Infection Control in the Home

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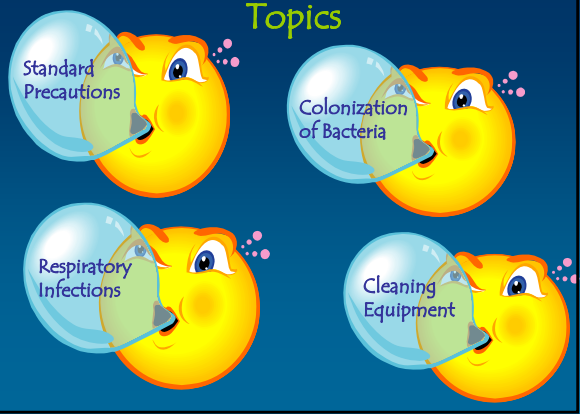
Topics



Standard Precautions

- Good hand washing is the key to infection control
- Disposable gloves should be worn if contact with body fluids is expected

So Why All the Fuss About Hand Hygiene?

Most common mode of transmission of pathogens is via hands!

- Infections acquired in healthcare
- Spread of antimicrobial resistance

Indications for Hand Hygiene

If hands are not visibly soiled, use an alcohol-based handrub for routinely decontaminating hands

Retrieved from: http://www.safetyshop.com/products/productDetail.asp?productcode=FDS144A

Guideline for Hand Hygiene in Health-care Settings. *MMWR 2002*; vol. 51, no. RR-16.

Indications for Hand Hygiene

When hands are visibly dirty, contaminated, or soiled.

Wash with non-antimicrobial or antimicrobial soap and water

Bacteria
Unwashed hand

Bacteria
20 Second H_2O Rinse

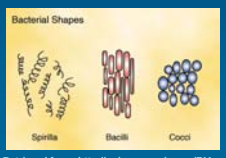
Bacteria
Washed hand

Guideline for Hand Hygiene in Health-care Settings. *MMWR 2002*; vol. 51, no. RR-16.

Pictures Retrieved from: http://pubs.caes.uga.edu/caespubs/pubcd/B693.htm

Multidrug Resistant Organisms

Multidrug resistant organisms are bacteria that are resistant to one or more classes of antimicrobial agents and are resistant to all but one or two commercially available antimicrobial agents



Retrieved from: http://universe-review.ca/F11-monocell.htm

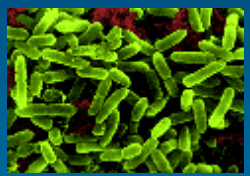
Multidrug Resistant Organisms

Most common multidrug resistant organisms outside of the health care setting are MRSA (methicillin resistant staphylococcus aureus) and VRE (Vancomycin resistant enterococci)

Retrieved form: http://cfcenter.stanford.edu/Burns-KnowBugs.jpg

Colonization of Bacteria

- Colonization occurs when bacteria adheres to the tissue and forms colonies
- Many of the children with tracheostomies are colonized with bacteria
  - (not infectious; becomes normal part of flora)
- Pseudomonas is a common bacteria which is colonized in children with tracheostomies



Retrieved from: http://www.cellsalive.com/toc_cellbio.htm

Home Precautions

Caregivers wash hands with soap and water after physical contact with the child

Towels for drying hands should be used only once

Disposable gloves worn with contact with body fluids

Linens and patient environment should be cleaned routinely and when soiled with body fluids

Notify doctors and other healthcare personnel who provide care for the patient that the patient is colonized/infected with a multi-drug resistant organism

•Source: Division of Healthcare Quality Promotion National Center for Preparedness, Detection, and Control of Infectious Diseases. www.cdc.gov

Home Precautions

- Any irritant can decrease the cleansing action of the cilia
- Avoid smoke from any source
- Maintain a clean home free of irritants

Retrieved from: http://www.co.mohave.az.us/WIC/SmokingandYourBaby.htm

Respiratory Infections

- Most respiratory infections are viral
- Young children can have 6-8 per year
- Difficult to determine if viral or bacterial

Retrieved from:
http://www.firstfreerockford.org/childrens.htm

Respiratory Infections

Signs/Symptoms include:

- Colored/ purulent secretions
- Color change
- Presence of fever
- Increased work of breathing,
- Increased respiratory rate
- Cough
- Child acting ill
- Increased Peak Inspiratory Pressure (PIP)

Prevention of Respiratory Infection

Good Hand Washing

Limit visitors & exposure to crowds

Prevention of Respiratory Infection

- Good oral care

- Immunizations for child
- Annual influenza vaccination for child and all care givers

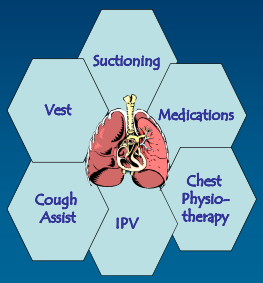
Treatment of Respiratory Illness

Treatment dependent on:

- Symptoms
- Laboratory tests/xrays
- Underlying diagnosis child's history

Treatment of Respiratory Infection Airway Clearance

- Bronchial hygiene modalities
- Humidification
- Bronchodilators



Treatment of Respiratory Infection Antibiotics

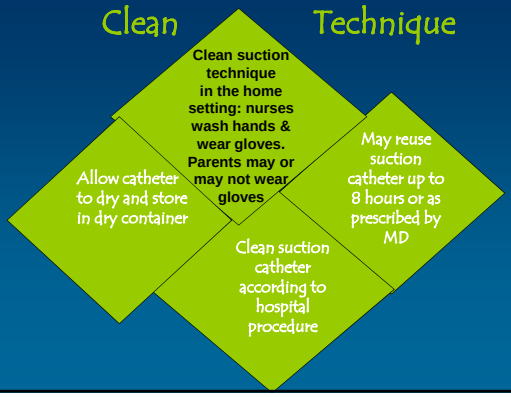
- Oral/enteral antibiotics
- Aerosol antibiotics; such as Tobramycin
- If multiple aerosol medications, give in following order:
  - Bronchodilator/Inhaled steroid
  - Mucolytic
  - Antibiotic

Cleaning of Equipment

- Clean equipment to avoid infections
- Variety of approaches and schedules
- Clean suctioning technique used in the home

Tracheostomy tubes

How to Suction: Clean Technique



Cleaning of Tracheostomy Tubes

- Uncuffed tracheostomy tubes
- Bivona tight to Shaft tracheostomy tubes can be recleaned
- Cuffed tracheostomy tubes cannot be recleaned

Cleaning Trach Tube

- Check trach and discard if any signs of cracks or breaks in tube or stiffness of tube
- Clean according to manufacturer's recommendations or procedure from hospital
- Make sure tracheostomy tube is completely dry before placing in clean container.
- If water droplets appear in the container or on the tracheostomy tube, the tube is contaminated and must be recleaned.

Cleaning Equipment

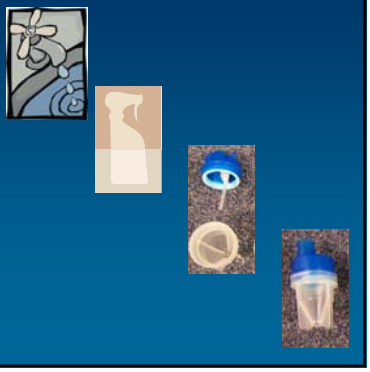
Wash permanent equipment weekly with liquid soap

- Dove®
- Ivory®

These leave the least filmy residue

Cleaning and Disinfecting

- Wash
- Rinse
- Disinfect
- Rinse
- Air dry
- Assemble
- Store



Disinfecting Equipment

- Use one of two solutions:
  - Control III and Water
  - Vinegar (acetic acid)and Water

Retrieved from: http://www.southwestmedical.com/Personal_Care/Disinfectants_Preps/716c0

Retrieved from: http://daily-ness.blogspot.com/2006/09/newly-obsessed-with-baking-soda.html

Disinfecting Equipment

- Control III and water not always covered by insurance
- Kills Gram negative and positive bacteria
- Mix 1 ounce with a gallon of water
- Good for 14 days once mixed
- 3 Weeks worth of disinfecting

Retrieved from: http://www.southwestmedical.com/Personal_Care/Disinfectants_Preps/716c0

Disinfecting Equipment

- Vinegar (acetic acid) and water not covered by insurance.
- Kills gram negative bacteria
  - and is not effective in hard water
- Mix one quart with a gallon of water
- Good for 7 days once mixed
- 2 Weeks worth of disinfecting

Retrieved from: http://daily-ness.blogspot.com/2006/09/newly-obsessed-with-baking-soda.html

Key Points: Infection Control

- Good hand washing key to infection control
- Tracheostomies are colonized with bacteria
- Most respiratory infections are viral
- Cleaning equipment prevents infection