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Commentary
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Health-Care Related Infections in Hospitals

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The Centers for Disease Control and Prevention (CDC) has developed a basic definition of HAI, reissued in 2004 [1]. HAI is defined as developing during hospitalization, but not present at the time the patient is hospitalized and not cultured. Generally, infectious diseases that occur 48 to 72 hours or more after admission and within 10 days after discharge. Some hospitals use these definitions as described. Other hospitals may use some, but not all, CDC definitions. And other medical institutions may need to change or develop their own definitions. Whichever definition you use, it must be consistent within the facility and be the same as or similar to the definition developed by the CDC or used by other researchers. The existence of standard definitions is useful when a medical institution wants to compare monitoring results or performance measurements within its various medical / surgical disciplines with those of other medical institutions or nationally published data. Risk factors for patients with medical-related infections

Transmission of an infection in a medical facility requires three components: the source microorganism, the sensitive host, and the means by which the microorganism is transmitted to the host.

During medical care, patients may be exposed to a variety of extrinsic microorganisms (bacteria, viruses, fungi, and protozoa) from other patients, healthcare professionals, or visitors. Other reservoirs were contaminated (eg, in the environment) with the patient's endogenous bacterial flora (eg, the patient's skin, mucosa, gastrointestinal tract, or residual bacteria on the respiratory tract) that may be difficult to control. Inanimate surface or object). Touching the surface of the hospital room, device, medicine). The most common sources of HAI-causing infectious agents, described in a scientific review of 1,022 outbreaks [2], are individual patients, medical devices or devices, hospital environments, medical staff, and contaminated. Medicines, contaminated food and contaminated patient care equipment. Host vulnerability depends on patients have different susceptibility to the development of infections after contact with pathogenic organisms. Some people do not develop symptomatic diseases because they have an innate protective mechanism that resists increased growth of microorganisms and is immune to the pathogenicity of certain microorganisms. Others exposed to the same microbe may form a symbiotic relationship, retain the microbe as an asymptomatic carrier (colonization), or develop an active disease process. Intrinsic risk factors make patients more susceptible to HAI. The high likelihood of infection is for sensitive patients who are immunocompromised due to age (newborn, elderly), underlying disease, severity of the disease, immunosuppressive drugs, or medical / surgical treatment. It will be reflected. Patients with changes in cell-mediated immune function, cell-mediated phagocytosis, or humoral immune response are at increased risk of infection and are capable of combating infection. People with primary immunodeficiency disorders (such as anemia and autoimmune diseases) can have frequent relapsed infections and more severe infections such as: Relapsed pneumonia.

Secondary immunodeficiencies (e.g., chemotherapy, corticosteroids, diabetes, and leukemia) increase patient susceptibility to infection from common, less virulent pathogenic bacteria, opportunistic fungi, and viruses. Considering the severity of a patient`s illness in combination with multiple risk factors, it is not unexpected that the highest infection rates are in ICU patients. HAI rates in adult and pediatric ICUs are approximately three times higher than elsewhere in hospitals [3]. Extrinsic risk factors include surgical or other invasive procedures, diagnostic or therapeutic interventions (e.g., invasive devices, implanted foreign bodies, organ transplantations, immunosuppressive medications), and personnel exposures. According to one review article, at least 90 percent of infections were associated with invasive devices. Invasive medical devices bypass the normal defenses of the skin and mucous membranes, provide foci where pathogens spread, and are internally protected from the patient's immune system. These devices not only provide a gateway for microbial colonization or infection, but also pathogens from one part of the patient's body to another, from healthcare professional to patient, or from patient to healthcare professional to patient. Promotes the propagation of [4], the risk of infection associated with these external factors can be reduced through knowledge and application of evidence-based infection control practices.

Prolonged hospitalization due to the high severity of the disease creates host vulnerabilities by increasing the chances of using invasive devices and increasing exposure to extrinsic microorganisms. These patients are also affected by rapid microbial colonization as a result of the severity of the underlying disease, depending on the function of host defense and the presence of risk factors (eg, age, extrinsic devices, and longer duration of stay). It will be easier. Exposure to these colony-forming microorganisms arises from sources such as (1) endemic pathogens from endogenous sources, (2) the flora of hospitals in the medical environment, and (3) the hands of health care workers increase. A length of stay study examining adverse health events found that the likelihood of adverse events increasing was increased by approximately 6% per day of hospitalization. The highest rate of adverse events (29.3%) was not due to surgical intervention, but to subsequent monitoring and routine care without proper disinfection procedures [5].

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