

## Pseudomonas: Staff Fact Sheet

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### What is Pseudomonas?

- Gram Negative aerobic bacillus
- Able to grow and survive in almost any environment
- Found primarily in water, soil and vegetation
- An opportunistic pathogen in debilitated patients
- Can cause outbreaks
- Grows in biofilm slime matrix as a survival strategy. Microcolonies surrounded by an exopolysaccharide protect the bacteria from phagocytosis and complement activity

### Where is Pseudomonas found?

- It is commonly found in human oropharynx and faeces, animals and plants
- In hospital settings it can be found in contaminated aqueous solutions such as soaps, eye drops, antiseptics, tap water, dialysis fluid and equipment
- It can survive several months in water with minimal nutrients
- It is a common nosocomial pathogen in patients with invasive devices such as catheters, ventilators, endotracheal tubes.

### Pathogenicity:

- It is a common nosocomial infection that can cause pneumonia, urinary tract infections, bloodstream infections and surgical wound infections
- Eye infections, especially among contact lens wearers
- Cystic fibrosis patients are characteristically susceptible
- May cause folliculitis following exposure to poorly cleaned hot tubs and spas

### Transmission:

- Transmitted through direct and indirect contact with secretions from patients who are colonized or infected
- Found on the hands/gloves of health care workers after contact with mucous membranes, upper respiratory tract secretions, particularly intubated patients drainage from infected conjunctivae
- Found in drains of sinks, faucets, sink counters – may be transmitted by splashing, basins, face cloths

## What is Multi-Drug Resistant Pseudomonas?

- Strains of Pseudomonas that are more resistant than usual to the specific antibiotics **normally** used to treat Pseudomonas. (Note: All strains of pseudomonas are resistant to many commonly used antibiotics used to treat other organisms.)
- Pseudomonas may become resistant as a result of repeated exposure to antibiotics (e.g. aminoglycosydes, beta lactam antibiotics, fluoroquinolones)
- Some disinfectants are ineffective when strains of Pseudomonas are contained in a biofilm on environmental surfaces
- The antibiotic resistance pattern among strains of Pseudomonas varies from hospital to hospital and can change over time.

## Infection Prevention Strategies:

- Wash hands before and after contact with each patient, and after glove removal
- Clean, disinfect or sterilize patient care equipment according to recommended guidelines between patient use
- Use aseptic technique when caring for invasive devices
- Place patients with multi-drug resistant Pseudomonas in a private room or cohort with another patient with the same organism
- Use Contact Precautions for patients with multi-drug resistant Pseudomonas
- Ensure areas surrounding sinks are dry and free of equipment and containers

## Treatment:

- Antibiotic prophylaxis is not usually administered in patients colonized with Pseudomonas
- Treatment of infection with Pseudomonas should be based on the specific susceptibility profile of the organism
- The antibiotic susceptibility results should be confirmed periodically since repeated exposure to antibiotics can result in increased bacterial resistance.

This fact sheet provides basic general information only and is to be used as a quick guide, not as a complete resource on the subject. If you have any further questions, please contact Infection Prevention & Control.