



Ref. T2/4.1

MSC/Circ.1096
16 June 2003

**GUIDELINES ON THE PREVENTION AND MANAGEMENT OF SEVERE ACUTE
RESPIRATORY SYNDROME (SARS)**

1 The Maritime Safety Committee, at its seventy-seventh session (28 May to 6 June 2003), considered submissions from Members on actions they had taken to prevent the spread of Severe Acute Respiratory Syndrome (SARS). The Committee welcomed the action taken by the Secretary-General and the MSC Chairman in issuing a precautionary circular on this issue (MSC/Circ.1068 on Severe Acute Respiratory Syndrome (SARS)).

2 The Committee also received updated information from the World Health Organization (WHO) on the emergence and spread of SARS and information on measures the WHO had adopted and the guidelines it had issued to assist in the prevention and control of cases of SARS. In order to assist the global effort to control SARS, the Committee agreed to promulgate the guidance given in the annexes, based on information provided by WHO, to ensure that the maritime community was fully aware of the precautions to be taken.

3 Member Governments are invited to bring this circular to the attention of all concerned and to note that the latest information available will be promulgated on the IMO website www.imo.org.

ANNEX 1

GUIDELINES FOR THE PREVENTION AND MANAGEMENT OF SEVERE ACUTE RESPIRATORY SYNDROME (SARS)¹

1 Preface

1.1 The World Health Organization International Health Regulations (IHR) contain provisions regarding routine point of entry control activities and specific measures for some diseases. In addition, the IHR reference technical guides for both ships and aircraft. The SARS outbreak, like other international disease outbreaks that occur around the world from time to time, requires that crew have a basic understanding of the disease, the risks and the public health precautions necessary for both passenger and crew protection. The information below, like the Guide to Hygiene and Sanitation in Aircraft and the Guide to Ship Sanitation, is provided as a technical reference for the development of operating procedures by international passenger transport companies. Although this information is provided for use by international ship and aircraft operators, it can apply, as appropriate, to other means of travel.

2 Background on SARS

2.1 From the information available at this time, SARS is a respiratory disease, spread by droplets from persons in the symptomatic stage of SARS. The incubation period of SARS is 2-10 days. Although serious illness and some deaths have resulted from SARS infection, the vast majority of SARS cases to date (96%) recover. Recent information suggests that SARS may also be spread for a short period of time by contact with surfaces contaminated by droplets or hands, and this is being investigated. Although the mode of transmission is similar, SARS is not spread as easily as influenza (flu), for example. Frequent handwashing is considered a useful preventive measure for SARS, as it would be for colds, flu and other common illnesses.

2.2 Remember that there is a good chance that an ill passenger does not have SARS, even though he or she has come from an affected area. Precaution is the best way to proceed, however, and the following advice is provided for reference.

3 Symptoms

3.1 All passengers and crew should be aware of the main symptoms and signs of SARS, which include:

- .1 high fever ($>38^{\circ}\text{C}$, 100.4 degrees Fahrenheit) **and** one or more respiratory symptoms including cough or difficulty in breathing; **and**
- .2 either close contact with a person who has been diagnosed with SARS **or** a recent history of travel to areas reporting cases of SARS.

4 Pre-boarding

¹ These guidelines have been compiled from information available from the World Health Organization (WHO) website www.who.int/csr/sars as at 16 June 2003.

4.1 In the event of a crew member or passenger of a vessel experiencing this combination of symptoms, he or she should immediately seek medical attention and ensure that information about symptoms, recent travel and close contacts is passed on to the health care staff and the master of the vessel. Any crew or passengers who develop these symptoms are advised not to undertake the voyage until they have recovered or have been cleared for travel by a medical officer.

5 Screening for suspect cases of SARS on departure from affected areas

5.1 WHO recommends that government and point of entry authorities in affected areas establish a system in collaboration with aircraft and other conveyance operators so that passengers or crew departing for international destinations from an affected area are interviewed, preferably by a health care worker, in the port of departure before check-in (for latest information on areas with local transmission see www.who.int/csr/sars). The interview should assess whether the passenger or crew member:

- .1 currently has or has experienced in the past 48 hours any symptoms of SARS (http://www.who.int/csr/sars/case_definition/en/) and
- .2 has had any contact with suspect or probable SARS cases;
- .3 has a fever (body temperature may be checked if appropriate).

5.2 Persons meeting the SARS case definitions should be referred to a health care facility. Persons with only fever should be requested to postpone travel and seek medical attention.

6 Management of possible SARS cases on board

(Please note that this applies only to aircraft/ships carrying a passenger who meets the SARS symptoms listed above.)

6.1 If a passenger on a flight from an area where SARS transmission is occurring becomes noticeably ill with fever and respiratory symptoms, the following action is recommended **for the cabin crew attending to the ill passenger**. Other crew do not require personal protection, but must wash hands before and after: eating, handling materials that could have been contaminated by the ill person, using areas of the ship or aircraft where the ill person moved about.

Isolation

6.2 The passenger should be, as far as possible, isolated from other passengers and the crew, and should be asked to wear a protective mask.²

² Respiratory protection should be provided at HEPA Filter or *P100(NIOSH) or *FFP3 (EN149:2001) filter (99.97% efficiency) level. *N95 filters (95% efficiency) and above *(N,R,P 99 or FFP2) also provide high levels of protection and should be worn where no acceptable alternatives of a higher level of protection are available. Ideally, the masks used should be fit tested using an appropriate "fit test kit" in accordance with the manufacturing instructions. Disposable masks should not be reused.

Crew and passenger protection

6.3 Those caring for the ill passenger or crew member should follow infection control measures (see below) recommended for cases of SARS, including handwashing after contact with the ill person or with any materials that the person may have contacted.

The other protective measures are to:

- .1 provide the ill person with a mask (see below) to help ensure that droplet spread is contained;
- .2 keep contact with the ill person to a minimum, and avoid being close to the face of the person if possible;
- .3 wear a suitable mask and follow the manufacturer's instructions to ensure that the mask fits properly. If, for any reason the attending crew member needs to remove his/her mask, then a new mask should be used. The mask (s) and other materials used by the ill person should be disposed of as a potential biohazard. The cleaning crew must be informed of the possibly contaminated materials (e.g. gloves required) and the need to thoroughly disinfect the seating area where the ill person was isolated, and the washroom areas in particular;
- .4 wear durable disposable gloves, remembering that hands should be washed before the gloves are removed, then again after removal, and that touching the face while wearing gloves provides the same risk of infection as when using bare hands;
- .5 although the risk of virus entry from droplets or hand contact to the eye is low, goggles that fit tightly to the face, with a soft sealing surface should be worn by the crew member attending to the ill person. Goggles should be washed before re-use, according to the manufacturer's instructions;
- .6 a separate toilet should be made available for the exclusive use of the ill person;
- .7 disposable masks, gloves and other material in contact with the ill person must be bagged and sealed and treated as biohazard waste;
- .8 as a general precaution, all persons on a flight or voyage where a possible SARS case is carried should be advised to wash their hands before and after using the toilets on board; and
- .9 aircraft/ship operators should ensure that flights/sailings from affected areas are provided with sufficient gloves, face masks, goggles and disinfectant, and that a seat or berth in an isolated area can be made available when needed.

7 Communication and hand-off to airport/port health authorities

7.1 The pilot/shipmaster should radio ahead to the airport /port of destination so that airport/port management can alert the health authorities.

7.2 On arrival, the public health authorities should take the ill passenger directly from the aircraft or ship by the exit closest to where the passenger is seated, and avoid passing through the airport or port. The ill passenger should then be placed in isolation and assessed as quickly as possible by a health authority physician. Anyone waiting for the passenger should be notified of the delay by airline/ship staff. Other agencies, such as immigration, will need to know that a passenger has by-passed normal airport/port arrival procedures.

8 Management of contacts³ of the ill person and of other persons on board

8.1 Contacts and other passengers or crew should be allowed to continue travel as long as they do not have symptoms compatible with SARS. See annex 2 for management of probable cases of SARS on international cruise vessels.

On arrival at the next port

8.2 The health authority at the scheduled port of arrival must be informed immediately by radio of the suspect case, and asked if the necessary capacity to isolate, transport and care for the ill crew member or passenger is available at the port. Depending on the local situation, the master of the vessel may be asked to proceed to another national port that has this capacity.

8.3 On arrival at the port requested by the health authority, no one may leave the vessel until a medical officer has examined the ill crew member or passenger, as well as the rest of the crew and any passengers on board.

8.4 If the medical officer for the port determines that the ill crew member or passenger meets the SARS case definition, the crew member or passenger shall be removed from the vessel, using all necessary precautions, and transported to the nearest designated medical facility for treatment of SARS cases.

8.5 The vessel shall be considered as being in isolation, and no one, other than health authority staff or other personnel working directly with the health authority, shall be allowed to board or leave the vessel. Security personnel should be posted to ensure compliance with this requirement.

³ For the purposes of air travel, a contact is defined as:

- Passengers sitting in the same seat row or within at least 2 rows in front or behind the ill passenger
- All flight attendants on board
- Anyone having intimate contact, providing care or otherwise having contact with respiratory secretions of the ill passenger
- Anyone on the flight living in the same household as the ill passenger
- If it is a flight attendant that is considered to be a SARS case, all passengers are considered to be contacts.

8.6 The vessel and crew will be held in port for a period of 10 days, to ensure that none of the other crew or passengers have been infected with SARS. At the end of the isolation period, prior to departure of the vessel, the cabin or quarters where the SARS patient was isolated and managed, should be cleaned and disinfected (see last paragraph) before a crew member or passenger is allowed to occupy that cabin or quarters.

8.7 The vessel will be allowed to proceed to its next port of call after a medical officer has determined that none of the other crew or passengers has been infected.

8.8 If the owners of the vessel wish to have it released from isolation, an alternate crew may be provided. Agreement with the health authorities would need to be reached to provide facilities for the isolated crew left behind. A thorough cleaning of the vessel's quarters, including dining room, washroom and recreation areas would also be required before the new crew boards. This cleaning should be carried out under the supervision of the port health authority.

9 Disinfecting the cabin or quarters occupied by SARS patient

9.1 The cabin or quarters occupied by a SARS patient, should be disinfected with sodium hypochlorite (bleach) and formalin⁴ or chloro meta xylenol (see [WHO Guide to Hygiene and Sanitation in Aviation](#)). All surfaces that the patient may have touched should be specifically targeted for cleaning. Thoroughly rinse and clean housekeeping equipment after use in the cabin or quarters of the SARS patient.

9.2 More information on SARS can be obtained from the WHO website, www.who.int.

10 Information to Member States regarding goods and animals arriving from SARS-affected areas

10.1 WHO is aware of concern over the possibility that SARS may be caused by contact with animals. WHO is therefore working closely with the Food and Agriculture Organization of the United Nations (FAO) and the Office International des Epizooties (OIE), to determine if there is any evidence to suggest that SARS-related disease has occurred in animals.

10.2 WHO, FAO and OIE have reviewed reports received regarding SARS transmission. To date there is no epidemiological information to suggest that contact with goods, products or animals shipped from SARS-affected areas has been the source of SARS infection in humans.

10.3 For the above reasons, WHO does not at present conclude that any goods, products or animals arriving from SARS-affected areas pose a risk to public health. WHO will continue to closely monitor the evolution of SARS, in collaboration with Ministries of Health and our partner agencies.

⁴ Sodium hypochlorite diluted to a strength of 100 mg/l and a 5% solution of formalin, which itself is a 40% solution of formaldehyde gas in water.

ANNEX 2

RECOMMENDED PROCEDURES FOR PREVENTION AND MANAGEMENT OF PROBABLE CASES OF SARS ON INTERNATIONAL CRUISE VESSELS

1 Preface

1.1 In response to the outbreak of Severe Acute Respiratory Syndrome (SARS) in several countries, the World Health Organization has developed the following procedures for personnel on international cruise vessels and local port health authorities when there is a suspected or probable case of SARS on board. All individuals, groups and authorities involved in the cruise ship industry including crew, health care staff, cruise line operators, owners, and port health authorities should be aware of these procedures.

2 General information and symptoms of SARS

2.1 All international travellers including crew and passengers of cruise vessels should be aware of the main symptoms and signs of SARS, which include:

- .1 high fever ($>38^{\circ}\text{C}$) **and** one or more respiratory symptoms including cough, shortness of breath, difficulty breathing; **and**
- .2 either close contact with a person who has been diagnosed with SARS or recent history of travel (previous 10 days) to areas with recent local transmission of SARS¹.

3 Pre-departure screening

3.1 Prior to boarding, all passengers and crew on international voyages originating in areas with recent local transmission of SARS² should receive and complete a short pre-departure SARS Screening Form with questions as to symptoms, contacts, and recent history of travel to an area(s) with recent local transmission of SARS.

3.2 A person presenting symptoms compatible with SARS, should not travel until s/he is fully recovered. The local health authority should be notified and the patient must be assessed immediately.

3.3 A person reporting having been in close contact³ with a probable case of SARS in the last 10 days, but who is otherwise healthy, should not travel. S/he should be advised to be vigilant for SARS symptoms over the 10 days following exposure and continuously monitored by the local public health authority.

3.4 A person exhibiting none of the above symptoms, and who has not been in contact with a suspect or probable case/s of SARS over the previous 10 day period, should be provided with information on SARS and instructed to seek medical attention immediately if any symptoms consistent with SARS develop.

4 Managing passengers and crew

4.1 Following preliminary medical examination, if the ship's medical officer determines that there is a suspected or probable case of SARS on board, the following measures should be taken:

- .1 the suspected case should be isolated in an isolation ward, cabin, room or quarters with, if possible, an independent ventilation and toilet system;
- 2 infection control measures including respiratory and standard precautions should be implemented⁴; and
- .3 designated staff taking care of the patient should wear a protective face mask⁵, gloves and eye protection and wash hands before and after contact with the patient.

4.2 The officer in charge of the vessel should immediately alert the medical authority at the next port of call regarding the suspected case to determine if the necessary capacity for transportation, isolation, and care is available at the port. The vessel may be asked to proceed to another national port in close proximity if this capacity is not available or if warranted by the critical medical status of the suspected or probable SARS case.

4.3 For persons meeting the definitions of suspect or probable case of SARS, confinement to isolation ward, cabin, room or quarters with infection control measures should be continued until 10 days after the resolution of fever, provided respiratory symptoms are absent or improving. However, if the illness does not meet the case definition, but the individual has persistent fever or unresolving respiratory symptoms, the person should not be allowed to return to public areas of the vessel or interact with the public. Infection control precautions including confinement to isolation ward, cabin, room or quarters and further monitoring of symptoms should be continued. A decision as to returning to public areas can be reviewed in collaboration with the public health authority of the next port of call. All contacts (see below for details) on board should be identified and monitored.

4.4 While case management is in progress on board a cruise vessel, a high level of cleaning and disinfection measures should be maintained on the vessel. Cabins and quarters occupied by patients and contacts of SARS should be cleaned and disinfected according to WHO⁶ and local public health recommendations.

5 On arrival at the next port

5.1 No one may leave the vessel until a medical officer for the health authority has examined the suspect or probable case and has identified and examined all possible contacts on board.

5.2 If the medical officer for the port determines that the ill crewmember or passenger meets the SARS case definition, the crew member or passenger shall be removed from the vessel, using all necessary precautions, and transported to the nearest medical facility. If the patient is determined to be a probable case of SARS, his/her contacts should be asked to be in voluntary isolation and not permitted to travel until 10 days after the contact.

5.3 As soon as the suspected or probable case had been removed from the cruise vessel, the cabin or quarters where the SARS patient was isolated and managed should be thoroughly cleaned and disinfected (see below).

5.4 The local public health authority should provide information on symptoms and transmission of SARS to all passengers and crew.

5.5 The vessel may be allowed to proceed to its next port of call after the health authority has determined that none of the other crewmembers or passengers has symptoms consistent with SARS.

6 Procedures for contacts

6.1 All contacts of a suspected⁷ or probable⁸ SARS case should be provided with information on symptoms and transmission of SARS. They should be placed under active surveillance for 10 days and directed to observe voluntary isolation. Designated health staff on board should monitor and record the temperature of contacts daily. Both embarking and disembarking ports must be notified immediately of SARS contacts being on board and measures taken. If, after 10 days of voluntary isolation and observation, the contacts do not develop symptoms of SARS, then contacts can be discharged from the follow up.

7 Disinfecting the cabin or quarters occupied by a suspect or probable SARS case

7.1 Cleaning and hygiene staff should be well-briefed on infection control. Precautionary procedures should be observed when cleaning and disinfecting the isolation area(s) (ward, cabin room, or quarters) of the SARS patient. Persons cleaning the isolation area(s) should wear adequate personal protection (gloves, protective face mask⁵, eye protection, disposable outer garments). These areas should be disinfected with sodium hypochlorite (bleach) and formalin⁹, chloro meta xylenol, or an equivalent product. All surfaces and objects that the patient may have touched should be specifically targeted for cleaning. Materials, such as sheets and towels that have been used by the possible SARS case, should be thoroughly cleaned and disinfected. All cleaning equipment should be disinfected after use. Areas contaminated by body fluids from the suspect case (e.g. vomitus) should not be vacuumed unless a HEPA filter vacuum is available. Wet mopping with a disinfectant cleaner (hard surfaces) or steam cleaning (carpets) is recommended.

¹See WHO web link [for areas with local transmission](#)

²See WHO web link [for areas with local transmission](#)

³Close Contact: having cared for, lived with, or had direct contact with respiratory secretions or body fluids of a suspect or probable case of SARS. See [WHO web link](#)

⁴See WHO [web link](#)

⁵N/R/P 95/100 or FFP 2/3 or an equivalent national manufacturing standard (NIOSH (N,R,P95,99,100) or European CE EN149:2001(FFP 2,3) and EN143:2000 (P2) or comparable national/regional standards applicable to the country of manufacture.

⁶Lamoureux VB. Guide to Ship Sanitation. WHO. 1967

⁷ see [WHO web link](#) for definition of suspected case of SARS

⁸ see [WHO web link](#) for definition of probable case of SARS

⁹ Sodium hypochlorite diluted to a strength of 100 mg/l and a 5% solution of formalin, which itself is a 40% solution of formaldehyde gas in water.