

SARS Infection Control in Healthcare Settings

Infection Control Considerations

- Some patients are highly infectious
- Hospitals must protect vulnerable patients, staff, visitors, and prevent spread to the community
- Until SARS epidemiology is better understood, infection control measures must target all possible modes of transmission

Infection Control Strategies

- Administrative measures
 - Communication
 - Education
 - Policies and procedures
 - Enforcement
- Engineering measures
 - Control of ventilation

Infection Control Strategies

- Personal protective attire
 - Masks
 - Eye protection
 - Gowns and gloves
- Environmental protections
 - Cleaning and disinfection
 - Waste, linen and laundry handling

Key Objectives of SARS Prevention

- Early detection of infection
- Containment of infection
- Protection of personnel and the environment of care
- Hand hygiene

Administrative Measures

- Assignment of responsibility
 - Placement of patients with SARS
 - Implementation and enforcement of infection control measures
 - Surveillance for transmission
- Limitation of SARS Patient contacts
 - Visitation policies
 - Staffing policies

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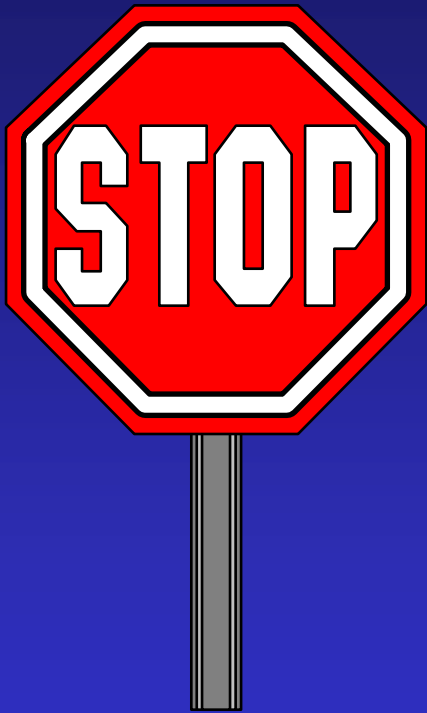
Early Detection

- Clinician education
 - Information on signs and symptoms of SARS
 - Heightened index of suspicion in patients with history of travel or exposure to SARS areas or patients

Early Detection

- Information at point of first healthcare encounter (ER, physician offices)
 - Visual alerts
 - Reporting instructions
 - Provision of surgical masks for patients
 - Segregation of symptomatic patients

Sample Alert at Hospital Entrance



If you have fever and/or respiratory symptoms.....

- Cover your nose and mouth with a mask
- Report your symptoms to the receptionist

Early Detection

- Information at point of first healthcare encounter (ER, physician offices)
 - Visual alerts
 - Reporting instructions
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Early Detection

- System for immediate notification of infection control personnel
- Use of personal protective attire from point of first patient contact

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Containment of Infection with Engineering Controls

- Preferred
 - Private room with engineered negative pressure and filtered air exhaust to outside
 - Door closed except when needed for patient access
 - Limit access to persons essential for providing care

Containment of Infection Without Engineering Controls

- Maximize natural ventilation
 - Open windows
- Control direction of air flow
 - Use fans to exhaust to outside
- Place surgical mask on patients as tolerated and compatible with patient care

Strategies for Patient Placement

- Use private rooms where available
- Designate wards for SARS patients where increased capacity is needed
 - Segregate suspect SARS cases from patients being evaluated for SARS until diagnosis is established

Limit Patient Contact

- Visitor restriction options
 - Screening and restriction of symptomatic visitors (refer for evaluation)
 - Restrict visits to SARS patients
 - Limit all hospital visits to all but essential family members
- Dedicate staff to care of SARS patients

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Consider all Possible Transmission Routes

- Most likely
 - Droplet
 - Contact
 - Direct (Contamination of skin, clothing)
 - Indirect (Contaminated fomites)
- Possible
 - Airborne

Personal Protective Attire

- Respiratory protection
 - N95 mask preferred
 - Perform qualitative respirator fit-testing where applicable
 - Surgical mask if not available
 - Apply mask when entering room or ward
 - Ensure snug fit over nose and mouth
- Eye protection
 - Goggles or face shield as recommended for standard precautions

Personal Protective Attire

- Contact protection of skin and clothing
 - Gowns (disposable or washable)
 - Gloves (disposable)
 - For contact with SARS patients or their environment
 - Head and shoe covers may be used if dictated by cultural norms or regulations

Protect the Environment of Care

- Follow standard procedures or regulations for handling contaminated (infectious) materials
 - Soiled linen/laundry
 - Usual warm water and detergent wash cycles
 - Bleach may be added but is not needed
 - Avoid sorting of linen before washing
 - Waste
 - Dispose in accordance with local regulations for infectious waste
 - Eating utensils
 - Use standard warm water dishwashing methods

Protect the Environment of Care

- Use hospital grade disinfectants or 1:100 dilution of household bleach (5.25% - 6%) and water for surface cleaning and disinfection
- Assume environment in which SARS patients are housed is heavily contaminated
 - Facilitate daily cleaning by limiting clutter in patient care area
 - Thoroughly clean and disinfect room and equipment after patient discharge

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- **Hand hygiene**

Hand Hygiene

- Hand hygiene is the cornerstone of prevention!!!
- Perform hand hygiene following all contact with suspect SARS patients and their environment
- Methods
 - Hand washing with soap and water
 - Alcohol-based handrubs when...
 - Hands are not visibly soiled, or
 - Hand washing facilities are not available in patient rooms

Other considerations

- Avoid use of nebulizers when possible
 - If needed, perform nebulization in protected, negative pressure environment
- Limit patient movement
 - If transport required for patient care, place surgical mask on patient
 - Place clean attire on patient or cover with gown

Surveillance

- Monitor personnel for signs and symptoms of SARS
- Restrict symptomatic personnel pending evaluation for SARS

The principles are the same....methods of implementation may differ

Factors that Influence Infection Control Practices Globally

- Cultural patterns of healthcare delivery
- Hospital infrastructure
- Knowledge and experience of healthcare personnel
- Resource limitations
- Extent of SARS spread in community and hospital

SARS Resources

<http://www.cdc.gov/ncidod/sars/>

<http://www.who.int/csr/sars/en/>

Prevention is Primary!