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immunocompromise, including that due to diabetes mellitus, liver disease, or splenectomy; involvement of extremities with underlying venous and/or lymphatic compromise; and prior mastectomy on the side of an involved upper extremity. When prophylactic antibiotics are administered, they are usually given for 3–5 days.

Rabies and Tetanus Prophylaxis Rabies prophylaxis, consisting of both passive administration of rabies immune globulin (with as much of the dose as possible infiltrated into and around the wound) and active immunization with rabies vaccine, should be given in consultation with local and regional public-health authorities for some animal bites and scratches as well as for certain nonbite exposures (Chap. 214). Rabies is endemic in a variety of animals, including dogs and cats, in many areas of the world. In the United States, although the majority (90%) of rabid animals reported each year are wild (including raccoons, skunks, foxes, and bats), most rabies prophylaxis is given because of close contact with domestic animals. More cats than dogs are reported rabid each year. Many local health authorities require the reporting of all animal bites. A tetanus booster immunization should be given if the patient has undergone primary immunization but has not received a booster dose in the past 5 years. Patients who have not previously completed primary immunization should be immunized and should also receive tetanus immune globulin. Elevation of the site of injury is an important adjunct to antimicrobial therapy. Immobilization of the infected area, especially the hand, also is beneficial.

Hepatitis B Prophylaxis Hepatitis B virus can be transmitted, albeit rarely, by exposure of nonintact skin to blood-free saliva. The mainstay of postexposure prophylaxis is active immunization with hepatitis B vaccine, but, in certain circumstances, hepatitis B immune globulin is recommended in addition to vaccine for added protection (Chap. 350).

PART 5 Infectious Diseases Acknowledgment The authors would like to acknowledge Drs. Sandeep S. Jubbal and Florencia Pereyra for their prior contributions to this chapter. ■ ■

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Infections Acquired in

Health Care Facilities Health care–associated infections affect at least 3% of hospitalized patients at any given time. Through concerted efforts, national rates of some nosocomial infections were declining before the onset of the COVID-19 pandemic, but infection control challenges related to the pandemic reversed years of progress. The past few years have also seen a rise in incidence of multidrug-resistant infections, which are challenging to treat and contain. However, newer tools combined with evidence-based methods of infection prevention and control are robust and can succeed. This chapter reviews the epidemiology, prevention, and control of health care–associated infections and recent challenges faced by health care epidemiologists.

ORGANIZATION, RESPONSIBILITIES, AND OVERSIGHT OF INFECTION PREVENTION AND CONTROL PROGRAMS

Infection prevention and control programs are composed of infection preventionists supervised by an experienced team lead. These typically include a doctoral-level (MD/DO/PhD) health care epidemiologist who may report to the chief medical officer or chief quality officer. The number of staff required in an infection prevention and control program depends on the size and complexity of the health care facility and its patients. Infection prevention and control programs are responsible for a broad range of activities, including surveillance and reporting of nosocomial infections; preventing and thwarting transmission of nosocomial pathogens through use of isolation and education; reducing device-associated infections through evidence-based interventions; collaborating with occupational health to manage infectious exposures; preparing for and managing emerging infectious diseases; and investigating and controlling outbreaks. The team collects and analyzes infection data and reports those data to institutional stakeholders, such as the multidisciplinary Infection Control Committee. Infection preventionists usually perform the mandatory reporting of select nosocomial infection data to the National Healthcare Safety Network that is managed by the Centers for Disease Control and Prevention (CDC). Such reporting is required by the U.S. Centers for Medicare and Medicaid Services and affects facilities' reimbursement for the care they have provided, i.e., nonpayment for care related to preventable

nosocomial infections. SURVEILLANCE Surveillance to detect and prevent health care-associated infections focuses on outcomes, processes, and other related measures that directly or indirectly influence the risk of contracting them. Examples of outcomes include surgical site infections and hospital-onset *Clostridioides difficile* infections. Key process measures include compliance with evidence-based practices that reduce the risk of infection, such as hand hygiene, central line insertion care, and maintenance practices for indwelling devices. Finally, health care personnel influenza immunization rates are an example of a related measure that is tracked at a local, regional, and national level to gauge efforts toward reducing the risk of nosocomial influenza in acute and long-term care settings. Detecting health care-associated infections using a case-finding strategy is a labor- and resource-intensive process. Most U.S. hospitals rely on laboratory-based surveillance as the fundamental data collection methodology, supplemented with clinical reviews by infection preventionists.

Revision #1

Created 2026-01-06 16:32:58 UTC by Omar Ayman

Updated 2026-01-06 16:32:58 UTC by Omar Ayman