

Nosocomial Infections



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Hospital-acquired infections (nosocomial) are defined as infections that were not present in the patient at the time of admission onto the hospital. This type of infection affects two million patients in the US annually, and at a cost of 4 billion dollars. They end up killing about 90,000 patients yearly. Reasons for this are mainly due to increases in immune-compromised patients, increased numbers of drug-resistant germs, and an increase in invasive tests or procedures.

- **Urine Tract Infections (UTI) comprise up to 50% of nosocomial patients.** These are related to invasive catheterization, especially to empty the bladder. There's an added risk of 3-10% for infection EVERY day a catheter remains in place. Early symptoms of upper-tract infection include flank pain, fever and an increase in urinary WBC counts.

- **Pneumonia makes up 20% of nosocomial infections.** Patients aspirate endogenous or hospital acquired germs. Signs include fever, elevated WBC in blood counts, purulent secretions, and the appearance of new infiltrates on chest X-Rays. Otitis and sinusitis should be ruled out. Most common germs are *Streptococcus pneumoniae*, *Hemophilus influenza* (early on); *Staphylococcus aureus* and *Pseudomonas aeruginosa* (later on).



- **Surgical wound infections take up 20% of nosocomial infections.** Incubation for these kind of wound-related bacteria takes usually is 5-7 days, which means that the infection becomes evident usually after hospital leave. An erythematous diameter of more than 2 cm around the wound margin, local pain and induration are related signs. Staphylococci usually from skin and enteric bacteria are common culprits.

- **Intravascular Device nosocomial infection cases are about 250,000 patients in the US annually.** These are blood stream infections with a mortality rate of up to 25%. Coagulase-negative Staphylococci, Staph. Aureus, enteric bacteria and Candida are common germs encountered in blood cultures.

Preventive measures include: Hand washing and hygiene, wearing gloves, masks. Additionally, cultures from "sensitive" surfaces are also done to ensure germs, especially resistant types, do not emerge. There is also the monitoring of procedure types to ensure the least invasive techniques are thought of if possible. Finally, hospital stay should be as short as possible for a patient since longer stay is associated with higher risk of nosocomial infections.



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