

Preventing Multidrug Resistant Organisms

A Fact Sheet for Patients and Their Family Members

Definition:

1. MRSA: Methicillin-resistant *Staphylococcus aureus*
2. Methicillin: Synthetic β -lactam antibiotic
3. VRE: Vancomycin-resistant *Enterococcus*
4. ESBL: Extended-spectrum beta-lactamase-producing gram negative bacilli
5. CDI: Clostridium difficile
6. HAI: Healthcare-associated infection (nosocomial)

Prevalence:

- The identified organisms have increased in prevalence in US hospitals over the last three decades
- Options for treating patients with these infections are often extremely limited
- 5-10% of patients admitted to acute care hospitals acquire infections
 - 2 million patients/year
 - ¼ of nosocomial infections occur in ICUs
 - 90,000 deaths/year
 - Attributable annual cost: \$4.5 – \$5.7 billion
 - Cost is largely borne by the healthcare facility not 3rd party payors

Healthcare Associated Infections :

- 70% are due to antibiotic-resistant organisms
- Invasive devices are more important than underlying diseases in determining susceptibility to nosocomial infection

Major Sites of Healthcare Acquired Infections :

- Urinary tract infection
- Bloodstream infection
- Pneumonia (ventilator-associated)
- Surgical site infection

Risk factors for increasing the chance of both colonization and infection of these organisms include:

- Severity of illness
- Previous hospitalization
- Previous antibiotic use
- Chronic illness
- Invasive procedures/devices

Solutions :

1. Hand Hygiene- The single most important method, **BEFORE and AFTER** patient contact
2. Isolation- contact
3. Cleaning/Disinfection
4. Education
5. Policies- cleaning schedules, isolation, hand hygiene