

7 june 2001

# Instructions for Radio Medical Denmark

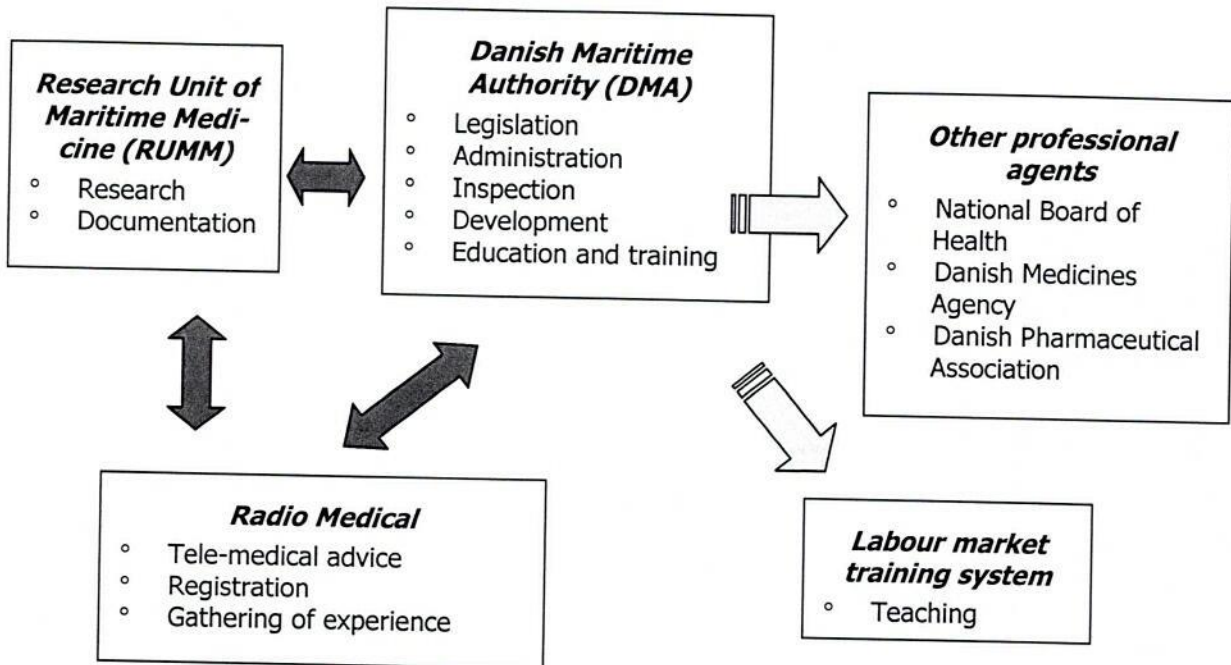
Made in co-operation between the Danish Maritime Authority  
and Medical Doctor Søren Kristensen, Head of Radio Medical

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# The maritime health service

## Organisational overview



## Vision

*The vision* is to create the world's best maritime health service, which, as far as technically possible, is as good as the health service ashore. The purpose is to create an equal right to health for seafarers.

The services provided by the system in its capacity as a health service must, as far as possible, be based on evidence and, at all times, be in accordance with sound, clinical practice.

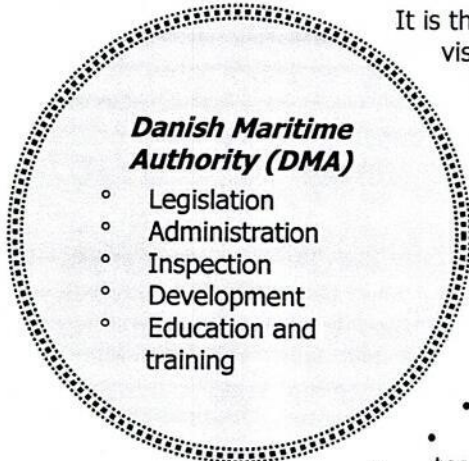
If measured in exact terms, such as the rate of mortality while the ships are at sea, the maritime health service must be able to perform just as well as the health service ashore in the long term.

The maritime health service must be:

- *coherent*. This means
  - that the equipment on board must comply with the EU Directive and the seafarers' needs;
  - that the doctors affiliated with the centralised Radio Medical are taught about the conditions of shipping and work in a way focused on procedures in accordance with instructions drawn up by the DMA;
  - that the navigators function as first-aid assistants and as the doctor's eyes, ears and hands and are, consequently, trained in the necessary diagnostic and therapeutic procedures as well in the procedures for using Radio Medical;
  - that all development and evaluation initiatives take place in an co-ordinated way as part of a focused and managed process.
- *capable of being evaluated*. This means that it must be possible to document the effect of the system and of its elements.
- *capable of developing* along with the seafarers' needs and the medical and technological development.



## The tasks of the Danish Maritime Authority



It is the responsibility of the Danish Maritime Authority that the visions, purposes and aims are met.

The Danish Maritime Authority draws up and updates:

- the order on the maritime health service;
- regulations and guidelines on medicaments and equipment;
- regulations on the treatment and prevention of illnesses;
- Radio Medical's contract and instructions;
- guidelines on the content of training programmes;
- and oversees that the tasks are solved as arranged.

The Danish Maritime Authority trains and approves:

- the doctors at Radio Medical;
- the treaters of illnesses on board the ships as well as teachers at the centres within the labour market training system.

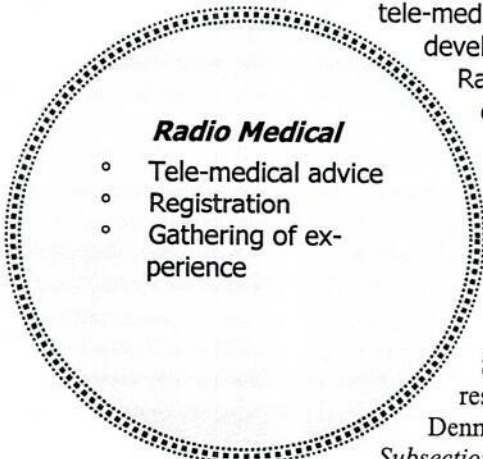
In co-operation with Radio Medical, the Danish Maritime Authority evaluates the system (contract item 4.3) and launches development projects to improve the system. Every February and August, the Danish Maritime Authority reviews all the written records that have been submitted to Radio Medical. The purpose of this review is:

- to check the efficiency of the training and the system and, if relevant, to launch the necessary changes;
- to get insight into the extent and nature of illnesses and injuries on board the ships.

Together with Radio Medical, the Danish Maritime Authority examines selected cases.

## The tasks of Radio Medical

The Radio Medical function forms an important central part of the maritime health service. It offers tele-medical advice and important experience is gathered for the development of the maritime health service.



Radio Medical offers tele-medical advice and registration as operational tasks according to a contract with the Danish Maritime Authority.

The tele-medical advice offered by the Radio Medical doctor is subject to the requirements for quality and ethics laid down by the National Board of Health and it must meet the provisions of the "Order on the treatment of illnesses and medicaments on board ships", section 17(3) and (4) issued by the Danish Maritime Authority.

**Section 17, subsection 3.** The doctors at Radio Medical Denmark are responsible for the treatment given in consultation with Radio Medical Denmark.

**Subsection 4.** The medical advice offered by Radio Medical Denmark shall follow the guidelines laid down in the Radio Medical instructions approved by the Danish Maritime Authority, in the medical guide authorised by the Danish Maritime Authority and in the guidelines for the inventories.

Radio Medical registers all services according to the ICD 10 diagnostic system and hence contributes to the uncovering of special problem areas. The doctors gather experience about books, manuals, procedures and training programmes and hence contribute with important information to improvements of the system.

## **Qualification requirements for the doctors at Radio Medical**

In order to function as a doctor at Radio Medical as part of the Danish Maritime Authority's health system, the doctor must be approved by the Danish Maritime Authority.

A doctor must meet the following requirements to be approved:

1. It is expected that the doctor is interested in and enthusiastic about furthering the vision and the aim of the coherent maritime health service as described.
2. The doctor must be employed as a specialist in the organisation with which the Danish Maritime Authority has made an agreement.
3. The doctor must have passed the Danish Maritime Authority's basic training for doctors at Radio Medical.
4. The doctor must take part in supplementary training as stipulated by the Danish Maritime Authority.

### *Basic training:*

Before the doctors are approved, they must have passed a basic training programme approved by the Danish Maritime Authority, which covers the subjects:

- Legislation, the contract and the Radio Medical instructions.
- The organisation of the maritime health service.
- The ships' supplies of medicaments and medical equipment.
- "The patient's way through the system" illustrated by real cases.
- Special conditions concerning evacuation.
- Radio communication.

### *Supplementary training:*

In co-operation, Radio Medical and the Danish Maritime Authority decide on subjects for supplementary training. The aim is to offer two to four courses per year within fields that are of clinical relevance. The courses are held by the Danish Maritime Authority.

## **The doctor's duties**

### *The doctor's responsibility*

The tele-medical advice offered by the Radio Medical doctor is subject to the requirements for quality and ethics laid down by the National Board of Health. The paramedic on board the ship act under the responsibility of the doctor giving the advice, and if the paramedic follows the instructions given, the responsibility rests solely with the doctor giving the advice (the National Board of Health, reference number 4410-37-1997 of 11 June 1998).

### *Check of the record received and/or information given by telephone*

Requests from the ships are made either by telephone or by fax and **must always** be checked with respect to the following, which the ship should generally render information about:

- description of the problem;
- consumption of medicaments;
- allergy;
- any observations made
  - the general condition
  - the level of consciousness
  - the breathing frequency
  - the pulse frequency
  - the blood pressure
  - the temperature
- the treatment given.

If the doctor thinks that the information is insufficient, he must request what is missing.



#### *Calls made by telephone without a written record*

For safety reasons, communication must, as far as possible, be accompanied by written information, not least in the case of medical prescriptions. If this is not possible, the doctor must write down the information received from the ship, both the general information and information about the case story, the objective examination carried out on board the ship as well as the treatment initiated.

#### *The doctor's advice to the ship*

The doctor's advice and guidance is provided without the use of medical technical terms. The doctor's advice must be based on a position on the following items:

- What observations must the paramedic continue to make and/or supplement with?
- How often must the observations be carried out?
- Prescriptions relating to medicaments must be accompanied by a reference to the description of the medicament in the user guidelines contained in "Inventory, control document and user guidelines".
- Prescriptions including treatment procedures must, as far as possible, be accompanied by a reference to a page in the medical guide issued by the Danish Maritime Authority.
- As regards cases that have not been closed, an exact "time later" for a new call to Radio Medical is agreed.
- Guidance including evacuation or deviation must be preceded by an assessment of the risks to the patient and/or the crew weighed against alternative possibilities of treatment.

The reply to the ship is given on a special form called the REPLY FORM. A copy of the form must be kept together with the record received.

If the patient is to be evacuated, the Royal Danish Navy Tactical Command is requested to assist on a special form called the EVACUATION REQUEST. A copy of the form must be kept together with the record.

The records along with the reply forms and any evacuation requests are filed according to the patient's date of birth. As a supplement, Radio Medical keeps a *LOGBOOK* on yellow sheets. The logbook is to be kept in chronological order according to the date and hour. Data on the patient as well as information about the ship and the doctor treating him or her are also recorded in the logbook.

#### *The doctor's record*

The Radio Medical doctor writes a record on Radio Medical's own paper (not on the ships' Radio Medical records) covering the premises of the above-mentioned advice. The ship's written record is enclosed as an annex. Closed records with annexes are given to the Radio Medical secretary for filing.

#### *Follow-up on cases that have not been closed*

Cases that have not been closed are followed up by arranging fixed "later dates" for the next contact with Radio Medical.

#### *Changing of the watch*

When the Radio Medical watch is taken over by another colleague, the cases that have not been closed are described in detail either by telephone or by fax.

#### *Difficult cases*

To achieve a homogenous way of giving advice, special, unusual or difficult cases are discussed as soon as possible with the head of Radio Medical.

#### *Prior to deciding to evacuate an ill or injured person*

Before deciding to evacuate a patient, it is considered whether the data basis is sufficient and whether the possibilities of treating the patient on board have been exhausted. Such considerations are weighed against:

- The risk to the patient of being hoisted vertically to a helicopter.
- The risk to the patient of being evacuated to a hospital of a poorer standard.
- The risk to the rescue team (storm, darkness, ice accretion).

Finally, it must be kept in mind that today a ship's deviation may be an extremely costly thing.

#### *Carrying out the evacuation*

Lyngby Radio will be able to assist with the communication with the ship. All disputed points in connection with the communication can be discussed with the radio expert at Lyngby Radio.

In case of communication by satellite or by mobile telephone, the doctor must require the evacuation by means of the following procedure:

- ⇒ On a typewriter, a computer or in capital letters, the special Radio Medical evacuation request is filled in.
- ⇒ The Royal Danish Navy Tactical Command is contacted by telephone, +45 86 13 35 80 (secret number to the operational room), or alternatively by calling number +45 86 12 30 99 (the exchange).
- ⇒ The evacuation request is sent by fax on number +45 89 43 31 41.

In connection with all evacuations, the doctor informs the ship about the following:

- ⇒ That the evacuation has been ordered;
- ⇒ That the ship must report back to Radio Medical
  - if something does not go according to plan, and
  - when the patient has been evacuated, at the latest.
- ⇒ That, in case of an evacuation abroad, the ship must leave the care of the patient to the Danish consul on the location (the Danish Merchant Shipping Act, Section 27 (7)).

#### *Psychological crisis therapy*

After terrible accidents or deaths, the persons involved on board may be in need of psychological crisis therapy. Radio Medical requests the psychological crisis therapy. In the case of fishermen, by contacting Falck's unit for psychological crisis therapy (subscription number 1954 7830); in the case of the merchant fleet, by contacting the Danish Maritime Occupational Health Service.

#### *What if the ship is lying in a foreign port?*

In emergencies, the ship uses the rescue service in the country in question, but in some cases the ship may be in need of Danish medical advice or a second opinion.

#### **Radio Medical's filing system**

It must be possible to reconstruct a case both according to date and according to information about a patient if the Danish Maritime Authority needs information in case of investigations or marine inquiries or for use in connection with evaluations or the like.

Radio Medical must as a minimum file the following:

- The information rendered by the ship and Radio Medical's reply as well as any evacuation request, which is to be filed along with the information about the patient.
- The logbook, which is to be filed according to the date of the incident.

Radio Medical must ensure that persons from the outside can get insight into cases and documentation for evaluation and research purposes without breaking the principle of confidentiality and disclosing data that can be identified with a particular person.

#### **Books and manuals**

The books and manuals mentioned below must be available in the most recent and updated version as part of the Radio Medical doctor's and the ship's equipment. The material forms the basis of the treatment of injuries and illnesses at sea.



### *The medical guide of the Danish Maritime Authority*

The medical guide of the Danish Maritime Authority is authorised and constitutes the fundamental guidelines and instructions for the paramedics on board. The guide contains all the diagnostic, therapeutic and first-aid procedures that the paramedic has learned. In addition, it contains chapters describing the observation and treatment of various injuries, illnesses and conditions.

### *Radio Medical records*

The Radio Medical records constitute the tools that the paramedic on board uses in connection with the record writing on board. The Radio Medical records have the form of flowcharts that help the paramedic through a case story and an objective examination.

### *Inventory, control document and user guidelines of medicaments and medical equipment type A (or B or C)*

In the above-mentioned publication, the medicine and the medical equipment that the ship carries are described. The third section of the publication contains user guidelines describing the application of each medicament, its location in the ship's medicine chest, its name, form, effect, dosage, side-effects as well as special remarks about the substance. At the back, there is an index of most substances after indication.

## ***About the paramedic on board***

### *The paramedics' competence at sea*

Since 1996, the Danish Maritime Authority has launched new basic training programmes in "health training" for fishing skippers and navigators for the merchant fleet. At the same time, a supplementary training programme has been launched aimed at all masters of ships and the person to whom the paramedic has delegated the paramedic assignment. The supplementary training programme has been completed so that in 2000 all Danish ships have at least one paramedic on board with an updated education.

The new training programme qualifies the paramedic on board to the following:

- to start life-saving and general first-aid on his own;
- to gather diagnostic data in the form of a simple case story and a simple objective examination for the doctors at Radio Medical;
- to carry out certain therapeutic procedures according to the subscriptions given by the doctors from Radio Medical.

The paramedic on board *cannot* act without guidance from the Radio Medical doctor. In particular, one is not to "trust" diagnoses made by paramedics.

### *The paramedics' experience*

The paramedics are navigators, i.e. experts in the operation of ships. The extent to which they have experience treating accidents and illnesses differs very much, but in general they all have little experience compared with an employee in the health sector or in the emergency-call services.

The large passenger ferries from DFDS carry about 500,000-1,000,000 passengers of all ages each year. In these ships, the navigators acquire some first-aid routine, but, on the other hand, they can quite quickly have an ill person evacuated by helicopter. So even in these ships, the experience elucidating illnesses and observing, caring for and treating patients is rather poor.



On ships engaged in foreign trade, there are in average about 17 cases (crew members) per paramedic per year. Most of these cases consist of banalities such as "headaches". Each year, only about 30% of these cases are examined by a doctor ashore, and only about 5% of these cases are related to conditions where the illness has a duration of more than a week.

In the entire merchant fleet, there are about 20 deaths a year, half of which are caused by diseases and half of which are caused by accidents. In the entire merchant fleet, the paramedics are contacted about 20,000 times about illnesses and accidents on board. About one-fourth of these incidents are caused by accidents. Only 1-2,000 of all the enquiries made (in 1997-98) are of a nature leading to consultation with Radio Medical. When a ship contacts Radio Medical, the doctor must in all cases assume in general that the paramedic has not previously seen or experienced a situation like the one in question.

#### *Level for contact to Radio Medical*

The paramedics have been instructed that **there is no lower** level for consultation with Radio Medical. The paramedics are urged to contact Radio Medical if they have a medical problem that they are uncertain about.

It is recommended that they always contact Radio Medical in the following cases:

- in connection with all abnormal states of mind;
- in connection with all abnormal conditions that affect the consciousness, the breathing, the pulse or the blood pressure;
- in case of a fever below 39°C for more than 48 hours;
- immediately, in case of a fever above 39°C;
- in case of pains in the chest or stomach region;
- in case of serious injuries;
- before giving medicaments that must be given by prescription ashore;
- before peripheral vein cannulation;
- if the ill person wants a doctor to be consulted.

The paramedics have been taught and have the authority to start medical treatment by themselves in emergencies (for example, heart thrombosis), and subsequently they can consult Radio Medical.

#### *The paramedic's written record to Radio Medical*

The paramedic learns that a record:

- must be written in a clear language (so that anybody can understand the text without manuals);
- must contain a case story that must as a main rule contain a description concerning:
  - the problem in question;
  - the use of medicine, if relevant;
  - allergy, if relevant;
- must contain an objective examination, which must as a main rule describe:
  - the general condition;
  - the level of consciousness;
  - the breathing frequency;
  - the pulse frequency;
  - the blood pressure;
  - the temperature;
- must contain a description of the treatment instigated.

The paramedic uses the *Radio Medical records* as his instrument when writing a record for Radio Medical.

Approved, 11 June 2001

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for the Danish Maritime Authority, Medical Doctor Ole Lyngenbo