

Occupational Health Update



Focus on Preventing the Acquisition of Infections with Pre-exposure Prophylaxis and Postexposure Prophylaxis

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KEYWORDS

- Occupational health • Health care personnel • Vaccines • Postexposure prophylaxis
- Hepatitis B • Hepatitis C • HIV

KEY POINTS

- An effective occupational program is a key aspect of preventing the acquisition of an infection by health care providers through pre-exposure assessment of immunity to vaccine-preventable diseases and immediate access to medical evaluation for postexposure prophylaxis (PEP) after exposure to a communicable disease.
- All health care providers should be immune to mumps, measles, rubella, varicella, pertussis, and influenza. Health care providers with the potential for blood or body fluid exposure should also be immune to hepatitis B.
- PEP is available after exposure to several diseases, including hepatitis A, hepatitis B, HIV, measles, pertussis, invasive meningococcal infection, and syphilis.
- Health care personnel (HCP) with certain communicable disease need to be evaluated for work restrictions or furlough.

INTRODUCTION

Health care is the fastest-growing sector of the US economy, employing more than 18 million persons.¹ HCP face a range of noninfectious hazards on the job, including back injuries, strains and sprains, latex allergy, violence, and stress.¹ HCP are also commonly exposed to infectious agents via sharp injuries (eg, hepatitis C virus [HCV], hepatitis B virus [HBV], and human immunodeficiency virus [HIV]), direct patient

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care (eg, respiratory viruses, gastrointestinal pathogens, and pertussis), and the contaminated environment (eg, *Clostridium difficile*). Cases of nonfatal occupational injury and illness among HCP are among the highest of any industry sector.¹ The risks and methods preventing occupational acquisition of infection by HCP have been reviewed.²⁻⁷ Minimizing the risk of disease acquisition is based on 6 key recommended practices: (1) proper training of HCP at initiation of health care practice and annually (eg, infection control practices and sharp injury prevention); (2) immunity to vaccine-preventable diseases^{2,6,8-11}; (3) evaluation of HCP who were exposed to communicable diseases for receipt of PEP^{2,12-14}; (4) adherence to standard precautions when providing patient care,¹⁵ especially the performance of appropriate hand hygiene before and after patient care¹⁶⁻¹⁸; (5) rapid institution of appropriate isolation precautions for patients with a known or suspected communicable disease^{15,19,20}; and (6) proper use of personal protective equipment, such as masks, N95 respirators, eye protection, and gowns when caring for patients with potentially communicable diseases.^{15,21} Prevention of laboratory-acquired infection requires adherence to recommended administrative protocols (eg, no eating, drinking, or smoking in areas where microbiologic or pathologic samples are processed), engineering controls (eg, containment hoods), personal protective equipment (eg, N95 masks when culturing *Mycobacterium tuberculosis*), and appropriate immunizations.^{22,23}

DEFINITIONS

HCP refers to all paid and unpaid persons providing services in health care settings who have the potential for exposure to patients and/or infectious materials, including body substances, contaminated medical supplies and equipment, contaminated environmental surfaces, or contaminated air. These HCP may include but are not limited to those listed in **Box 1**. In general, HCP who have regular or frequent contact with patients, body fluids, or specimens have a higher risk of acquiring or transmitting infections than do HCP who have only brief contact with patients and their environment (eg, beds, food trays, and medical equipment). All HCP who work within the confines of a health care facility, however should be covered by the occupational health service (OHS) and receive appropriate screening and pre-exposure prophylaxis even if they do not provide direct patient care because they frequently interact with HCP providing direct care and are, therefore, at risk for acquiring or transmitting infectious pathogens.

Box 1

Health care personnel whose care should be covered by an occupational health service

- Emergency medical service personnel
- Nurse and nursing assistants
- Physicians and dentists
- Technicians
- Therapists (eg, occupational health, physical, and respiratory care)
- Pharmacists
- Students and trainees
- Contractual staff not employed by the health care facility
- Persons not directly involved in patient care (eg, clerical, dietary, housekeeping, laundry, security, maintenance, administrative, billing, volunteers, laboratory, and mortuary)

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