



**Arbeitskreis der Küstenländer
für Schiffshygiene**

Ship Sanitation Committee
of German Federal States

**G U I D E L I N E *
N o. 3**

– updated version as of March 2011 –

**In Agreement with the Ship Safety Division,
Maritime Medical Service,
of the BG Verkehr (BG for Transport and Traffic)**

**to the Third Ordinance to amend the Ordinance on the
Medical Care on Seagoing Vessels dated 5 September 2007 (BGBl. I S. 2221)**

- Second Section -

Rooms and Equipment on Merchant Ships with up to 75 Persons

* With this guideline, the Ship Sanitation Committee of German Federal States pursues the objective of adopting uniform principles and equal standards in the coastal federal states, adapted to the development process in shipping.
Comments and suggestions must be addressed to the Management of the Ship Sanitation Committee of German Federal States.

1. Introduction

Further to the regulations of the Third Ordinance to amend the Ordinance for the Medical Care on Seagoing Vessels dated 5 September 2007 (BGBl. I S. 2221), this Guideline provides binding instructions and advice on the second section – Rooms and Equipment – for merchant ships with up to 75 persons.

The competent Port Health Authority of the home port gives advice in individual cases regarding the equipping of treatment rooms and sickrooms.

The Guideline is divided into 7 sections:

1. Introduction
2. Scope of Application and Definition of Terms
3. Standards Required for the Treatment Room
4. Standards Required for the Sickroom
5. Standards Required for Medically Used Sanitary Facilities
6. Hygiene Standards for Medically Used Rooms and Facilities
7. Applicable Attachments

2. Scope of Application and Definition of Terms

This Guideline defines equipment features to be inspected by the competent Port Health Authority in Germany and is applicable to all ships in the area of legal validity of the Third Ordinance to amend the Ordinance on the Medical Care on Seagoing Vessels (SchKrFürsV) dated 5 September 2007, in the following called “Ordinance on the Medical Care”, which according to § 7 SchKrFürsV must have a treatment room.

Thus this Guideline applies to ships in intermediate and long-distance trade as well as ships whose construction, according to the classification certificate, is adequate for these trade ranges. It also applies to fishing vessels carrying more than 45 persons and to ships engaged in short-distance and coastal trade carrying more than 75 persons.

For passenger ships, more extensive regulations must be taken into consideration.

For ships that do not fall within the scope of application of this Guideline, the Guideline serves as a recommendation.

In this Guideline, the treatment room and the sickroom, together with the connected sanitary areas, will be called “medically used rooms”.

3. Standards Required for the Treatment Room (to § 7 SchKrFürsV)

3.1 Use of the treatment room

- 3.1.1 The treatment room and sickroom as well as the connected sanitary facilities are to be used solely for the treatment and care of sick or injured persons, and for the isolation of potentially infectious patients. The medically used rooms must be kept in a clean, thoroughly hygienic state, ready for immediate use at all times.

3.2 Location of the treatment room

- 3.2.1 The treatment room and the connected sanitary facilities (see Section 5) must be located together with the sickroom (if existent) on the same deck.
- 3.2.2 The rooms should be located in a quiet area with low vibration, in which the acceleration force from the ship's movements is as low as possible.

3.3 Size of the treatment room

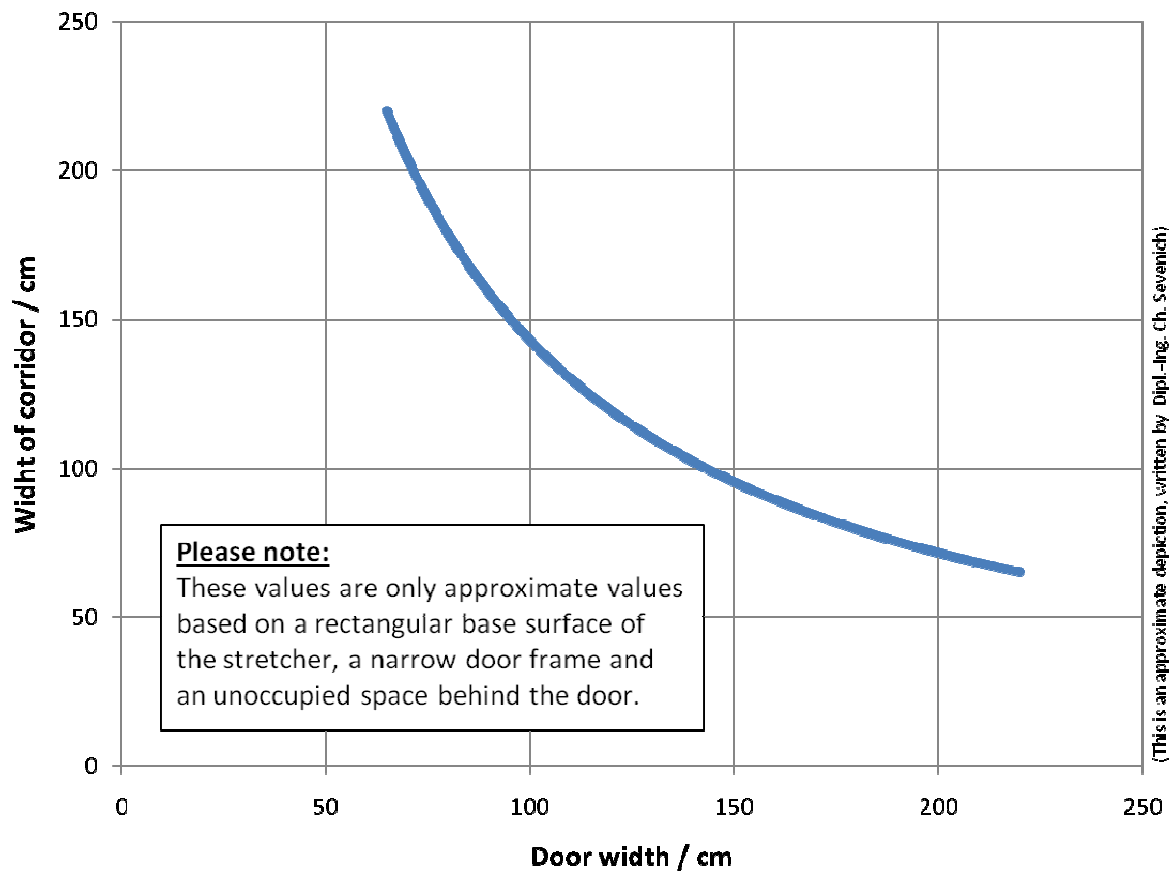
- 3.3.1 The treatment room must have an area of at least 15 m².
- 3.3.2 The examination couch must be freely accessible on both long sides and either from the head end or foot end with a space of at least one metre for freedom of movement. Opened doors, drawers, etc. must not protrude into this clear space.

3.4 Entrance to the treatment room

- 3.4.1 Entrances to the treatment room must have dimensions which allow for the transport of an injured person lying flat on a rescue basket stretcher (No. 25.01) into the room and their transfer to the examination couch.

Remark: In order to transport an injured person lying flat on a stretcher approved by the BG Verkehr (width approx 65 cm, length approx. 220 cm) from the corridor into the treatment room, assuming a corridor width of 150 cm, an entrance doorway of at least 100 cm width to the treatment room is necessary (example calculation; no responsibility is accepted for the details mentioned). In the case of a narrower corridor, the width of the entrance door to the treatment room must be designed in such a way that the room can be easily entered with the stretcher from the corridor (e.g. double-wing door with total width of 200 cm). The following diagram is helpful for the calculation of the door width.

**Width needed for the Entrance Door to the Treatment Room
depending on the width of the corridor outside the treatment room
(assuming a stretcher width of: 65 cm x 220 cm)**



- 3.4.2 If the treatment room borders on an outside wall of the deck superstructure, it is recommended to provide an additional, adequately wide entrance with a lockable door, leading directly to the outside area on deck to facilitate transport of patients lying down out of the room.
- 3.4.3 Access by authorised persons to immediately needed medicines, medical devices and aids in the treatment room in emergencies must be ensured at all times (see 3.5.9).

3.5 Furnishings and equipment in the treatment room

3.5.1 Floors and walls

The medically used rooms and their furnishings and equipment must have easy-to-clean surfaces in light colours. These surfaces must be washable (wet) and disinfectant-proof. Textile floor coverings or upholstery covers must not be used.

3.5.2 Lighting

The admittance of daylight should be ensured in the treatment room through a window in the outside wall.

The electric lighting in the treatment room must ensure a room illumination of 500 - 1000 lux, measured at a distance of 0.85 m above the standing or walking area.

In addition, an examination lamp must be available with an illuminance adequate for carrying out minor surgical interventions, e.g. sutures, as well as for the assessment of skin diseases. This requirement is deemed fulfilled if the lamp meets the standards of DIN EN 60601-2-41 for examination lamps. An illuminance between 30,000 and 100,000 lux is recommended for the above-mentioned use. In addition, the colour-rendering index must be > 85 (colour: neutral white). Preference must be given to a system that is not sensitive to vibration (e.g. light-emitting diodes as illuminants). The examination lamp must have a swing arm with a turning radius which enables the user to illuminate every part of the examination couch. The lamp can be mobile so that it can – if necessary – also be used in the sickroom. If a mobile examination lamp is used, it must be secured (also during operation) so that it cannot accidentally slip or fall over.

The desk must be equipped with a desk lamp.

3.5.3 Ventilation

If there is a ventilation and air-conditioning system on board, the treatment room must be connected to this system. On ships without air-conditioning, the treatment room must be equipped with adequate heating. An adequate supply of fresh air must be ensured (see *Technische Regeln für Bau und Ausrüstung von Unterkünftsräumen auf Seeschiffen* (technical rules for construction and equipment of living quarters on seagoing vessels) issued by the BG Transport and Traffic)

Medically used rooms must, in addition, have an active system for **extracting exhaust air** not connected to the ship's general ventilation and air-conditioning system. The exhaust air must be led directly outside. The opening for the exhaust air in the medically used rooms must not be in the immediate vicinity of air intake of the ship's general ventilation system.

Remark: The use of this ventilator is to prevent excess pressure building up in the treatment room through the ship's ventilation and air-conditioning system and thus the uncontrolled aerogen transmission of pathogens out of the treatment room (e.g. through door cracks and ventilation grids).

3.5.4 Electrical sockets

For the connection of additional appliances (e.g. ECG or mobile examination lamp), at least two 230V earthing contact sockets with flap lids must be available near the examination couch.

In addition, at least two 230V earthing contact sockets with flap lids must be installed in the immediate vicinity of the desk.

3.5.5 Communication facilities

A functioning telecommunications facility (e.g. telephone) for **direct** medical advice by radio must be available at all times (§7 Para 3 SchKrFürsV).

3.5.6 Apparatus for oxygen treatment

At all times, one stationary (10 l / 200 bar) and one portable (2 l / 200 bar) oxygen therapy system each must be kept ready for use (sufficiently filled oxygen cylinder with a connected pressure reducer suitable for medical purposes, adjustable flow-rate regulator and connected oxygen mask or bag valve mask).

In the treatment room, safe mountings must be installed for at least one 10-litre oxygen cylinder (No. 23.01 or No. 27.31a). The oxygen cylinder on standby must be safely mounted in the immediate vicinity of the head end of the examination couch to avoid unnecessary risk of accidents caused by transverse hoses (compare 3.6). The three required reserve oxygen cylinders (No. 27.31a) must be stored in safe mountings with transport caps over the valves. Quick access to these reserve cylinders must be ensured.

3.5.7 Ceiling or wall mounting for infusion bottles

Above the examination couch, a ceiling or wall mounting must be installed on which infusion bottles can be hung up (No. 11.01, 11.02, 27.22 or 27.24).

3.5.8 Hand-washing facility

In the treatment room, a hand-washing facility with running cold and hot drinking water must be available. The hand-washing facility must be equipped with the following items:

- a filled disinfectant dispenser for hand disinfection
- a liquid-soap dispenser
- a dispenser for paper towels
- a dispenser for disposable examination gloves (No. 21.21)
- a waste bin with lid (to open with foot pedal)

The use of bars of soap and textile towels is not permissible in medically used rooms and publicly accessible sanitary areas or in areas in which food is prepared.

The equipment must be kept in a clean and ready-for-use state at all times. It is recommended to fit the washbasin with a single-handle mixer tap. The tap must be flushed regularly according to Attachment 1 (Hygiene Framework)

3.5.9 Key box

A spare key for the entrance door to the treatment room must be kept beside the entrance door in a red emergency key box with a breakable glass front panel (§7 Para. 4 SchKrFürsV).

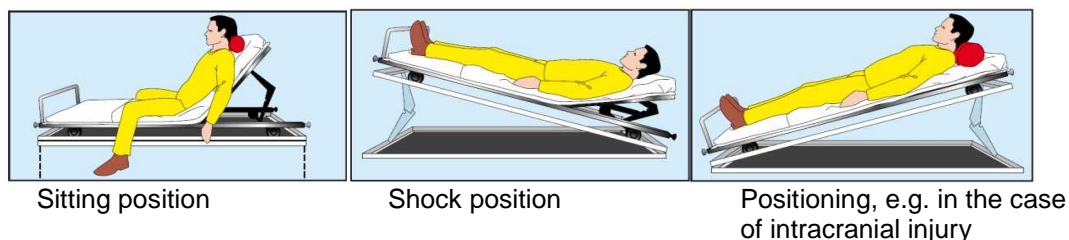
3.5.10 Desk and chairs

In the treatment room, a desk with a top measuring at least 800 mm x 500 mm must be available. This desk must be equipped with a desk lamp.

There must be two chairs in the treatment room. The chairs, including upholstery, must be washable (wet) and disinfectant-proof. Textile upholstery is not permissible.

3.5.11 Examination couch

The treatment room must be equipped with an examination couch. This couch must be secured against falling over and shifting. The examination couch must be easy to clean, washable (wet) and easily disinfected. Textile upholstery is not permissible. A safety measure in the form of adjustable side rails must be provided to prevent the patient from falling off the couch. Straps are not permissible as safety devices. The reclining height of the examination couch must be at least 65 cm. It must be possible to lay patients in the shock position on the examination couch; the back section must enable a sitting position (e.g. for dental treatment), and the foot end must be height-adjustable (compare chapter C. 1.6 – 1.7 of the Medical Guide for Ships).



(Illustrations from: Medical Guide for Ships, See-Berufsgenossenschaft, Hamburg)

3.5.12 Refrigerator in the treatment room

The treatment room must be equipped with a refrigerator for storing medicines that must be cooled (e.g. No. 12.01, 12.02, 13.02 and 17.04). The refrigerator must be adjusted to an inside temperature between +2 °C and +8 °C and have a thermometer for monitoring this inside temperature. On seagoing vessels with no treatment room, a suitable storage location must be defined for the storage of medicines which must be kept cool.

3.5.13 Semi-automatic defibrillator (AED, No. 25.02)

The information published by the Ship Sanitation Committee of German Federal States in *Mitteilung Nr. 13* on 23/11/2007 is published again here in a supplemented form and is a binding part of this Guideline.

Storage of the AED

The AED must be mounted securely in a clearly visible location and be freely accessible to all members of the crew.

Depending on the type of ship, various rooms can be suitable. Preferably, the ship's office or the mess should be chosen as a location for mounting the AED. The treatment room or the bridge can also be sensible places, if permanent access is ensured for every member of the crew. Every member of the crew must be informed regarding the location in which the AED is kept.

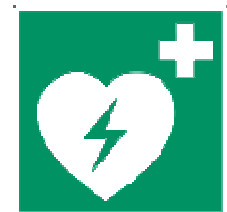
It is recommended to keep the AED in a wall cabinet that lets off an optical and acoustic alarm signal when opened, thus drawing the attention of further persons to the emergency.

Signposting

The storage location for the AED must be indicated with the glow-in-the-dark safety sign D-E017 "Automated External Defibrillator (AED)" in accordance with DIN 4844-2.

In the following rooms, it must be clearly indicated where the device is kept:

- Ship's office
- Engine control room
- Bridge
- Messes
- Treatment room
- Sickroom
- At the muster stations
- at the points where the station bill is posted



For indicating the location of the AED, the glow-in-the-dark safety sign D-E017 "Automated External Defibrillator" in accordance with DIN 4844-2 must be used, with an accompanying arrow pointing in the direction of the storage location as well as information on the storage location.

Transmission of data to the Telemedical Maritime Assistance Service (TMAS) in Cuxhaven

In addition to the legal duties in accordance with the German Ordinance on the Installation, Operation and Use of Medical Devices (MPBetreibV), the technical and organisational prerequisites for the readout and transmission of the ECG data saved in the AED to the Telemedical Maritime Assistance Service in Cuxhaven must be existent, tested and maintained ready for operation not later than the time of initial operation. All ship's officers must be instructed on the method of data transmission.

Electrical power supply of the AED

In addition to the technical features of the AED already mentioned in SchKrFürsV, it must be ensured that the sick or injured person can be continuously monitored over a period of several days with the aid of the ECG. Therefore, for the electrical power supply of the AED, care must be taken to ensure that either a sufficiently large number of replacement batteries, an additional stationary electrical power supply of the AED from the 230V mains or several rechargeable batteries are available.

Remark: From a technical point of view, it is recommended to use an appliance that can be operated with both a rechargeable battery and a 230V mains adapter.

ECG monitoring cable

To enable ECG monitoring that is reasonable for the patient and economical over a period of several days, the AED should be equipped with an ECG monitoring cable and the accompanying disposable ECG electrodes, in addition to the standard large-sized defibrillation electrodes.

Initial operation and duty to instruct

The Medical Devices Operator Ordinance (MPBetreibV) stipulates that the AED may only be operated, if “[...] the manufacturer or an authorised person acting in agreement with the manufacturer has instructed the person designated by the operator (Medical Devices Representative), based on the user manual and enclosed safety information and maintenance information, on the proper handling, use and operation of the medical device [...]”.

The AED may only be used by persons who have been instructed on its proper handling by the manufacturer or a person designated by the operator (Medical Devices Representative), taking into consideration the user manual.

The instruction must be documented in the Medical Devices Book.

Furthermore, the Medical Devices Operator Ordinance requires that a defibrillator is only operated if the manufacturer or an authorised person acting in agreement with the manufacturer has carried out a function test at the site of operation (so-called initial commissioning).

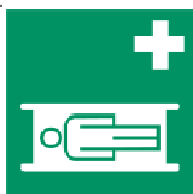
The initial commissioning must be documented in the Medical Devices Book.

The further stipulations of the German Medical Devices Act (MPG) and the Medical Devices Operator Ordinance (MPBetreibV) must be taken into account.

Medical devices book

A medical devices book must be maintained and kept in the treatment room, and presented to the port health service on request. A specimen of a suitable medical devices book is provided as Attachment 2 of this Guideline.

3.5.14 Rescue basket stretcher, suitable for cranes (No. 25.01)



The rescue basket stretcher with its vacuum mattress and the accompanying accessories must be kept ready for use, securely stored in an easily accessible location. The storage location can be outside the treatment room, must, however, be in its immediate vicinity.

If it is stored in the treatment room or sickroom, the glow-in-the-dark emergency sign D-E004 must be attached to the outer side of the entrance door to the room in accordance with DIN 4844-2. If the rescue basket stretcher is stored outside the medically used rooms, at least a clear indication of the storage location must be given on the outer side of the door to the treatment room. Crew members must be informed on the storage location within the scope of the safety briefing.

The functionality of the vacuum mattress must be checked regularly (for example within the scope of emergency drills).

In order that the rescue basket stretcher can be hung from a crane, the harness and hoist must have lifting eyes large enough for fastening to the available crane hook. The required regular inspection intervals must be observed.

Remark: As the transport of an injured person into the treatment room during heavy seas can involve a strong risk potential, it is recommended to install lashing points for securing the rescue basket stretcher safely in place in various parts of the ship (e.g. on the bridge deck).

3.5.15 Pierce-resistant and unbreakable disposal container

For the safe disposal of sharp and pointed objects, e.g. cannulas, scalpels and needles, a stationary pierce-resistant and unbreakable disposal container is necessary. The container must comply with the standards of the TRBA 250 (technical regulation regarding biological agents in the health sector and welfare care).

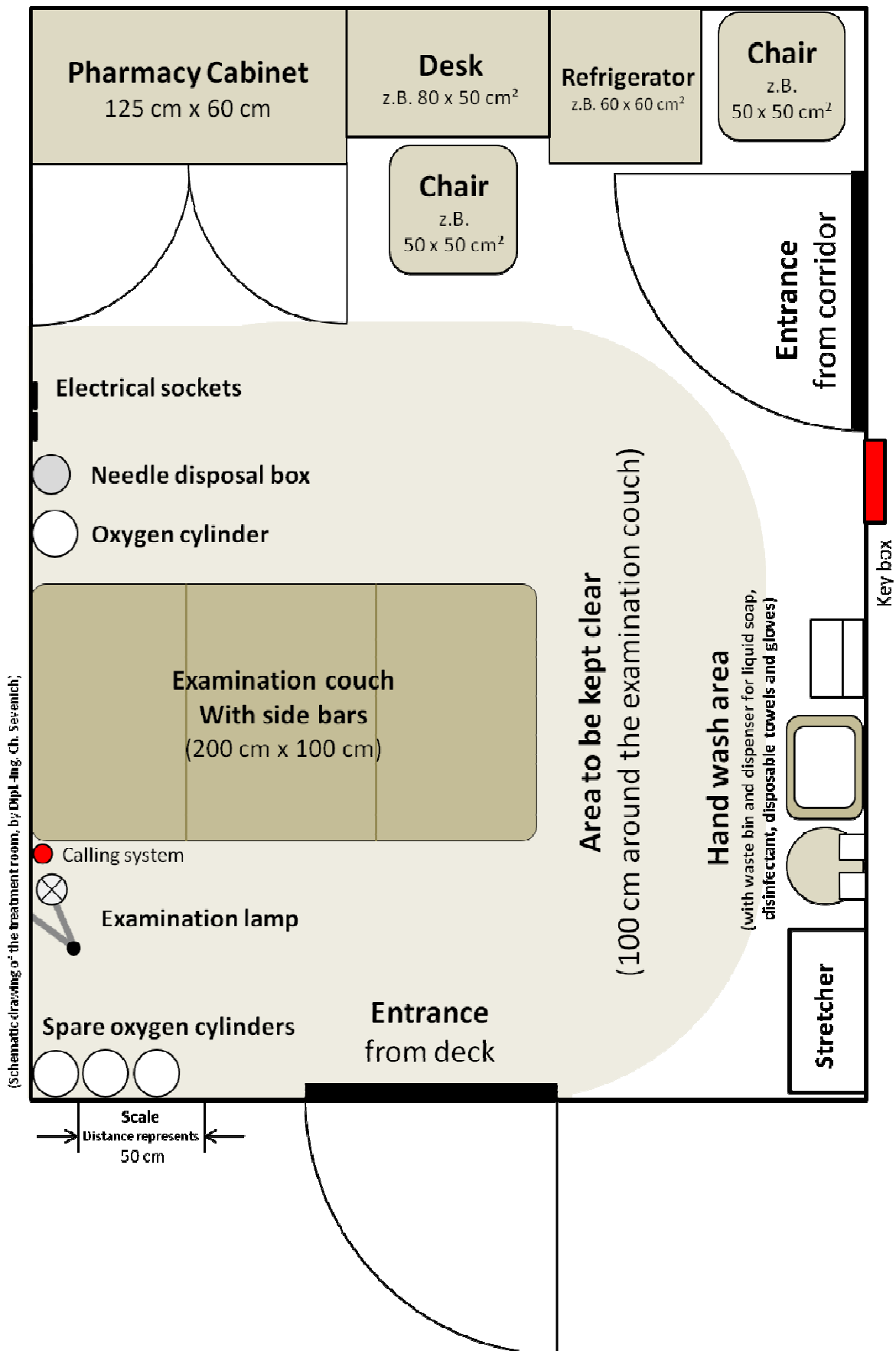
The container should be fixed in place with a holder (e.g. a wall mounting), preferably in the immediate vicinity of the examination couch and be marked clearly.

The containers are disposable articles. A used container must not be emptied and reused, but must be disposed of, securely closed, in an adequate way.

3.5.16 Emergency case

The emergency case according to No. 23.03 must be stowable in drawer No. 11 of the pharmacy cabinet acc. to Appendix Part F SchKrFürsV and should contain, in addition to the items 23.03 – 23.08, further equipment for the initial treatment of medical emergencies. The emergency case complies with the required standards if it at least meets the requirements of Attachment 3 of this Guideline.

3.6 Treatment room (schematic drawing)



4. Standards Required for the Sickroom (to § 8 SchKrFürsV)

4.1 Use of the sickroom

- 4.1.1 The sickroom and the connected sanitary facilities are to be used solely for the treatment and care of sick or injured persons, and for the isolation of potentially infectious patients. The medically used rooms must be kept in a clean, thoroughly hygienic state, ready for immediate use, at all times.

4.2 Location of the sickroom

- 4.2.1 The sickroom and the connected sanitary facilities (see Section 5) must be located together with the treatment room on the same deck.
- 4.2.2 The rooms should be located in a quiet area with low vibration, in which the acceleration force from the ship's movements is as low as possible.
- 4.2.3 Inner rooms must not be used as sickrooms (§8 Para 1 SchKrFürsV).

4.3 Size of the sickroom

- 4.3.1 The size of the sickroom is defined in § 8 SchKrFürsV. The example drawing of a sickroom in this section serves as an aid for calculating the size of the room.

4.4 Entrance

- 4.4.1 Entrances to the sickroom must have dimensions which allow for the transport of an injured person lying flat on a rescue basket stretcher (No. 25.01) into the room and their transfer to the examination couch. The diagram in Section 3 serves as an aid for calculating the necessary door width.
- 4.4.2 It is recommended to provide an additional, adequately wide entrance with a lockable door, leading directly to the outside area on deck to facilitate transport of patients lying down out of the room.
- 4.4.3 It must be ensured that authorised persons have access to the sickroom at all times.

4.5 Furnishings and equipment in the sickroom

4.5.1 Floors and walls

The medically used rooms and their furnishings and equipment must have easy-to-clean surfaces in light colours. These surfaces must be washable (wet) and disinfectant-proof. Textile floor coverings or upholstery covers are not permissible.

4.5.2 Lighting

The admittance of daylight must be ensured in the sickroom through a window in the outside wall.

The electric lighting in the sickroom must ensure a room illumination of 500 - 1000 lux, measured at a distance of 0.85 m above the standing or walking area (see the accident prevention regulations issued by the Berufsgenossenschaft for Transport and Traffic).

In the area around the head of the patients' beds, reading lamps with separate switches must be installed.

The illumination of the table in the sickroom must be ensured with a single table or wall lamp with switch.

4.5.3 Ventilation

If there is a ventilation and air-conditioning system on board, the sickroom must also be connected to this system. On ships without air-conditioning, the sickroom must be equipped with adequate heating. An adequate supply of fresh air must be ensured (see *Technische Regeln für Bau und Ausrüstung von Unterkunftsräumen auf Seeschiffen* (technical rules for construction and equipment of living quarters on seagoing vessels) issued by the BG Transport and Traffic).

The Medically used rooms must, in addition, have an active system for **extracting exhaust air** not connected to the ship's general ventilation and air-conditioning system. The exhaust air must be led directly outside. The opening for the exhaust air in the medically used rooms must not be in the immediate vicinity of air intake of the ship's general ventilation system.

Remark: The use of this ventilator is to prevent excess pressure building up in the sickroom through the ship's ventilation and air-conditioning system and thus the uncontrolled aerogen transmission of pathogens out of the sickroom (e.g. through door cracks and ventilation grids).

4.5.4 Electrical sockets

For the connection of additional appliances (e.g. ECG or mobile examination lamp), at least two 230V earthing contact sockets with a flap lid must be available near the patient's bed.

4.5.5 Furnishings

A bedside cabinet should be placed at the head of each patient's bed. Instead of a bedside cabinet, a foldable tray can be mounted.

The sickroom must be equipped with lockable clothes lockers corresponding to the number of beds.

The sickroom must have at least one table and two chairs. Shelves, lockers, table and chairs, including upholstery, must be washable (wet) and disinfectant-proof. Textile upholstery is not permissible.

4.5.6 Apparatus for oxygen treatment

There must be a safe mounting near the head of each patient's bed, ready for use, suitable for holding a 10-litre oxygen cylinder. If necessary, an oxygen cylinder with sufficient oxygen, with a connected pressure reducer suitable for medical purposes and an adjustable flow-rate regulator must be used on the mounting.

4.5.7 Ceiling or wall mounting for infusion bottles

Above the patients' beds, ceiling or wall mountings must be installed on which infusion bottles can be hung up (No. 11.01, 11.02, 27.22 or 27.24).

4.5.8 Key box

A spare key for the entrance door to the sickroom must be kept in a red emergency key box with a breakable glass front panel beside the entrance door.

4.5.9 Patients' beds

On ships with up to 30 persons, the sickroom must be equipped with at least one bed; on ships with 31 – 75 persons on board at least two beds must be available.

The beds in the sickrooms must have minimum dimensions of 2000 x 900 mm and be firmly fixed to the floor. They must be arranged according to the ship's longitudinal direction. They should fulfil the functions of a hospital bed (§8 Para 3 SchKrFürsV) and must have side guards to prevent patients from falling out, as well as height-adjustable back and foot sections.

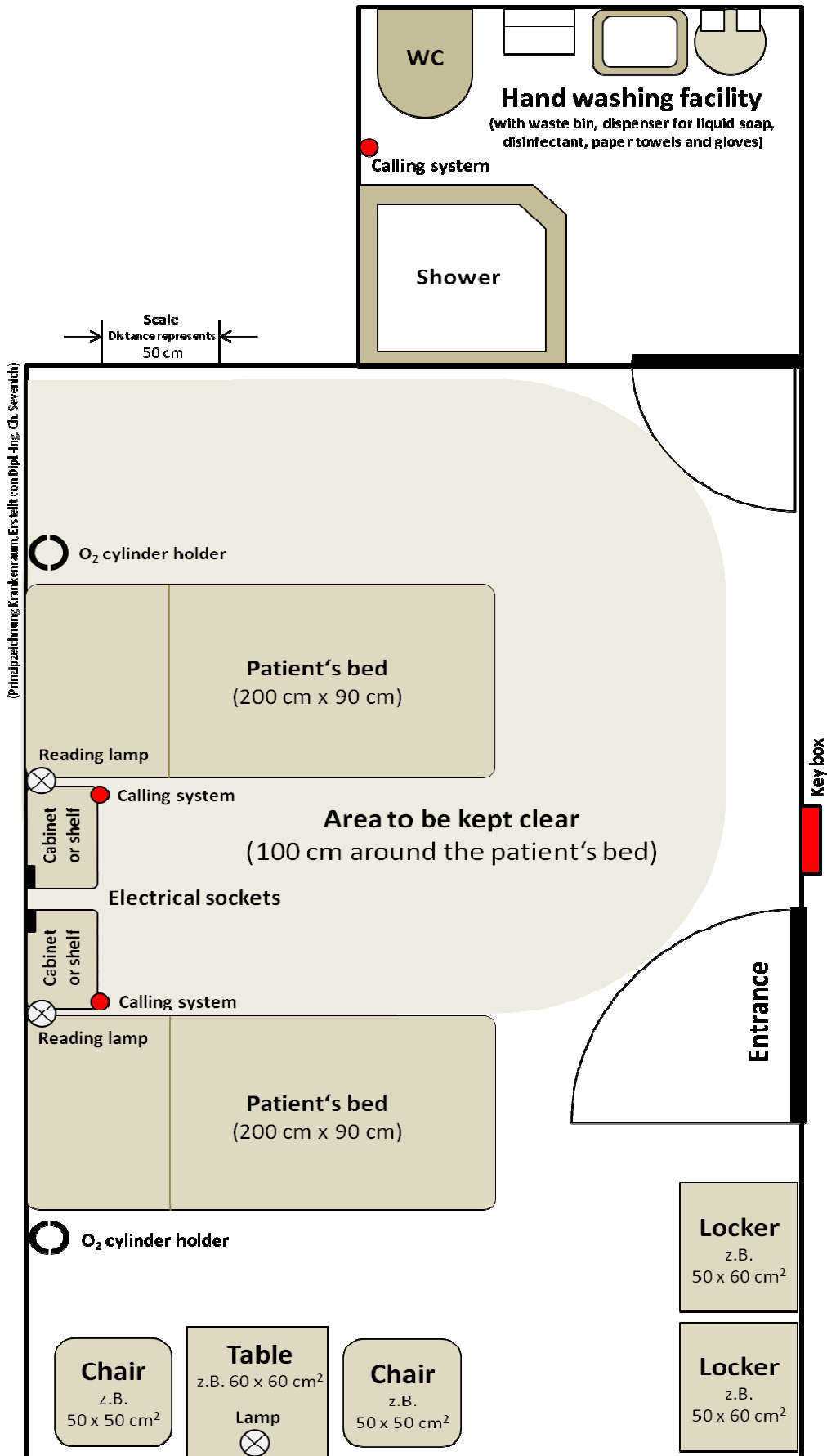
At least one patient's bed must be accessible from three sides with a minimum clear space of one metre for freedom of movement.

The beds must be adjustable to enable laying patients with raised torso, in the shock position or with raised legs/knees. To enable cardiopulmonary resuscitation on the soft mattress of the patient's bed, a flat, hard board should be kept ready for use, which can be slid under the patient's torso if needed. The space between the patients' beds must be at least 1000 mm in width.

4.5.10 Calling system

The calling system in the sickroom should be connected with visual and acoustic signals to the bridge, the corridor outside the sickroom and the cabin of the officer responsible for health protection. The calling system should be within easy reach even for patients with limited mobility, i.e. near the head of the patient's bed.

4.6 Sickroom (schematic drawing)



5. Standards required for medically used sanitary facilities (to §10 SchKrFürsV)

5.1 Use of the sanitary rooms

- 5.1.1 The medically used sanitary facilities are to be used solely for the treatment and care of sick or injured persons, and for the preparation and carrying out of hygiene measures in the case of isolation of potentially infectious patients. The medically used sanitary facilities must be kept in a clean, thoroughly hygienic state, ready for immediate use, at all times.
- 5.1.2 The medically used sanitary facilities must meet the generally accepted technical requirements for medically used rooms (2 SchKrFürsV).

5.2 Location

- 5.2.1 The sanitary facilities must be located together with the treatment room and, if existent, the sickroom on the same deck.
- 5.2.2 The rooms should be located in a quiet area with low vibration, in which the acceleration force from the ship's movements is as low as possible.

5.3 Size

- 5.3.1 The size of the sanitary rooms depends on the equipment used in each case. The technical requirements of the Berufsgenossenschaft for Transport and Traffic must be taken into consideration.

5.4 Entrance

- 5.4.1 The sanitary rooms must be directly accessible from the treatment room or sickroom. The doors must have no locks or latches.
- 5.4.2 The doors of the sanitary rooms should open outwards, so that, should a patient suddenly become unconscious inside the sanitary room, the door can still be opened.

5.5 Equipment

5.5.1 Treatment room

Every treatment room must provide direct access to a toilet and a fully equipped hand-washing facility.

5.5.2 Sickroom

Every sanitary room connected to a sickroom must have at least a shower or a bath, a fully equipped hand-washing facility and a toilet.

5.5.3 Hand-washing facilities

There should be a mirror and a shelf above each washbasin. Within the direct vicinity of the washbasin, a disinfectant dispenser, a liquid-soap dispenser, a dispenser for paper towels and a waste bin with a lid (with foot pedal for opening) must be available. All of the mentioned hygiene utensils must be maintained in a usable state.

5.5.4 Water supply

For use by humans, only water that meets the requirements of the German Drinking Water Ordinance (TrinkwV) may be used. All taps from which water is drawn for use by humans must meet these quality standards.

5.5.5 Tap fittings

The tap fittings used must not be self-locking.

5.5.6 Waste water

All waste water from medically used areas, including waste water from showers and sanitary rooms, must be treated as blackwater (see MARPOL Agreement).

Attention: When disinfection measures are carried out, it must be borne in mind that the discharge of disinfectants into the sewage system on board can lead to the die-off of bacteria needed in the biological clarification stage. This can cause functional disorders of the sewage treatment system on board. It is recommended to look at the instructions for use of the sewage treatment system or to consult the manufacturer before discharging waste water containing disinfectant.

5.5.7 Electrical sockets

In each sanitary room, an electrical socket with a flap lid, ideally as a shaver outlet with an isolating transformer, must be installed. Here the generally accepted technical standards for the safe use of electricity (among others DIN VDE 0100-701) must be observed. Among other things, a minimum distance (tight string length) of 60 cm from the outer edge of showers or baths must be observed.

5.5.8 Lighting

According to the accident prevention regulations for companies concerned with seafaring (UVV See), all sanitary rooms must be equipped with artificial lighting with an illuminance from 50 to 120 lux, measured at a distance of 0.85 m above the standing or walking area.

5.5.9 Calling system

The sanitary rooms must be equipped with a calling system with visual and acoustic signals connected to the bridge and the corridor outside the sickroom (see §10 SchKrFürsV).

5.5.10 Ventilation

Medically used rooms must have an active system for **extracting exhaust air** not connected to the ship's general ventilation and air-conditioning system. The exhaust air must be led directly outside. The opening for the exhaust air in the medically used rooms must not be in the immediate vicinity of air intake of the ship's general ventilation system.

6. Hygiene standards for medically used rooms and facilities

6.1 General requirements

All medically used rooms (treatment room, sickrooms, sanitary rooms) must be easy to clean and disinfect. The fittings and furnishings must be suitable for the designated use of the individual rooms.

6.2 Hygiene schedule

A hygiene schedule must be drawn up for the medically used rooms, medical devices and aids, and presented to the port health service on demand.

The hygiene schedule must include all cleaning and disinfecting measures to be carried out regularly regarding surfaces, appliances and other equipment as well as a schedule for flushing all drinking water taps in the medically used rooms (washbasin, shower, bath).

The hygiene, disinfecting and flushing schedules must be hung up / fixed in such a way that they are clearly visible. A specimen hygiene schedule is provided in Attachment 1 of this Guideline.

7. Applicable Attachments

- 1.) **Attachment No. 1**
Hygiene Framework for Treatment Rooms and Sickrooms
on Merchant Ships with up to 75 Persons
- 2.) **Attachment No. 2**
“Specimen Medical Devices Book”
- 3.) **Attachment No. 3**
“Equipment of a Standardised Emergency Case for the Quick Initial Care of Sick or
Injured Persons on Merchant Ships and Fishing Vessels”



**Arbeitskreis der Küstenländer
für Schiffshygiene**
Ship Sanitation Committee
of German Federal States

Attachment 1 to Guideline No. 3 of the Ship Sanitation Committee of German Federal States

**Hygiene Framework for Treatment Rooms and Sickrooms
on Merchant Ships with up to 75 Persons**

In the medically used rooms on merchant ships, regular cleaning, disinfecting and maintenance measures are necessary.

Preface

In Germany, the regulations issued by Robert Koch Institut (RKI) are binding with regard to hygiene in medical areas. These regulations also apply to the treatment rooms and sickrooms on merchant ships. They can be read at www.rki.de

Treatment rooms and sickrooms on merchant ships with up to 75 persons (without a ship's doctor) are comparable with out-patient departments or doctors' surgeries ashore regarding the hygienic requirements.

This Attachment 1 (Hygiene Framework) to Guideline No. 3 refers solely to treatment rooms and sickrooms, the connected sanitary areas and any rooms used in isolation cases on board merchant ships in intermediate and long distance trade with up to 75 persons (without a ship's doctor).

The agents mentioned under numbers 14.10, 18.01, 18.03, 21.03 for disinfection according to the Appendix Part B to the Ordinance for the Medical Care on Seagoing Vessels must meet the criteria of the version of the information sheet on the disinfectant list issued by Robert Koch Institut in accordance with § 18 German Protection against Infection Act (Informationsblatt zur Desinfektionsmittelliste des Robert-Koch-Institutes gemäß §18 des Infektionsschutzgesetzes) www.rki.de applicable at the time (in this regard, also see Section 3).

Those items marked with * in the following are additional or increased procurements which have become necessary with the entry into force of this guideline and are not included in the table in the Appendix Part B to the Ordinance for the Medical Care on Seagoing Vessels (SchKrFürsV). The introduced numbering "new No. X" is the logical continuation of the numbering in the Appendix Part B to the Ordinance for the Medical Care on Seagoing Vessels. § 20 SchKrFürsV is applicable for the labelling of products. The Nos. 21.24 – 21.29 introduced here must be kept in the treatment room in a closed, dust-free condition, protected from light. Disposable devices must be considered as preferable to reusable ones. The port health service in the home port will be glad to give advice regarding the specification and the adequate amount of the products based on the risk profile of the ship concerned.

Please address questions and comments to the
Management of the Ship Sanitation Committee of German Federal States
Hamburg Port Health Center
Seewartenstrasse 10
20459 Hamburg
hphc@bsg.hamburg.de

1. Staff

Training and Instruction

Persons carrying out medical duties in these rooms must be medical doctors, a designated captain or nautical officers responsible for the medical care trained according to current standards (first acquirement of a certificate of competence in accordance with STCW must not date back longer than 5 years) or

- persons who successfully completed a repeat training course in the medical field approved by the responsible authority in accordance with regional state law no longer than 5 years ago.

Persons entrusted with auxiliary duties in the treatment of sick persons or with cleaning and disinfection duties must be instructed by one of the above-mentioned medically trained persons regarding the planned duties. It is compulsory for all above-mentioned persons to wear the protective clothing listed in the hygiene schedule.

Vaccinations

Irrespective of statutory compulsory vaccinations which may be required by countries to be visited (e.g. yellow fever) and the respective latest recommendations issued by the German Standing Vaccination Committee (STIKO) at Robert Koch Institut ([Empfehlungen der Ständigen Impfkommision am RKI](http://www.rki.de)) (<http://www.rki.de>), it is recommended to vaccinate persons entrusted with the medical care on board at least against tetanus and hepatitis B, for their own protection and that of staff, passengers and visitors on board. Furthermore, these persons should also receive the vaccinations recommended for the respective shipping routes.

2. Hand Hygiene and the Use of Personal Protective Equipment (PPE)

Hand Hygiene

Detailed information on hand hygiene can be found on the internet pages of RKI (<http://www.rki.de>) under the point [Ausführliche Informationen zur Händehygiene](#) (Prevention of Infection/Hospital Hygiene/Hand Hygiene).

In addition, the World Health Organization provides the information brochure "[Hand Hygiene: Why, How & When](#)" on its web site, including useful posters to hang up on display.

This or other adequate information on hand hygiene must be made available by the shipowner to the employees on board. A placard with iconographic presentation of adequate hand disinfection must be hung up in the treatment room and sickroom.

For the protection of the officer carrying out medical duties and his/her patients:

**Observe hand hygiene before every contact with patients
and wear disposable gloves!**

Personal Protective Equipment (PPE)

Detailed information on PPE can be found on the internet pages of RKI at <http://www.rki.de> ([Ausführliche Informationen zur PSA](#)).

PPE forms a mechanical barrier between the wearer and his/her surroundings and includes:

- Protective gloves
- Eye protection* (new No. 21.24)
- Mouth and nose protection or respiratory protection* (new No. 21.25)

- Protective coat* (new No. 21.26)
- Apron* (new No. 21.27)
- Hair protection* (new No. 21.28)

In each case, the objective of protection must be decided on individually, based on the medical knowledge of the officer on duty, possibly in consultation with the radio medical service.

Disinfecting and cleaning tasks require special knowledge and precautionary measures on the part of the persons carrying them out:

Cleaning tasks with the disinfectants Nos. 18.02 – 18.04

- Persons without training who are entrusted with these tasks must receive instruction.
- Two pairs of unsterile disposable gloves No. 21.21 must be worn over each other.
- If spray aerosols arise, e.g. through the use of No. 18.04, it may be necessary to use a suitable respiratory protection according to the information supplied by the manufacturer.

Working with No. 18.05 calcium hypochlorite for the disinfection of drinking water

Calcium hypochlorite is a solid matter which has to be dissolved in water before use as a disinfectant. Here the information provided by the manufacturer must be observed by all means!

- Persons without training who are entrusted with these tasks must receive instruction.
- Adequate protective equipment must be worn (at least goggles and acid-proof gloves).
- If aerosols arise, an adequate respiratory protection must be used.
- In addition, the requirements of the employers' liability insurance associations (Berufsgenossenschaften) must be taken into consideration.

All measures on the patient (not including medical intervention - see below)

- Persons without training who are entrusted with these tasks must receive instruction.
- Hands must be cleaned with water and liquid soap, dried thoroughly and subsequently hygienic hand disinfection No. 18.01 carried out.
- Unsterile disposable gloves No. 21.21 must be used.

Before medical intervention (e.g. sutures) and catheterisations

- Clean hands and forearms with water and liquid soap, in addition with the hand brush No. 21.06 and nail cleaner No. 21.07 in the case of heavy contamination. Then dry hands and forearms thoroughly AND carry out surgical hand disinfection (3 minutes, No. 18.01).
- In the case of aseptically performed intervention, at least sterile disposable gloves No. 21.20, a long-sleeved disposable coat* and a mouth and nose protection* must be worn.
- If necessary, extended PPE (eye protection, mouth and nose protection, protective coat, apron, hair protection) in coordination with the radio medical service

After touching or treating patients

- After taking off disposable gloves, final cleaning of hands with water and liquid soap, drying and hygienic hand disinfection

The hand disinfectant No. 18.01 must be a preparation in the effective range AB (RKI Disinfectant List) that is also fully effective against viruses.

3. Disinfection and Cleaning Schedule

The disinfection and cleaning schedule must be hung up together with the poster on hand hygiene clearly visible in the treatment room; the responsible officers and the captain must be familiar with it.

The agents with the numbers

- 14.10 Agent for the disinfection of skin and wounds and before injections,
 - 18.01 Agent for the disinfection of skin and hands, 250 ml, dispenser bottle,
 - 18.03 Agent for the disinfection of surfaces, objects and excretions,
 - 21.03 Swabs for the disinfection of hands, aseptically packed, 100 pieces,
- for disinfection measures according to Appendix Part B to the Ordinance for the Medical Care on Seagoing Vessels are specified below in compliance with the current guidelines on hygiene. They must correspond to the criteria in the version of the information sheet on the disinfectant list issued by Robert Koch Institut in accordance with § 18 German Protection against Infection Act ([Informationsblattes zur Desinfektionsmittelliste des Robert-Koch-Institutes gemäß §18 des Infektionsschutzgesetzes](#)) applicable at the time.

Extract from the RKI information sheet:






Manufacturers of disinfectants are not obliged to have their preparations entered in the lists of disinfectants. Persons using disinfectants and persons giving instructions regarding disinfection measures are free in their choice of disinfectant, insofar as these are not part of decontamination measures ordered by the authorities. These persons can also choose agents not included in the lists. It is, however, strongly recommended to consult the lists as only those agents and methods included in the lists have been tested by an independent institution with regard to their microbicidal effectiveness. For decontamination measures ordered by the authorities, only such agents and methods may be used as are included by RKI in the list in accordance with § 18 IfSG (German Protection against Infection Act).

In the case of disinfectants to be used on the human body (e.g. skin and hand disinfectants), it must be observed that according to § 2 Para. 1 No. 4 German Medicines Act (AMG) these preparations are drugs and may only be marketed once they have been approved by the BfArM (German Federal Institute for Drugs and Medical Devices). Information on regulatory drug approval is available from the Federal Institute for Drugs and Medical Devices, Kurt-Georg-Kiesinger-Allee 3, 53175 Bonn, www.bfarm.de

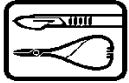
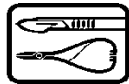


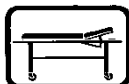
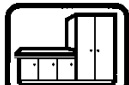

Agents for the disinfection of instruments are accessories for medical devices and fall under the Medical Devices Act. This act requires a CE marking for such products. Disinfectants that are not intended for use on the human body (e.g. disinfectants for surfaces) and are not medical devices fall under the Biocide Act and thus the regulations of the Federal Institute for Occupational Safety and Health (BAuA), P.O. Box 170202, 44061 Dortmund, www.baua.bund.de

Preparations used on board must be entered with their names in the hygiene schedule hung up. The Word document can be ordered from the Management of the Ship Sanitation Committee of German Federal States at hphc@bsg.hamburg.de.

Disinfection and Cleaning Schedule 1/2

WHAT?	WHEN?	HOW?	WITH WHAT?	
<p>The agents with the numbers</p> <ul style="list-style-type: none"> • 14.10 Agent for the disinfection of the skin and wounds and before injections • 18.01 Agent for the disinfection of the skin and hands, 250 ml, dispenser bottle • 18.03 Agent for the disinfection of surfaces, objects and excretions, • 21.03 Swabs for the disinfection of the skin, aseptically packed, 100 pieces <p>for disinfection according to the Appendix Part B to the Ordinance for the Medical Care on Seagoing Vessels are specified below in compliance with the current guidelines on hygiene. They must correspond to the criteria in the version of the information sheet on the disinfectant list issued by Robert Koch Institut in accordance with § 18 German Protection against Infection Act (Informationsblattes zur Desinfektionsmittelliste des Robert-Koch-Institutes gemäß §18 des Infektionsschutzgesetzes) applicable at the time.</p>				
	1. Hygienic hand disinfection	<ul style="list-style-type: none"> ➤ Before and after all procedures involving patients 	<ul style="list-style-type: none"> ➤ Apply 2 x 3ml to the dry palm of the hand ➤ Rub into hands for 2 x 30 sec., particularly well into palms, thumbs and spaces between fingers 	No. 18.01 (e.g. Sterillium Virugard®, Desderman N®)*
	2. Surgical hand disinfection	<ul style="list-style-type: none"> ➤ Before aseptic intervention (e.g. sutures) 	<ul style="list-style-type: none"> ➤ Apply 3ml several times to the dry palm of the hand ➤ Rub carefully into hands and forearms up to elbows for 3 min. (see above), increasingly concentrating on the hands 	No. 18.01 (e.g. Sterillium Virugard®)*
	3. Skin disinfection	<ul style="list-style-type: none"> ➤ Before injections and taking of blood samples 	<ul style="list-style-type: none"> ➤ Spray on or apply with a sterile swab No. 21.03 ➤ Moisten skin thoroughly ➤ Observe reaction time, see manufacturer's information 	Nr. 14.10, 18.01 or 21.03 (e.g. Virugard®, Kodan Tincture Forte ®)*
	4. Skin disinfection	<ul style="list-style-type: none"> ➤ Before treating wounds ➤ Before removing foreign bodies 	<ul style="list-style-type: none"> ➤ Spray on or apply with a sterile swab No. 21.03 ➤ Moisten skin or area around the wound thoroughly ➤ Observe reaction time, see manufacturer's information 	No. 14.10 or 18.01 (e.g. Kodan Tincture Forte ®)*
	5. Mucous membrane decontamination	<ul style="list-style-type: none"> ➤ before catheterisation 	<ul style="list-style-type: none"> ➤ The purchase of a catheter set incl. the necessary disinfectants is recommended ➤ Observe reaction time, see manufacturer's information 	No. 14.10 (e.g. Braunol®)*

Disinfection and Cleaning Schedule 2/2

WHAT?	WHEN?	HOW?	WITH WHAT?
 <p>6. Sterile instruments and Disposable devices e.g. disposable syringes and cannulas</p>	<ul style="list-style-type: none"> ➤ As necessary 	<ul style="list-style-type: none"> ➤ They must be disposed of immediately in disposal containers, with protection against pricking and cutting. Reuse is not permissible. 	not applicable
 <p>7. Reusable instruments</p>	<ul style="list-style-type: none"> ➤ Before and immediately after use 	<ul style="list-style-type: none"> ➤ Immersion disinfection in lidded disinfection bath No. 21.18, wait until reaction time is over, rinse with drinking water, dry with disposable towels, store e.g. in fresh textile towels in a closed compartment (see below) 	No. 18.02 (e.g. Sekusept®) No. 21.18
 <p>8. Medical-technical appliances e.g. blood pressure monitor, stethoscope</p>	<ul style="list-style-type: none"> ➤ after use 	<ul style="list-style-type: none"> ➤ Wipe disinfection ➤ Observe manufacturer's information 	No. 18.03 (e.g. Microcide AF wipes®)*
 <p>9. Urine bottles Nos. 20.07 and 08 Bedpans</p>	<ul style="list-style-type: none"> ➤ after use 	<ul style="list-style-type: none"> ➤ Empty into WC, fill with disinfectant in the wet cell, wait until reaction time is over, rinse with drinking water ➤ Observe manufacturer's information 	No. 18.03 (e.g. Amocide®)*
 <p>10. Direct patient surroundings e.g. patient's bed, examination bed, rescue basket</p>	<ul style="list-style-type: none"> ➤ monthly ➤ after use 	<ul style="list-style-type: none"> ➤ Wipe disinfection ➤ Observe manufacturer's information 	No. 18.03 (e.g. Microcide AF wipes®)*
 <p>11. Work surfaces</p>	<ul style="list-style-type: none"> ➤ monthly ➤ after use 	<ul style="list-style-type: none"> ➤ Wipe disinfection ➤ Observe manufacturer's information 	No. 18.03 (e.g. Microcide AF wipes®)*
 <p>12. Washbasin shower WC floor</p>	<ul style="list-style-type: none"> ➤ monthly ➤ after visible contamination ➤ after completion of treatment 	<ul style="list-style-type: none"> ➤ Wipe disinfection ➤ Observe manufacturer's information 	No. 18.03 (e.g. Microcide AF wipes®) and Incidin plus ®)*

The products marked with * are additional or increased procurements which are not included in the table in the Appendix Part B to the Ordinance for the Medical Care on Seagoing Vessels (SchKrFürsV). The port health services and pharmaceutical ship chandlers can provide advice on which preparations are best suited to the individual areas of application.

4. Cleaning and Flushing Schedule for Drinking Water Taps

Stagnating water, e.g. in branch pipes that are not or only seldom used, has a high potential for germs to multiply and can contaminate the entire drinking water system. In order to prevent contamination of the pipe network through stagnant water and to prevent the infection of persons in the treatment area, adequate flushing of all drinking water taps must be ensured. Seldomly used taps must be treated according to the following flushing schedule. Further, attention must be paid to the cleanliness of shower heads and aerators („Perlators[®]“), as pathogens can establish themselves at these points if maintenance is neglected.

Tap	Flush interval	Flushing and Cleaning Method
Washbasin in sickroom (wet cell)	Weekly	3 minutes cold plus 3 minutes at max. temperature
	Monthly	Screw off, clean and decalcify the aerator
Shower in sickroom (wet cell)	Weekly	3 minutes cold plus 3 minutes at max. temperature
	Monthly	Screw off, clean and decalcify the shower head
WC in sickroom (wet cell)	Weekly	3 x flush
Washbasin in treatment room	Weekly	3 minutes cold plus 3 minutes at max. temperature
	Monthly	Screw off, clean and decalcify the aerator
Stagnation areas outside the medical area (e.g. seldomly used cabins, owner's cabin, pilot room, taps in engine room)	Weekly	Each tap 3 minutes cold plus 3 minutes at max. temperature
	Monthly	Screw off, clean and decalcify the shower heads and aerators
All taps and showers on board	Monthly	Screw off, clean and decalcify the shower heads and aerators

5. Storage, Use and Treatment of Sterile and Unsterile Aids and Medical Devices

In the Ordinance for the Medical Care on Seagoing Vessels 2007, a sterilisation appliance is no longer listed. This is due to the increased requirements regarding quality of the sterilisation methods according to § 4 MPBetreibV (German Ordinance on the Installation, Operation and Use of Medical Devices) which do not normally have to be observed in treatment rooms on board merchant ships without a medical doctor or specialised personnel. The many still existing appliances must be removed from the treatment rooms to prevent their improper use.

The Appendix Part B of the Ordinance for the Medical Care on Seagoing Vessels stipulates that all aids and medical devices that penetrate the skin or the mucous membrane and can come into contact with blood, internal tissues or organs, or come into contact with wounds should be kept available as sterile disposable devices or disinfected devices. Depending on the type of device, they must be disposed of immediately after use or treated.

Disposable sterile aids and medical devices (e.g. No. 4.03, No. 9.03 – 9.05, No. 11.03, No. 19.01 – 19.12, No. 19.15 – 19.20, No. 20.04, No. 20.09 – 20.12, No. 21.01 – 21.05, No. 21.19 – 21.23) on board must be stored sealed, dust-free and protected from light in the designated cabinet compartment or designated drawer of the standard pharmacy cabinet. Sterile disposable devices must be used once only. Reuse is not permissible. Sharp or pointed contaminated disposable devices must be disposed of appropriately in designated disposal containers. An adequate supply of sterile disposable devices must be held ready on board in compliance with the lists and, where necessary, adapted to prevailing increased needs. Here advice must be obtained from the port health service.

Aids and medical devices which are not intended as disposable products (e.g.. No. 15.07 – 15.08, No. 16.02, No. 17.05 – 17.12, No. 19.13, No. 19.21, No. 19.23 – 19.25, No. 20.01. - 20.03, No. 20.05 – 20.08, No. 21.09 – 21.17, No. 22.02, No. 22.07, No. 22.08, No. 23.03 – 23.09, 25.01 – 25.02), must – insofar as the type of production makes it possible and they are not intended for unsterile reuse – be purchased as disposable devices and disposed of appropriately after use. The expiry dates of the sterile devices must be observed. The devices in this line that are replaced with disposable devices must be kept available in a sufficient quantity (on this, also see previous paragraph). Here advice must be obtained from a pharmacist AND the port health service in the home port.

Devices listed above that are intended to be used several times in an **unsterile** state (No. 19.13, 20.02, 20.03, 20.05 - 20.08, 22.02, 22.07, 22.08, 23.04 - 23.9, 25.01, 25.02) must be cleaned and disinfected appropriately after use.

Devices which – due to the type of production – can only be obtained as sterile devices for reprocessing, must be cleaned and disinfected manually immediately after use AND before reuse (see disinfection and cleaning schedule). These devices are unsterile after use and must be labelled accordingly and replaced with sterile products at the latest during the next pharmacy certification. The expiry dates of the sterile devices and their labelling as sterile must be observed. An adequate quantity of aids and medical devices which are not intended as disposable devices must be held ready on board in compliance with the lists and, where

necessary, adapted to prevailing increased needs. Here advice must be obtained from the port health service. All devices must be stored sealed, dust-free and protected from light in the designated cabinet compartment or designated drawer of the standard pharmacy cabinet in accordance with Appendix F SchKrFürsV.

6. Processing of Laundry

If there is neither an infection nor a suspicion of an infection, the available, processable laundry from the sickroom and treatment room (e.g. bed linen, white coats, patients' laundry) can be washed in the ship's washing machine and then reused.

This is not permissible in the case of an infection or the suspicion of an infection. In such cases, the laundry must be collected in the sickroom in a waterproof, tearproof and closable plastic sack* (new No. 21.29). This sack must be labelled as potentially infectious. As soon as possible, the laundry collected in the plastic sack must either be appropriately processed, using a method effective on the infectious agent, or disposed of. Here advice must be obtained from the port health service.

7. Isolation of Infected Persons or Persons Suspected of being Infected

(also see Chapter A.5.7.2. of the "German Medical Guide for Ships")

If there is a suspected contagious disease such as e.g. chickenpox, tuberculosis, influenza, infectious diarrhoea or a feverish illness with a rash of undetermined origin, the infected person, together with their personal belongings and bed linen, must be accommodated either in the sickroom or alone in a room with a WC. For isolation purposes, the sickroom is preferable, due to its separate ventilation. The treatment room and sickroom must receive a terminal disinfection (see Section No. 3 Disinfection and Cleaning Schedule as well as Chapter A.5.7.3. German Medical Guide for Ships), if the infected person has spent time there.

We **STRONGLY** recommend consultation with the radio medical service or the port health service in the next port regarding the type and duration of the isolation, hygienic measures to be taken, and the terminal disinfection.

Depending on the type of infection, the isolation should be as follows:

- Single accommodation in the treatment room or sickroom or in the cabin (isolation room).
- Keep the doors closed.
- Nose-and-mouth mask for the infected person.
- PPE (appropriate to the pathogen) for the persons giving care.
- Leave PPE in the isolation room after use.
- Hygienic hand disinfection immediately after leaving the room.

- Collect laundry and waste (e.g. paper handkerchiefs) each in 1 separate waterproof, tearproof and sealable plastic sack inside the isolation room.
- Use disposable crockery or disinfect the used crockery.

According to the International Health Regulations, report must be made **without delay** to the port health authority in the next port (e.g. using the Maritime Declaration of Health). This authority will provide you with advice on further measures, e.g. regarding cleaning, disinfection, isolation, vaccinations, and treatment.



Arbeitskreis der Küstenländer für Schiffshygiene

Ship Sanitation Committee
of German Federal States

Attachment 3 to Guideline No. 3 of the Ship Sanitation Committee of German Federal States

Equipment of a Standardised Emergency Case for the Rapid Initial Care of Sick or Injured Persons on Merchant Ships and Fishing Vessels

(binding for the Lists A1, A2 and B)

Introduction

The binding stipulations within the framework of the Ordinance for the Medical Care on Seagoing Vessels (SchKrFürV) regarding medical equipment comprise an extensive compilation of drugs, medical devices and aids for the care of sick and injured persons on board ships.

§21 of the ordinance SchKrFürV stipulates the storage of the individual drugs and aids from the lists A1, A2 (intermediate and long distance trade) and B (short distance trade) in a standardised pharmacy cabinet (according to Appendix F of SchKrFürV). SchKrFürV provides detailed and binding information regarding the order in the pharmacy cabinet.

The objective is the standardisation of the medical equipment on board. In the medical training centres legally recognised according to German law, the practical handling of the “original material” can be trained in the repeat medical courses offered for nautical officers and captains. The staff on board every ship flying the German flag will find the same standardised equipment. The radio medical advice service (TMAS Germany) can give the ship’s officer treating persons on board specific instructions for action by telephone. This increases the quality of treatment considerably and, particularly in time-sensitive situations, less time is needed to find special equipment parts in the ship’s pharmacy.

In the current list of equipment of SchKrFürV attention is already drawn to the fact that the equipment items 23.03 to 23.08 must be collected in an emergency case and kept in drawer No. 11 of the standard pharmacy cabinet.

The items 23.03. – 23.08 are respiration aids. Experience shows that in the case of a medical emergency on board, however, further aids are often needed on site. The items often needed on site are located in twelve (!) different places inside and outside the pharmacy cabinet. If these immediately required materials are to be quickly collected in an emergency, this task binds the officer experienced in using the pharmacy, but also urgently needed on the site of the emergency, for an unnecessarily long period of time.

Based on experiences gained from the assessment of serious accidents at sea with – in some cases – considerable injury to persons and on numerous suggestions from active seamen, it is obviously necessary to bring the contents of the emergency case up to date and to provide specific support regarding the equipping, organisation and storing of the emergency case.

Please address questions and comments to the
Management of the Ship Sanitation Committee of German Federal States
Hamburg Port Health Center
Seewartenstrasse 10
20459 Hamburg
hphc@bsg.hamburg.de

1. Background

Technical necessity of an emergency case

The collection of materials needed for initial care in medical emergencies is a preparation crucial to survival that is a proved and tested safety standard in every professional medical area. Particularly in the area of sea shipping, in which medical laypersons, who only complete a 40-hour brief medical training course every five years in the course of their working life, are entrusted with the tasks of medical care on board, good preparation can support adequate initial care in emergencies on board.

Basic principle

The emergency case defined below contains exclusively, apart from a few necessary new acquisitions, equipment items, aids and drugs that are already listed in the equipment lists for German ship's pharmacies.

This means that only the quantities have to be adapted, and the material needed must be found both in the legally stipulated parts of the pharmacy cabinet and in the emergency case. The advantage is that in emergencies articles removed from the emergency case can be replaced from the stock in the ship's pharmacy, so that the emergency case can be prepared without delay at sea for its next use. The articles removed from the stock in the ship's pharmacy must be replenished without delay.

Furthermore, the emergency case must not exceed the dimensions mentioned below, so that it can easily be stowed in a fully equipped state in the standardised pharmacy cabinet.

2. Scope of Application

With the publication of the Guideline No. 3 by the Ship Sanitation Committee of German Federal States in agreement with the Ship Safety Division of the BG for Transport and Traffic, this Attachment becomes legally effective as an Appendix to SchKrFürsV.

It applies to merchant ships and fishing vessels in the area in which SchKrFürsV has legal force that are involved in intermediate and long-distance trade according to Appendix Part A to §2 Para. 1 SchKrFürsV, in deep sea fishing (List A1 and A2) or in high sea fishing (List B).

The issuance of exemptions (according to §13 SchKrFürsV) is not permissible for these vessels. The stipulations of this Attachment must be implemented within 1 year after publication of the Guideline No. 3.

For merchant ships and fishing vessels in national and coastal trade or in coastal fishing (List C1 and C2), as well as for traditional ships and harbour vessels, equipping with an emergency case, adapted to the particular needs, is recommended by the experts.

3. Technical Requirements

Outside

The case must be made of a material that is easy to clean, weatherproof and disinfectant-proof. It must have a carrying strap (e.g. shoulder strap) and a handle that enables its easy removal from the drawer and its easy transport. The bag must be lockable and easy to open, so that the contents can be accessed immediately. The case must be clearly marked on the outside with the words "Medical Emergency Kit". In addition, information on the storage location of the defibrillator on the ship must be clearly legible on the outside of the case (e.g. "Defibrillator is located in Officer's mess room on Deck D").

Inside

The case must have a clear inner compartmentation. Here the material listed under Section 7 must be ordered in individual, removable modules, marked by colours and labelled. These modules are:

- Diagnostic / Diagnostik (yellow)
- Infusion & Drugs / Infusion & Medikamente (red)
- Trauma / Verletzungen (green)
- Resuscitation / Wiederbelebung (blue)

The module "Infusion & Drugs / Infusion & Medikamente" must have a padded ampoule case in order to prevent the accidental breakage of glass ampoules.

A clearly legible inventory in German and English must be put into every module of the case.

The extensive material in the module "Resuscitation / Wiederbelebung" can remain in a non-removable main compartment in the case and, in this case, does not need to be specially marked. It is important that there is a safe, padded holder inside the case for the ready-to-use oxygen cylinder. It must be possible to operate the oxygen cylinder without removing it from the case.

If bags or rucksacks with one or more portable oxygen appliances (ready for use, 2 litres / 200 bar) have already been acquired on board (for example as MFAG equipment), these bags can – **as an exception** - be approved as the module "Resuscitation / Wiederbelebung" under the following conditions:

- The bag or the rucksack may only contain those items of the MFAG equipment that are needed for respiration or for administering oxygen, and not the entire MFAG equipment. This requirement is necessary as otherwise the bag or rucksack cannot be easily transported due to its size and weight. This means that no oxygen would be available on the site of the emergency.
- All items from the modules "Resuscitation / Wiederbelebung" listed in the table in Section 7 of this Attachment must be kept ready for use and easy to find in the rucksack or bag.

- The rucksack or bag must be labelled appropriately and mounted in the immediate vicinity of the pharmacy cabinet in such a way that it can be taken with the emergency case to the site of the emergency.

In the case of approval of the existing oxygen bags or rucksacks it must, however, be borne in mind that the approval is not consistent with the objective of standardisation of the medical equipment on board. New acquisitions of emergency cases must therefore be in accordance with the requirements described in this Attachment, and the contents must not be split up between several receptacles.

4. Storage and Dimensions of the Emergency Case

In the pharmacy cabinet according to Appendix F of SchKrFürsV, the emergency case must be kept in drawer 11 (bottom left side). This is the place in which the items 23.03 – 23.08, which must already be kept in an emergency case, have been kept until now. In order that the emergency case can be stowed in drawer No. 11, the outer dimensions of the case must not exceed the inner dimensions of the drawer.

If there is no standard pharmacy cabinet on board (here an exemption issued by the Ship Safety Division of BG Verkehr is compulsory), so that the emergency case cannot be stowed in the pharmacy cabinet, the emergency case must be kept in the immediate vicinity of the pharmacy cabinet, clearly labelled. Here particular attention must be paid to a secure and safe fastening.

5. Equipment Items to be Newly Acquired for the Emergency Case

The equipping list for the emergency case includes five single items to be newly acquired

1.) Suction catheter to No. 23.08, length min. 50 cm, size 20 Ch. and 16 Ch., with side opening (new No. 23.11)

A suction catheter is essential for the use of the appliance for mechanical removal of vomit etc. through suction (23.08). Two different sizes must be kept available (20 charrière and 16 charrière). It must be ensured that the suction catheters have side openings at the tip (side eye) which reduce the risk of the catheters sticking.

2.) Battery-operated diagnosis lamp / torch (new No. 22.09)

For the examination of pupillary reaction, and also for other physical examinations with bad lighting in the surroundings, a battery-operated diagnosis lamp is absolutely essential. A small torch can be used; care must, however, be taken to ensure that the light intensity of the torch does not cause damage to health when shining the light directly into the eyes.

3.) Disposal containers for cannulas according to TRBA 250 (new No. 21.30)

The Technical Rules for Biological Agents 250 (TRBA 250) apply. Vascular access procedures, drawing blood or stitching wounds require dealing with potentially infectious, sharp and pointed objects (cannulas, needles, etc.). Pierce-resistant, unbreakable disposal containers that safely enclose the waste matter must be provided and used for collecting pointed or sharp objects. The container must be clearly recognisable as a waste container through its colour, shape and labelling (see Para 4.1.1.4 of TRBA 250).

4.) Clipboard (new No. 24.09)

The early detailed documentation of medical parameters on the site of the emergency is important for subsequent telemedical advice. Simple and standardised documentation is enabled through a clipboard in the emergency case, already prepared with the forms 24.04 and 24.05.

5.) Pencil (new No. 24.10)

An attempt to write on damp paper with a ballpoint pen or felt pen is usually not successful. With the aid of a soft pencil, the initially assessed details can be documented even under adverse environmental conditions.

6. Articles already available in the ship's pharmacy, but needing adjustment of the quantities

In addition to the items mentioned in Section 5, which, by all means, have to be newly acquired, all other items listed in Section 7. must be acquired in such a way that no material has to be taken from the ship's pharmacy to equip the emergency case.

Exceptions

The items 22.07, 22.08. 23.03, 23.04 and 23.06 – 23.08 must not be additionally acquired, as they must – according to SchKrFürsV – already be kept in drawer No. 11 of the pharmacy cabinet. They can be directly sorted into the emergency case.

On ships that are equipped according to List B, the quantity of item 23.05 (Wendl tube) must be increased from 1 piece per size to 2 pieces per size.

The portable oxygen appliance (ready for use, **2 litres** / 200 bar) must be acquired, if not already available. If the appliance is already available on board, it must be stowed in the emergency case. It must be ensured that No. 23.06 (resuscitator bag with oxygen reservoir) is already connected through a hose to the portable oxygen appliance, so that emergency respiration can be started without delay.

The items "Form Sheet Block for Courses of Disease and Treatment (Temperature Chart, No. 24.04)" and "Form Sheet Block "Radio Medical Advice" (No. 2405)" do also not need to be additionally acquired as only 2 sheets at a time must be attached to the clipboard (new No. 24.09) in or on the emergency case.

Important information on No. 2.05 (adrenaline 1:1000, ampoules, i.m.)

The storage life of adrenaline depends on the temperature. The details supplied by the manufacturer must be observed.

Some manufacturers prescribe a storage temperature < 25°C for the drug to have a storage life of 2 years. Other manufacturers prescribe storage in a refrigerator at a temperature between 2°C – 8°C, as the storage life would otherwise be reduced to 6 months.

To ensure the maximal storage life, it is recommended that No. 2.05 be kept in a refrigerator. In this case, clear information regarding the storage location must be placed in the relevant compartment of the medicine shelf in the pharmacy cabinet. It must, however, be borne in mind that adrenaline is an emergency medication that must be very quickly available. It is therefore important and sensible to keep at least 2 ampoules of adrenaline in the emergency case despite the resulting shorter storage life. If it is not possible to ensure that the adrenaline in the emergency case is always kept at the correct temperature, the adrenaline kept in the emergency case must be disposed of and replaced every 6 months. For practical reasons, the use of pre-filled adrenaline syringes for the emergency case can be considered.

7. Contents of the Emergency Case

In the emergency case, the material should be organised in several modules.

Module Name	No.	Qty in Emergency Case	Article Description acc. to SchKrFürsV	Quantity Already Available in List					Storage Location acc. to SchKrFürsV
				A1	A2	B	C1	C2	
Resuscitation Colour: blue	27.31 b, 23.01 or 23.02	1	Portable oxygen appliance, ready to use, 2 litres / 200 bar	1	1	1	1 (MFAG)	1 (MFAG)	MFAG container or elsewhere outside the ship's pharmacy
	27.29	1	Disposable respiratory mask	10	10	10	10	10	
	23.03	1	Auxiliary appliance for mouth-to-mouth respiration	1	1	1	1	1	Drawer No. 11
	23.04	1 each	Guedel tube, sizes 3, 4, 5	1	1	1	-	1	Drawer No. 11
	23.05	2 each	Wendl tube, sizes 28 and 32	2	2	1	-	-	Drawer No. 11
	23.06	1	Resuscitator bag with oxygen reservoir	1	1	1	-	1	Drawer No. 11
	23.07	1 each	Masks for resuscitator bag, sizes 4, 5	1	1	1	-	1	Drawer No. 11
	23.08	1	Suction apparatus, hand operated	1	1	1	-	1	Drawer No. 11
	23.11 *	2 each	Suction catheter, sizes 20 Ch. And 16. Ch.	-	-	-	-	-	New article
Diagnostics Colour: yellow	22.09 *	1	Diagnosis lamp / torch	-	-	-	-	-	New article
	22.07	1	Stethoscope	1	1	1	-	-	Drawer No. 11
	22.08	1	Oscillometric sphygomomanometer for measurements on the upper arm	1	1	1	-	-	Drawer No. 11
	21.21	5 pairs	Disposable gloves, unsterile, powder-free, large	100	100	100	100	100	Drawer No. 8

Attachment 3 to Guideline No. 3 of the Ship Sanitation Committee of German Federal States

Infusion & Drugs Colur: red	2.02	1	Glycerol trinitrate, spray	1	1	1	1	1	Pharmacy cabinet, drugs shelf
	1.03	1	Salbutamol sulphate, dosage aerosol	2	2	2	-	1	Pharmacy cabinet, drugs shelf
	2.08	2	Atropine, 0.5 mg, ampoules, i.m.	10	10	-	-	-	Pharmacy cabinet, drugs shelf
	2.05	2	Adrenaline, 1:1000, ampoules, i.m.	10	10	10	-	-	Pharmacy cabinet, drugs shelf
	6.03	2	Diazepam, 10 mg, ampoules, i.m.	5	10	-	-	-	Pharmacy cabinet, drugs shelf
	21.01 a	6	Disposable syringe, single, sterile pack, 5 ml	20	20	10	-	-	Drawer No. 2
	21.02	6	Disposable needle, sterile pack, single, size 1	15	15	5	-	-	Drawer No 2
	21.02	6	Disposable needle, sterile pack, single, size 12	15	15	5	-	-	Drawer No 2
	21.03	10	Swabs for skin disinfection, sterile	100	100	100	-	-	Drawer No 2
	23.09	1	Tourniquet	1	1	-	-	-	Drawer No 2
	21.30 *	1	Disposal container for needles, small, acc. to TRBA 250	-	-	-	-	-	New article
	11.03	1	Infusion kit consisting of 1x each: - Complete infusion set - permanent venous cannula diameter 1.2 mm, single, sterile pack - permanent venous cannula diameter 1.3 mm, single, sterile pack	3	6	2	-	-	Upper part of pharmacy cabinet
	11.01	1	Sodium chloride solution, isotone (0.9%), 500 ml, plastic bottle	6	10	2	-	-	Pharmacy cabinet, Additional shelves
19.17	1	Adhesive plaster, hypo-allergic, 2.5 cm/ 5m	4	6	2	1	1	Drawer No. 5	
19.01	5	Gauze compress, sterile, packed 2 pcs., 10 cm x 10 cm, 8 layers	50	100	10	5	10	Drawer No. 7	
19.14	4	First-aid dressing, 80 mm x 100 mm, sterile	5	5	3	2	2	Drawer No. 5	

Attachment 3 to Guideline No. 3 of the Ship Sanitation Committee of German Federal States

Trauma / Injury Colour: green	19.22	2	Triangular bandage, 130 cm x 90 cm, packed	1	2	1	1	1	Drawer No. 4
	19.24	1	Stiff-neck immobilisation support, four times adjustable	1	1	1	-	-	Drawer No. 9
	19.23 c	1	Flexible universal splint with aluminium core, foamed-material covering, adult size for leg	2	2	1	-	-	Drawer No. 9
	21.09	1	Bandage scissors Lister, 18 cm	1	1	-	-	-	Drawer No. 1
	19.06	2	Durable stretch bandage with clip, 8 cm / ca. 5m, individually packed	3	4	2	1	1	Drawer No. 4
	19.13	1	Thermo insulation foil	1	2	1	1	1	Drawer No. 7
Documentation	24.04	2 sheets	Form sheet block for courses of disease and treatment (temperature chart)	1	1	1	1	1	Drawer No. 3
	24.05	2 sheets	Form sheet block "Radio Medical Advice"	1	1	1	1	1	Drawer No. 3
	24.09 *	1	Clipboard	-	-	-	-	-	New article
	24.10 *	1	Pencil, soft (e.g. 3B) Remark: also writes on damp paper	-	-	-	-	-	New article

* New drugs, medical devices or aids not yet listed in the list of drugs, medical devices and aids for the medical care on ships of SchKrFürsV.