized) to a landfill
Liquids	Sewer High temperature incineration (cement kiln incinerator)	Antineoplastics not to sewer
Ampoules	Crush ampoules and flush diluted fluid to Sewer	Antineoplastics not to sewer
Anti-infective drugs	Waste encapsulation Waste inertization Medium and high temperature incineration (cement kiln incinerator)	Liquid antibiotics may be diluted with water, left to stand for several weeks and discharged to a sewer
Antineoplastics	Return to donor or manufacturer Waste encapsulation Waste inertization Medium and high temperature incineration (cement kiln incinerator)	Not to landfill unless encapsulated. Not to sewer No medium temperature incineration.
Controlled drugs	Waste encapsulation Waste inertization Medium and high temperature (cement kiln incinerator)	Not to landfill unless encapsulated
Aerosol canisters	Landfill Water encapsulation	Not to be burnt: may explode.
Disinfectants	Use To sewer or fast-flowing watercourse: small quantities of diluted disinfectants (max. 50 litres per day under supervision)	No undiluted disinfectants to sewers or water courses Maximum 50 litres per day diluted to sewer or fast-flowing water course. No disinfectants at all to slow moving or stagnant watercourses.
PVC plastic, glass	Landfill	Not for burning in open containers
Paper, cardboard	Recycle, burn, landfill	

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Annex I: Disposal by incineration

The European Union Directive on the incineration of hazardous waste (Ref. 12) states that:

"All incineration plants shall be designed, equipped and operated in such a way that the gas resulting from the incineration of the hazardous waste is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions anticipated, to a temperature of at least 850°C, as achieved at or near the inner wall of the combustion chamber, for at least two seconds in the presence of at least 6% oxygen; if hazardous wastes with a content of more than 1% halogenated organic substances, expressed as chlorine, are incinerated, the temperature has to be raised to at least 1100°C."

Article 7 of the same Directive provides emission limit values for the exhaust gases from incineration plants. The values given are to prevent emissions into the air giving rise to significant air pollution. In addition to temperature and residence time other operating conditions must also be followed to combust pharmaceuticals safely and efficiently (e.g. treatment and handling of ash).

Studies by Pharmaciens Sans Frontières in 1996 in Mostar have shown that the donated pharmaceuticals, in mixed boxes, had a halogen weight content (i.e. the elements chlorine, fluorine, bromine, iodine, and the isotope astatine), of approximately 0.1% of the total weight including associated packaging. This is well below the 1% threshold given in the EU Directive. The very low halogen content reported for the donated pharmaceuticals indicates that the lower temperature of 850°C could be adopted for these types of pharmaceuticals.

MSF:	Medical Catalogue, volume 1/4 - 1998 • drugs • renewable supplies Medical Catalogue, volume 2/4 - 1998 • medical equipment Medical Catalogue, volume 3/4 - 1998 • surgical instruments • surgical instrument sets Medical Catalogue, volume 4/4 - 1998 • Laboratory equipment and reagents
UNICEF:	Copenhagen Warehouse Catalogue - 1999 edition
WHO:	Anaesthesia at the District Hospital, 1988 General Surgery at the district Hospital, 1988 Surgery at the District Hospital: Obstetrics, Gynecology, Orthopaedics and Traumatology, 1991
WHO:	The New emergency Health Kit, 1999
UNFPA:	Reproductive Health Kits for Emergencies, 1998
WHO/UNICEF	Product Information sheet: Equipment for Acute Respiratory Infections (ARI) Expanded programme on Immunization (EPI), global Blood Safety Initiative
Pharmacopoeia:	International Standards.

ISO 594-1	Conical fittings with a 6% (Luer) taper for syringes, needles and certain other medical equipment - Part 1: General requirements.
ISO-594-2	Conical fittings with a 6% (Luer) taper for syringes, needles and certain other medical equipment - Part 2: Lock fittings.
ISO 595-1	Reusable all-glass or metal-and-glass syringes for medical use - Part 1: Dimensions.
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ISO 1135-1	Transfusion equipment for medical use - part 1: Glass transfusion bottles, closures and caps.
ISO 1135-3	Transfusion equipment for medical use - Part 3: Blood-testing set
ISO 1135-4	Transfusion equipment for medical use - Part 4: Transfusion sets for single use.
ISO 1770-981	solid-steam general purpose thermometers - Amendment 1
ISO 3159	Timekeeping instruments - Wrist-chronometers with spring balance oscillator
ISO 3626	Photographic grade potassium thiocyanate - Specification
ISO 3635	Size designation of clothes- Definitions and body measurement procedure.
ISO 3826	Plastics collapsible containers for human blood and blood components.
ISO 4090	Photography - film dimensions - medical radiography
ISO 4418	Size designation of clothes- gloves.
ISO 4856	personal eye-protectors - Synoptic tables of requirements for oculars and eye-protectors
ISO 5365-1	Anaesthetic and respiratory equipment - conical connectors - Part 1: Cones and Sockets, Amendment 1
ISO 5356-2	Anaesthetic and respiratory equipment - conical connectors - part 2: Screw-threaded weight-bearing connectors.
ISO 5359:1989	Low-pressure flexible connecting assemblies (hose assemblies) for use with medical gas systems - Technical corrigendum 1.
ISO 5364:1986	Oropharyngeal airways - Technical corrigendum 1
ISO 5361-1	Tracheal tubes - part 1: General Requirements
ISO 5361-2	Tracheal tubes - Part 2: Oro-tracheal and nasal-tracheal tubes of Magill type (plain and cuffed)
ISO 5361-3	Tracheal tubes - Part 3: Murphy type
ISO 5361-4	Tracheal tubes - Part 4: cole type
ISO 6361-5	Tracheal tubes - Part 5: Requirements and methods of test for cuffs and tubes
ISO 5364	Oropharyngeal airways - 2nd edition - 1986-07-01
ISO 5366-1	Tracheostomy tubes - Part 1: Connectors for tubes and adults
ISO 5366-2	Tracheostomy tubes - Part 2: Basic requirements for tubes and adults
ISO 5366-3	Tracheostomy tubes - Part 3: Paediatric tracheostomy tubes
ISO 5367	Breathing tubes intended for use with anaesthetic apparatus and ventilators
ISO 5799	Photography - direct-exposing medical and dental radiographic film/process systems - Determination of ISO speed and ISO average gradient
ISO 6529	Protect clothing - Protection against liquid chemicals - determination of resistance of air-impermeable materials to permeation by liquids.
ISO 5832-1	Implants for surgery - Metallic materials - part 1: Wrought stainless steel
ISO 5832-2	Implants for surgery - Metallic materials - Part 2: Unalloyed titanium
ISO 5832-3	Implants for surgery - Metallic materials - Part 3: Wrought titanium 6-aluminium 4-vanadium alloy

ISO 5832/IV	Implants for surgery - Metallic materials - Part IV: Cobalt-chromium-molybdenum casting alloy
ISO 5832/6	Implants for surgery - Metallic materials - Part 6: Wrought cobalt-nickel-chromium-molybdenum alloy
ISO 5832-7	Implants for surgery - Metallic materiels - Part 7: Forgeable and cold-formed cobalt-chromium-nickel-molybdenum-ironalloy
ISO 5832-8	Implants for surgery - Metallic materials - part 8: Wrought cobalt-nickel-chromium-molybdenum-tungsten-ironalloy
ISO 5832-9	Implants for surgery - Metallic materials - Part 9: Wrought high nitrogen stainless steel
ISO 5832-10	Implants for surgery - Metallic materials - Part 10: Wrought titanium 5-aluminium 2,5-iron alloy
ISO 5832-11	Implants for surgery - Metallic materials - Part 11: Wrought titanium 5-aluminium 7-biobium alloy
ISO 5838/1	Implants for surgery - Skeletal pins and wires - Part 1: Material and mechanical requirements
ISO 5838-2	Implants for surgery - Skeletal pins and wires - Part 2: Steinmann skeletal pins - dimensions
ISO 5838-3	Implants for surgery - Skeletal pins and wires - part 3: Kirschner skeletal wires
ISO 7151	Surgical instruments - Non-cutting, articulated instruments - General requirements and test methods
ISO 7153-1	surgical instruments - Metallic materials - part 1: Stainless steel
ISO 7228	Tracheal tube connectors
ISO 7740	Instruments for surgery - Scalpels with detachable blades - fitting dimensions
ISO 7741	Instruments for surgery - Scissor sand shears - General requirements and test methods
ISO 7886-1	Sterile hypodermic syringes for single use - Part 1: Syringes for manual use
ISO 8362-1	Injection containers for injectables and accessories - injection vials made of glass tubing
ISO 8362-2	Injection containers for injectables and accessories - Part 2: Closures for injection vials
ISO 8362-3	Injection containers for injectables and accessories - Parte 3: Aluminium caps for injection vials
ISO 8362-4	Injection containers for injectables and accessories - Part 4: Injection vials made of moulded glass
ISO 8362-6	Injection containers for injectables and accessories - Part 6: Caps made of aluminium-plastics combinations for injection vials
ISO 8362-7	Injection containers for injectables and accessories - Part 7: Injection caps made of aluminium-plastics combination without overlapping plastics part
ISO 8429	Optics and optical instruments - Ophthalmology - Graduated dial scale
ISO 8536-1	Infusion equipment for medical use - Part 1: Infusion glass bottles
ISO 8536-2	Infusion equipment for medical use - Part 2: Closures for infusion bottles
ISO 8536-3	Infusion equipment for medical use - Part 3: aluminium caps for infusion bottles
ISO 8536-4	Infusion equipment for medical use - Part 4: Infusion sets for single use
ISO 8536-5	Infusion equipment for medical use - Part 5: Burette type infusion sets
ISO 5835-6	Infusion equipment for medical use - Part 6: Freeze drying closures for infusion bottles

ISO 8536-7	Infusion equipment for medical use - Part 7: Caps made of aluminium-plastics combinations for infusion bottles
ISO 8537	Sterile single-use syringes with or without needle, for insulin
ISO 9178-1	Templates for lettering and symbols - Part 1: General principles and identification markings
ISO 10079-1:1991	Medical suction equipment: Part 1: Electrically powered suction equipment - Safety requirements
ISO 10079-2	Medical suction equipment : Part 2: Manually powered suction equipment
ISO 10079-3	Medical suction equipment - Part 3: Suction equipment powered from vacuum or pressure source
ISO 10282	Single-use sterile surgical rubber globes - specification
ISO 10290	Textiles - cotton yarns - specifications
ISO 10993-1	Biological evaluation of medical devices - Part 1: guidance on selection of tests
ISO 10993-2	Biological evaluation of medical devices - Part 2: Animal welfare requirements
ISO 10993-3	Biological evaluation of medical devices - Parte 3: Tests for genotoxicity, carcinogenicity and reproductive toxicity
ISO 30993-5	Biological evaluation of medical devices - Part 5: Tests for cytotoxicity: in vitro methods
ISO 10993-6	Biological evaluation of medical devices - Part 6: Tests for local effects after implementation
ISO 11003-1	Adhesives - Determination of shear behavior of structural bonds - Part 1: Torsion test method using butt-bonded hollow cylinders
ISO 11003-2	2: Thick-adherend tensile-test method
ISO 1193	Single-use rubber examination gloves - Specifications
BS 1695	Urological catheters
BS 2743	Specifications for aneroid ad mercury non-automated sphygmomanometers
BS 3970	Sterilizing and disinfecting equipment for medical products

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