

# Infection Control in PCD: With Lessons from CF

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# What is “infection control”?

- Process to limit infections by preventing spread of pathogens (germs that cause infection)
  - Bacteria
    - *Staphylococcus aureus*
    - *Pseudomonas aeruginosa*
  - Viruses
    - Influenza virus
  - Molds
    - *Aspergillus*

# Where are pathogens??

- Nature: soil, water
- Home: nebulizers, sinks
- Healthcare setting: hospitals, clinics
- Other people
  - Other people with PCD or CF
  - Family members
  - People without PCD or CF

# How Do Germs Spread: In CF (and presumably in PCD)?

- **Direct contact** with infected secretions
  - kissing, touching, patient care, shaking hands
- **Indirect contact** with infected secretions via an object
  - eating utensils, drinking glass, respiratory equipment, toys
- **Droplets** of infected secretions that travel up to 3 feet
  - germs within droplets can live for hours on surfaces
- **NO** known spread through the air






# Spread of *Burkholderia cepacia* in CF patients

- Healthcare setting
  - Same hospital room
  - Contaminated respiratory equipment
  - Contaminated shower
  - Handshaking
- Non-healthcare setting
  - Socializing in CF camps
  - Sharing a toothbrush
  - Kissing
  - Exercise class
  - Long car rides

## Spread of *Pseudomonas aeruginosa* in CF (and presumably PCD)

- Siblings with CF
- Health Care Environment
  - Children in the same CF clinic
  - Adults in the same CF clinic
- Able to live for hours on moist surfaces

# Spread of *Staphylococcus aureus* and MRSA in CF (and presumably PCD)

- Common in the community
  - Healthcare workers
  - Healthy family members
- MRSA is resistant to antibiotics
- Spread between people
  - With CF  with CF
  - Without CF  without CF
  - With CF  without CF

# Respiratory equipment

- Nebulizers can be contaminated by
  - Respiratory secretions
  - Tap water
  - Improper storage and use of medications



# How to control infection in PCD: Surveillance

- Surveillance – the ongoing watch for germs
- Perform sputum cultures every 3-6 months
- Know your culture results!



# How to control infection in PCD: Containment

- Contain respiratory secretions
- Cough into a tissue
- Throw tissue into a trash can



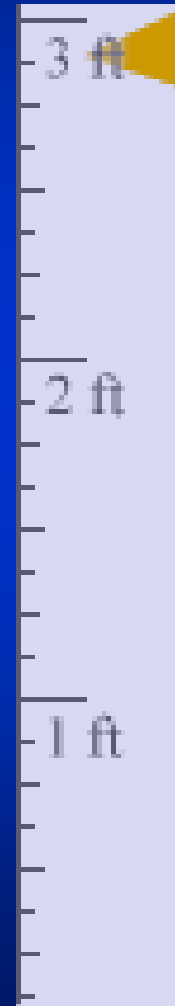
# How to control infection in PCD: Hand hygiene

- Alcohol-based hand gels  
or
- Soap and water
- Clean your hands after
  - Coughing, sneezing, nose-blowing
  - Respiratory treatments
  - Airway clearance



# How to control infection in PCD: Minimize contact

- 3-foot rule
- Avoid hand-shaking
- Avoid activities known to spread germs
- Limit socializing with others with PCD (or CF)
- Educate others



# How to control infection in PCD: Disinfect respiratory equipment

- By heating
  - BOIL for 5 mins
  - Microwave for 5 mins
  - Dishwasher for 30 mins at 158°FOR
  - By soaking in disinfectant
    - 1:50 dilution of household bleach for 3 mins
    - 70% isopropyl (rubbing) alcohol for 5 mins
    - 3% hydrogen peroxide for 30 mins
  - Then, **RINSE** with sterile water and **AIR DRY** equipment



# How to control infection in PCD: Use available immunizations

- Yearly influenza vaccine
- Pneumococcal vaccines (Pneumovax and Prevnar)
- Usual childhood immunizations (especially diphtheria, pertussis, measles)

# Infection Control in the Healthcare Setting

- Each institution has their own infection control policy that:
  - Identifies specific situations or organisms that warrant extra precautions
  - Defines use of gloves, masks and/or cover gowns
  - Defines isolation rules for patient

# Infection control in PCD: Summary

- Be aware of your organisms - get regular sputum cultures
- Contain respiratory secretions – cough in tissue
- Practice good hand hygiene – alcohol wash; soap/water
- Minimize contact – use 3 foot rule
- Disinfect respiratory equipment and air dry
- Get available immunizations
- Comply with infection control policies