

coccal vaccine (see Chap. 43) is recommended as a single dose for the same populations.

- Assist or instruct clients at risk about pulmonary hygiene measures to prevent accumulation or promote removal of respiratory secretions. These measures include ambulating, turning, coughing and deep-breathing exercises, and incentive spirometry. Retained secretions are good culture media for bacterial growth.
- Use sterile technique when changing any dressing. If a wound is not infected, sterile technique helps prevent infection; if the wound is already infected, sterile technique avoids introducing new bacteria. For all but the smallest of dressings without drainage, remove the dressing with clean gloves, discard it in a moisture-proof bag, and wash hands before putting on sterile gloves to apply the new dressing.
- To minimize spread of staphylococcal infections, infected personnel with skin lesions should not work until lesions are healed; infected clients should be isolated. Personnel with skin lesions probably spread more staphylococci than clients because personnel are more mobile.
- For clients with infections, monitor temperature for increased or decreased fever, and monitor WBC count for decrease.
- For clients receiving antimicrobial therapy, maintain a total fluid intake of approximately 3000 mL/24 hours, if not contraindicated by the client's condition. An adequate intake and avoidance of fluid volume deficit may help to decrease drug toxicity, especially with aminoglycoside antibiotics. On the other hand, a client receiving IV antibiotics, with 50 to 100 mL of fluid per dose, may be at risk for development of fluid volume overload.
- Assist clients with handwashing, maintaining nutrition and fluid balance, getting adequate rest, and handling secretions correctly. These measures help the body to fight the infection, prevent further infection, and enhance the effectiveness of anti-infective drugs.
- Assist clients in using antimicrobial drugs safely and effectively.

Evaluation

- Interview and observe for compliance with instructions for using antimicrobial drugs.
- Observe for adverse drug effects.
- Interview and observe for practices to prevent infection.

PRINCIPLES OF THERAPY

Treating Infection

The goal of treatment is to eradicate the causative microorganism and return the host to full physiologic functioning. This differs from the goal of most drug therapy, which is to relieve signs and symptoms rather than cure the underlying disorder.

Rational Use of Antimicrobial Drugs

Antimicrobials are among the most frequently used drugs worldwide. Their success in saving lives and decreasing severity and duration of infectious diseases has encouraged their extensive use. Authorities believe that much antibiotic use involves overuse, misuse, or abuse of the drugs. That is, an antibiotic is not indicated at all or the wrong drug, dose, route, or duration is prescribed. Inappropriate use of antibiotics increases adverse drug effects, infections with drug-resistant microorganisms, and health care costs. In addition, it decreases the number of effective drugs for serious or antibiotic-resistant infections.

Guidelines to promote more appropriate use of the drugs include:

1. Avoid the use of broad-spectrum antibacterial drugs to treat trivial or viral infections; use narrow-spectrum agents when likely to be effective.
2. Give antibacterial drugs only when a significant bacterial infection is diagnosed or strongly suspected or when there is an established indication for prophylaxis. These drugs are ineffective and should not be used to treat viral infections.
3. Minimize antimicrobial drug therapy for fever unless other clinical manifestations or laboratory data indicate infection.
4. Use the drugs along with other interventions to decrease microbial proliferation, such as universal precautions, medical isolation techniques, frequent and thorough handwashing, and preoperative skin and bowel cleansing.
5. Follow recommendations of the Centers for Disease Control and Prevention for prevention and treatment of infections, especially those caused by drug-resistant organisms (eg, gonorrhea, penicillin-resistant streptococcal infections, methicillin-resistant staphylococcal infections, vancomycin-resistant enterococcal infections, and MDR-TB).
6. Consult infectious disease physicians, infection control nurses, and infectious disease pharmacists about local patterns of drug-resistant organisms and treatment of complicated infections.

Collection of Specimens

Collect specimens for culture and Gram's stain before giving the first dose of an antibiotic. For best results, specimens must be collected accurately and taken directly to the laboratory. If analysis is delayed, contaminants may overgrow pathogenic microorganisms.

Drug Selection

Once an infection requiring treatment is diagnosed, numerous factors influence the choice of an antimicrobial drug or combination of drugs.