

Timely Administration of Antibiotics

Older adults are often at increased risk of infections due to age-related physiological changes, chronic conditions, and weakened immune systems. The risk is even greater for those residing in long-term care facilities due to shared and close living arrangements. Prompt identification of the signs and symptoms of infection, combined with timely intervention by staff, can help significantly reduce the likelihood of adverse health outcomes.

Recognizing Infection

Signs and symptoms of infection will vary depending upon the causative pathogen. Acute or sudden changes in vital signs or laboratory values may prompt further investigation (Table 1). Nursing staff should also be aware of any sudden changes in appearance (e.g., redness or swelling around existing wounds, pallor, grimacing) or behavior (e.g., confusion, decreased appetite, frequent urination, fatigue), as these may also indicate presence of an underlying infection.

Table 1. Signs that May Indicate Infection

- **Temperature:** >100.4° F or <96.8° F
- **Heart Rate:** >90 bpm
- **Respiratory Rate:** >20 breaths/min
- **White Blood Cell Count:** >12,000 cells/mm³ or <4,000 cells/mm³

Timely Administration

For infections suspected to be caused by bacteria, timely administration of antibiotics is crucial to reducing further progression. However, prescribing and administration of antibiotics must also adhere to the facility's antibiotic stewardship policies and procedures to promote resident safety, optimize clinical outcomes, and minimize antibiotic resistance.

Prior to antibiotic administration, stop and ask yourself:

- ✓ Were supportive measures attempted?
- ✓ Have we collected appropriate cultures and/or completed necessary diagnostic tests?
- ✓ Is this an appropriate antibiotic for the type of infection we are treating (e.g., source of infection, likely pathogens, shortest duration necessary)?

STAT Orders

Severe infections, such as sepsis or pneumonia, may warrant immediate ("STAT") administration of antibiotics as delays in care can significantly impact overall health outcomes. In these instances, it may be appropriate to access the first dose of the antibiotic from the facility's emergency medicine supply (i.e., E-KIT).

Before ANY medication is removed from an E-Kit:

- ✓ The nurse must obtain a valid physician's order appropriate to the medication in accordance with State and Federal laws and regulations.
- ✓ The pharmacist must be notified as required by State and Federal laws and regulations.

Once a medication has been removed from an E-Kit, it must be documented according to the facility's policies and procedures. Subsequent doses should come from the pharmacy's regularly scheduled delivery.

Antibiotic Stewardship

Antibiotic Stewardship refers to a set of commitments and actions to optimize the treatment of infections and reduce adverse events, with a goal of slowing the emergence of resistant bacteria and preventing the spread of resistant infections. Antibiotics remain one of our most powerful tools for fighting against bacterial infections, but when used inappropriately, the threat of antimicrobial resistance continues to increase. Inappropriate antibiotic use occurs when antibiotics are used when not necessary, for the wrong duration, or when the wrong type or dose of antibiotic is prescribed. With repeated inappropriate use, bacteria can develop resistance mechanisms to the drugs designed to kill them, making infections much harder to treat.

To reduce the risk of antimicrobial resistance, facilities should consider applying the following antibiotic stewardship strategies when prescribing antibiotics:

- ✓ Consider use of supportive measures and limit treatment to symptom control if infections are suspected to be caused by viruses (e.g., common cold).
- ✓ For acute, self-limiting infections, consider waiting to initiate antibiotics until diagnostic tests and culture/sensitivity results have been evaluated.
- ✓ Choose empiric antibiotic therapy based on the most likely source of infection and targeted pathogens, resident-specific factors (e.g., severity, allergies, history of drug-resistant infections), and facility-specific antibiograms.
- ✓ Once culture results are available, de-escalate therapy to the narrowest spectrum agent or stop antibiotics if there is no evidence of a bacterial infection.
- ✓ Use the shortest antibiotic duration in accordance with current guidelines and as clinically appropriate.
- ✓ Ensure residents complete their full course of antibiotic therapy.

Need help ensuring optimal use of antibiotics? Our [model Antibiotic Stewardship Program](#), updated annually, includes antibiotic prescribing protocols, infection management decision trees, treatment guidelines, tracking tools, and more, to aid skilled nursing facilities in complying with CMS regulations.

References:

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