



SEVERE ACUTE RESPIRATORY SYNDROME (SARS)

KEY POINTS

Perform a risk assessment according to current epidemic

- Note travel history
- The patient has a fever (>38°C), and may have chills, rigors, headache, myalgia, sore throat, dry cough or dysproea

If SARS suspected:

Ask the patient to wear a mask if:

- Coughing patient until isolated
- Isolate Patient in a ventilated sideroom
- Inform the Infection Control Team
- Consider transfer of the patient to an Infectious Diseases Unit as soon as possible

INTRODUCTION

Severe acute respiratory syndrome (**SARS**) is a **highly infectious** and **potentially fatal** condition that is spread by respiratory secretions. It is caused by a new coronavirus originating in China it spread throught the Far East in autumn 2002 – spring 2003, with isolated outbreaks in Europe and North America. SARS is characterised by a rapid onset of **high fever** followed a few days later by a cough and may progress to respiratory failure and ARDS. Adhering to strict infection control procedures can control spread within hospitals.

Source Isolation Procedures must be followed and appropriate levels of personal protection equipment (PPE) worn according to the clinical condition of the patient

(See Appendix 1)

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CONSIDER SARS IF A PATIENT HAS THE FOLLOWING HISTORY (2003):

Arrival from an endemic area*

Having been on an aircraft that has landed there*

Having been in contact with a patient with SARS

Within the last 14 days

AND

Reports sudden onset of **fever** (>38°C) (NB: Fever may be remitting or reduced by antipyretics or steroids)

Other features that are often but not invariably present include chills, rigors, headache, myalgia, sore throat, dry productive cough and breathlessness.

*Updated list of endemic areas available at: <http://www.who.int/csr/sars/areas/en/>

THE FOLLOWING ACTION MUST BE TAKEN:

If the patient's condition is stable:

- **Ask** a patient with a cough to wear a mask until s/he is isolated appropriately
- **Isolate** patient immediately in a side room in A&E or in clinic where patient presents
- **Restrict access** to patient ideally to one staff member only and optionally the visitor who came with the patient. See Section below regarding screening of accompanying family or friends
- **Contact** the on-call Infectious Diseases Team
- **Restrict** nursing and medical exposure to minimum necessary to monitor patient status
- **Wear level 1 PPE:** disposable body suit, disposable P2 masks, disposable gloves and disposable visor. Ensure that the mask fits over mouth and nose properly – another staff member should check this (see Appendix 1)
- **Record** details (names, contact details and exposure dates) of all staff and visitors in contact with the patient (See website for contact tracing sheets)

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If the patient's condition is critical requiring elective intubation:

- No staff member can approach such a patient unless and until he or she has been dressed in properly fitted and checked level 2 PPE
 - **Wear level 2 PPE:** Positive pressure filtered air unit, disposable body suit, disposable windowed hood with non-disposable size adjuster hood, disposable surgical gloves (a disposable plastic apron may be used over the hood). See Appendix 1
 - **Manage** patient either in the A&E Resuscitation area / relevant ITU / ID Unit. Involve the ITU team at an early stage
 - **Record** details (names, contact details and exposure dates) of all staff and visitor contact with the patient

PAEDIATRICS

Any case of fulfilling the above criteria **MUST** be discussed with the Infection Control Team, as children with probable SARS may require transfer to appropriate Paediatric ID centre should **NOT** be admitted to hospital. Paediatrician / ID physician to arrange for children to be transferred.

- **Children who meet full SARS definition:** Only if a bed is not available at either one of these hospitals should arrangements be made for the children to be admitted to the ID Unit with paediatric nursing support together with appropriate resuscitation equipment.
- **Children who do NOT fully meet SARS definition:** Children who do not fully meet the SARS definition (i.e. do not have respiratory symptoms or CXR signs but do have pyrexia and have come from an endemic area or have been exposed to a positive SARS patient) will be admitted to paediatric Ward and cared for in source isolation using Universal Precautions. The Infection Control Team **MUST** be informed immediately.
- **Record** details (names, contact details and exposure dates) of all staff & visitor contacts with these patients.
- **If admitted to Paediatric Ward**, if a child then develops respiratory symptoms, those caring for the child **MUST** use appropriate level of PPE (See Appendix I). Level 1 PPE must be available on paediatric Ward at all times.
- **Arrangements** shall then be made for the child to be transferred / cared for as above

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MANAGEMENT OF PATIENTS ON ID UNIT

- The ID team to contact microbiology Specialist Registrar, who will then alert the Infection Control Team, Virology medical staff and Public Health Authority
- On ID Unit patients will be fully assessed.
- A mobile chest x-ray should be performed on the ward.
- **Restrict access** to the patient to essential staff only and relative/visitor who initially accompanied the patient (see Section 6 below).
- **Record** details (names, contact details and exposure dates) of all staff and visitor contacts with the patient.
- **Wear** level 1 PPE for care of patients unless their condition becomes unstable when level 2 PPE must be worn (See website). Procedures that are likely to induce a respiratory secretion droplet spray (e.g. intubation, naso-pharyngeal aspiration, bronchoscopy, airway suctioning, etc) must be considered **Very High Risk**. These procedures should be **avoided unless absolutely necessary** and must **always** be carried out by staff wearing level 2 PPE.

Investigations:

Haematology

Biochemistry

Current advice is that blood specimens for routine analysis are not thought to pose an infection risk. Suggested daily tests to include: FBC, blood film (as appropriate), U & E's, LFT's, CK, LDH, CRP.

Note: All samples should be labelled "**High Risk**".

- **Microbiology** Blood cultures, throat swabs (as appropriate), serum for atypical pneumonia serology, urine for Legionella antigen detection. **No respiratory specimen to be sent to Microbiology without prior agreement of Microbiology Consultant.**
- **Virology** Inform Virology each time specimens are sent.
Throat swabs x 2 AND Nose swabs x 2 all in viral transport medium, Sputum, Urine (20 mL) AND Stool,
Clotted blood 10 mL x 2

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Whole blood EDTA 5 mL x 2

- **Radiology & Other**

Decisions on other appropriate investigations should be made on a case-by-case basis.

Appropriate infection control precautions should be adopted at all times, and equipment disinfection carried out as necessary as described in the Infection Control Manual (See Section 5.1 – Disinfection Policy). The virus is enveloped, and therefore killed by alcohol containing products such as Azowipes.

Chest Physiotherapy:

In view of the possibility of increasing respiratory droplet production, chest physiotherapy should be avoided in all cases of potential SARS; decisions on individual cases should be made at a senior level.

Treatment:

Antibiotics should be given as appropriate to cover community acquired and atypical pneumonia. At present, treatment for SARS is supportive. Consideration may be given to early empirical use of ribavirin and corticosteroids on a case by case basis, although clear evidence for efficacy to support their use is currently lacking.

Review:

The clinical progress of all suspected SARS patients will be reviewed daily by senior medical staff from ID Unit (ITU and Paediatrics where appropriate), Microbiology and Virology.



MANAGEMENT OF PATIENTS ON ICU



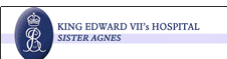





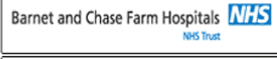

- As for section describing patient management on ID unit.
- Staff involved directly in care of potential SARS patients should wear level 2 PPE and be appropriately trained in its use (See Appendix 1).
- Patients should be isolated in negative pressure rooms.
- Use closed ventilation circuits only, and avoid use of BiPAP and CPAP.
- NB Certain procedures that are likely to induce a respiratory secretion droplet spray (e.g. intubation, bronchoscopy, naso-pharyngeal aspiration, airway suctioning, etc.) must be considered **Very High Risk**. These procedures should be **avoided unless absolutely necessary** and must always be carried out by staff wearing level 2 PPE (See Appendix 1).
- **Record** details (names, contact details and exposure dates) of all staff and visitor contacts with the patient.
- Consider removal of other patients from the ICU.

VISITORS OF SARS PATIENTS ON ALL WARDS

- Family or friends who accompany a suspect SARS patient are at risk of developing SARS themselves. Any visitor should be given information and advised appropriately regarding symptom development and self-isolation. The opportunity to screen and educate those who may have been exposed should not be missed. Masks may be given to appropriate contacts to wear at home should they develop respiratory symptoms; advice about whom to contact should symptoms develop should be given.

For further guidance http://www.phls.co.uk/topics_az/SARS/menu.htm

- A record of names and contact details **MUST** be kept on all visitors to any suspected SARS patients.
- Visitors **MUST** have their temperature taken and recorded before visiting any such patients.
- Visitors **MUST NOT** visit a suspected SARS patient if they have fever or feel unwell in any way.
- Visitors **MUST** adopt the same precautions as staff attending a

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suspected SARS patient and should be advised to keep visits as short as possible.

- A maximum of 1 visitor should be allowed to visit a patient at any one time.
- Pregnant women, children, elderly and the immuno-compromised are strongly advised **NOT** to visit.

CLEANING AND DECONTAMINATION

Nursing staff are accountable for ensuring that cleaning and disinfection are completed in accordance with Trust policy (See Disinfection Policy).

PATHOLOGY: HANDLING OF PATIENT SPECIMENS

- SARS is regarded as a Hazard Group 3 pathogen. All samples should be labelled “**High Risk**”.
- Microbiological and Virological processing of respiratory and other specimens likely to contain significant levels of virus should be handled with Containment Level 3 precautions.
- Blood and other specimens to be handled as for blood-borne pathogens (e.g. HIV/HBV) and processed at CL 2.

BED MANAGERS & NIGHT CO-ORDINATORS



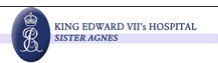







Infectious Disease Unit beds must not be available for patients who are a risk of infection. Outliers from other units must not be allowed.

REFERENCES

Health Protection Agency. SARS – Hospital Infection Control Guidance. 2005. Available at www.hpa.org.uk/infections/topics_az/SARS/hosp_infect_cont.htm

British Thoracic Society. BIS/BTS/HPA Clinical Guidelines – Hospital Management of Adults with Severe Acute Respiratory Syndrome (SARS) if SARS re-emerges. Available at www.brit-thoracic.org.uk/c2/uploads/sars0304.pdf

Department of Health Outbreak Plans Key Documents (various documents available). Available at www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/OutbreakPlans/fs/en

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