

# **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

# Key Objectives of SARS Prevention

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# Early Detection

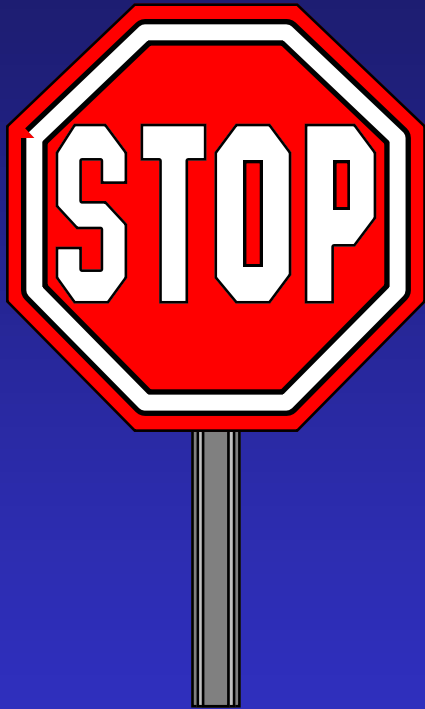
- Clinician education
  - Information on signs and symptoms of SARS
  - Heightened index of suspicion in patients with history of travel or exposure to SARS areas or patients



# 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

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  - Visual alerts
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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

# Key Objectives of SARS Prevention

- Early detection of infection
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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!**