

## Pseudomonas Aeruginosa Disease

*Pseudomonas aeruginosa* is a gram-negative, aerobic bacilli that has been increasingly recognized as an opportunistic human pathogen that can cause a wide variety of infections including infections in burn patients, osteomyelitis, endocarditis, pneumonia, and urinary tract infections. *P. aeruginosa* most commonly infects the pulmonary tract, causing a diffuse bronchopneumonia in patients. Individuals with cystic fibrosis are especially at risk for *Pseudomonas* infections in the lungs. It is the most common cause of infections in burn injuries and can lead to hemorrhage and necrosis of infected tissue. It is also a common cause of hot tub folliculitis, which is caused by lack of proper, periodic attention to water quality. This organism is a frequent colonizer of medical devices including catheters and can cause nosocomial urinary tract infections. It is also frequently associated with osteomyelitis in IV drug users and also puncture wounds of the foot, thought to result from exposure to the organism via the foam padding found in tennis shoes. Diabetic patients are particularly at high risk for osteomyelitis occurring via this mechanism. This organism is implicated in corneal infections in contact lens users and can cause endocarditis when in the blood stream. *Pseudomonas* is also associated with purple-black skin lesions called ecthyma gangrenosum.



PLAY PICMONIC

### Signs and Symptoms

#### Pneumonia

##### [Nude-Mona](#)

This organism most commonly infects the pulmonary tract, causing a diffuse pneumonia.

#### Cystic Fibrosis

##### [Sisters with Fibrous-sacks](#)

*P. aeruginosa* most commonly infects the pulmonary tract, causing a diffuse bronchopneumonia in patients. Individuals with cystic fibrosis are especially at risk for *Pseudomonas* infections in the lungs.

#### Burn Wounds

##### [Burned-guy on fire](#)

*Pseudomonas aeruginosa* is the most common cause of infections in burn injuries and can lead to hemorrhage and necrosis of infected tissue.

#### Hot tub folliculitis

##### [Hot tub Hair-follicles-on-fire](#)

This organism is a common cause of hot tub or swimming pool folliculitis. Patients often present with pruritic follicular lesions on parts of the body immersed in water.

#### Urinary Tract Infections

##### [Kidney-and-bladder-on-Fire](#)

*Pseudomonas* UTIs are often acquired in the hospital and associated with catheterization, instrumentation, or surgery.

#### Osteomyelitis associated with IV drug use

##### [Skeleton-in-flames injecting IV Drugs](#)

IV drug use predisposes patients to osteomyelitis caused by *Pseudomonas aeruginosa*.

### **Osteomyelitis from Shoe Puncture Wound**

[Syringe through rubber boot on skeleton](#)

Pseudomonas osteomyelitis is frequently associated with puncture wounds of the foot, thought to result from direct inoculation with the organism via the foam padding found in tennis shoes.

### **Diabetic Osteomyelitis**

[Dyed-bead-pancreas Poking Skeleton-in-flames](#)

Diabetic patients are particularly at high risk for Pseudomonas osteomyelitis, typically in the form of diabetic foot infections.

### **Corneal Infections in contact lens users**

[Contact-case with Contacts](#)

This organism is implicated in corneal infections in contact lens users that do not frequently change their contact solution and contact cases. Because the cornea is difficult to reach by the immune system, Pseudomonas can cause a rapidly progressive and destructive lesion when introduced into the eye. Symptoms include pain, redness, swelling and impaired vision.

### **Endocarditis**

[Donut-heart-card](#)

Pseudomonas aeruginosa can infect native heart valves in individuals who are IV drug abusers and can also infect prosthetic heart valves.

### **Ecthyma Gangrenosum**

[Ecthyma-egg Gang-of-green](#)

A skin infection caused by Pseudomonas aeruginosa that presents with a necrotic center with a surrounding halo of erythema. This lesions occurs when the organism invades the blood vessels and causes infarctions and tissue necrosis via exotoxin A.