

## **Executive Summary**

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Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)

#### **AT A GLANCE**

Executive summary of the Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007).

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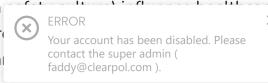
Summary

### Overview

The Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007 updates and expands the 1996 Guideline for Isolation Precautions in Hospitals. The following developments led to revision of the 1996 guideline:

- 1. The transition of healthcare delivery from primarily acute care hospitals to other healthcare settings (e.g., home care, ambulatory care, free-standing specialty care sites, long-term care) created a need for recommendations that can be applied in all healthcare settings using common principles of infection control practice, yet can be modified to reflect setting-specific needs. Accordingly, the revised guideline addresses the spectrum of healthcare delivery settings. Furthermore, the term "nosocomial infections" is replaced by "healthcare-associated infections" (HAIs) to reflect the changing patterns in healthcare delivery and difficulty in determining the geographic site of exposure to an infectious agent and/or acquisition of infection.
- 2. The emergence of new pathogens (e.g., SARS-CoV associated with the severe acute respiratory syndrome [SARS], Avian influenza in humans), renewed concern for evolving known pathogens (e.g., *C. difficile,* noroviruses, community-associated MRSA [CA-MRSA]), development of new therapies (e.g., gene therapy), and increasing concern for the threat of bioweapons attacks, established a need to address a broader scope of issues than in previous isolation guidelines.
- 3. The successful experience with Standard Precautions, first recommended in the 1996 guideline, has led to a reaffirmation of this approach as the foundation for preventing transmission of infectious agents in all healthcare settings. New additions to the recommendations for Standard Precautions are Respiratory Hygiene/Cough Etiquette and safe injection practices, including the use of a mask when performing certain highrisk, prolonged procedures involving spinal canal punctures (e.g., myelography, epidural anesthesia). The need for a recommendation for Respiratory Hygiene/Cough Etiquette grew out of observations during the SARS outbreaks where failure to implement simple source control measures with patients, visitors, and healthcare personnel with respiratory symptoms may have contributed to SARS coronavirus (SARS-CoV) transmission. The recommended practices have a strong evidence base. The continued occurrence of outbreaks of hepatitis B and hepatitis C viruses in ambulatory settings indicated a need to re-iterate safe injection practice recommendations as part of Standard Precautions. The addition of a mask for certain spinal injections grew from recent evidence of an associated risk for developing meningitis caused by respiratory flora.
- 4. The accumulated evidence that environmental controls decrease the risk of life-threatening fungal infections in the most severely immunocompromised patients (allogeneic hematopoietic stem-cell transplant patients) led to the update on the components of the Protective Environment (PE).

5. Evidence that organizational characteristics (e.g., nurse staffing levels and composition, establishment of a personnel adherence to recommended infection control practices, and therefore are important factors in pragents, led to a new emphasis and recommendations for administrative involvement in the development apprograms.



6. Continued increase in the incidence of HAIs caused by multidrug-resistant organisms (MDROs) in all healthcare settings and the expanded body of knowledge concerning prevention of transmission of MDROs created a need for more specific recommendations for surveillance and control of these pathogens that would be practical and effective in various types of healthcare settings.

This document is intended for use by infection control staff, healthcare epidemiologists, healthcare administrators, nurses, other healthcare providers, and persons responsible for developing, implementing, and evaluating infection control programs for healthcare settings across the continuum of care. The reader is referred to other guidelines and websites for more detailed information and for recommendations concerning specialized infection control problems.

# Parts I – III: Review of the Scientific Data Regarding Transmission of Infectious Agents in Healthcare Settings

Part I reviews the relevant scientific literature that supports the recommended prevention and control practices. As with the 1996 guideline, the modes and factors that influence transmission risks are described in detail. New to the section on transmission are discussions of bioaerosols and of how droplet and airborne transmission may contribute to infection transmission. This became a concern during the SARS outbreaks of 2003, when transmission associated with aerosol-generating procedures was observed. Also new is a definition of "epidemiologically important organisms" that was developed to assist in the identification of clusters of infections that require investigation (i.e. multidrug-resistant organisms, *C. difficile*). Several other pathogens that hold special infection control interest (i.e., norovirus, SARS, Category A bioterrorist agents, prions, monkeypox, and the hemorrhagic fever viruses) also are discussed to present new information and infection control lessons learned from experience with these agents. This section of the guideline also presents information on infection risks associated with specific healthcare settings and patient populations.

Part II updates information on the basic principles of hand hygiene, barrier precautions, safe work practices and isolation practices that were included in previous guidelines. However, new to this guideline, is important information on healthcare system components that influence transmission risks, including those under the influence of healthcare administrators. An important administrative priority that is described is the need for appropriate infection control staffing to meet the ever-expanding role of infection control professionals in the modern, complex healthcare system. Evidence presented also demonstrates another administrative concern, the importance of nurse staffing levels, including numbers of appropriately trained nurses in ICUs for preventing HAIs. The role of the clinical microbiology laboratory in supporting infection control is described to emphasize the need for this service in healthcare facilities. Other factors that influence transmission risks are discussed i.e., healthcare worker adherence to recommended infection control practices, organizational safety culture or climate, education and training.

Discussed for the first time in an isolation guideline is surveillance of healthcare-associated infections. The information presented will be useful to new infection control professionals as well as persons involved in designing or responding to state programs for public reporting of HAI rates.

Part III describes each of the categories of precautions developed by the Healthcare Infection Control Practices Advisory Committee (HICPAC) and the Centers for Disease Control and Prevention (CDC) and provides guidance for their application in various healthcare settings. The categories of Transmission-Based Precautions are unchanged from those in the 1996 guideline: Contact, Droplet, and Airborne. One important change is the recommendation to don the indicated personal protective equipment (gowns, gloves, mask) *upon entry into the patient's room* for patients who are on Contact and/or Droplet Precautions since the nature of the interaction with the patient cannot be predicted with certainty and contaminated environmental surfaces are important sources for transmission of pathogens.

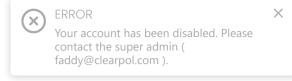
In addition, the Protective Environment (PE) for allogeneic hematopoietic stem cell transplant patients, described in previous guidelines, has been updated.

## Tables, Appendices, and Other Information

There are several <u>tables</u> that summarize important information:

- 1. a summary of the evolution of this document;
- 2. guidance on using empiric isolation precautions according to a clinical syndrome;

- 3. a summary of infection control recommendations for category A agents of bioterrorism;
- 4. components of Standard Precautions and recommendations for their application;
- 5. components of the Protective Environment; and
- 6. a glossary of definitions used in this guideline.



New in this guideline is a figure that shows a recommended sequence for donning and removing personal protective equipment used for isolation precautions to optimize safety and prevent self-contamination during removal.

## Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions

Appendix A consists of an updated alphabetical list of most infectious agents and clinical conditions for which isolation precautions are recommended. A preamble to the Appendix provides a rationale for recommending the use of one or more Transmission-Based Precautions, in addition to Standard Precautions, based on a review of the literature and evidence demonstrating a real or potential risk for person-to-person transmission in healthcare settings. The type and duration of recommended precautions are presented with additional comments concerning the use of adjunctive measures or other relevant considerations to prevent transmission of the specific agent. Relevant citations are included.

## Pre-Publication of the Guideline on Preventing Transmission of MRDOs

New to this guideline is a comprehensive review and detailed recommendations for prevention of transmission of MDROs. This portion of the guideline was published electronically in October 2006 and updated in November, 2006 (Siegel JD, Rhinehart E, Jackson M, Chiarello L and HICPAC. Management of Multidrug-Resistant Organisms in Healthcare Settings 2006), and is considered a part of the Guideline for Isolation Precautions. This section provides a detailed review of the complex topic of MDRO control in healthcare settings and is intended to provide a context for evaluation of MDRO at individual healthcare settings. A rationale and institutional requirements for developing an effective MDRO control program are summarized. Although the focus of this guideline is on measures to prevent *transmission* of MDROs in healthcare settings, information concerning the judicious use of antimicrobial agents is presented since such practices are intricately related to the size of the reservoir of MDROs which in turn influences transmission (e.g., colonization pressure). There are two tables that summarize recommended prevention and control practices using the following seven categories of interventions to control MDROs: administrative measures, education of healthcare personnel, judicious antimicrobial use, surveillance, infection control precautions, environmental measures, and decolonization. Recommendations for each category apply to and are adapted for the various healthcare settings. With the increasing incidence and prevalence of MDROs, all healthcare facilities must prioritize effective control of MDRO transmission. Facilities should identify prevalent MDROs at the facility, implement control measures, assess the effectiveness of control programs, and demonstrate decreasing MDRO rates. A set of intensified MDRO prevention interventions is presented to be added

- 1. if the incidence of transmission of a target MDRO is NOT decreasing despite implementation of basic MDRO infection control measures, and
- 2. when the first case(s) of an epidemiologically important MDRO is identified within a healthcare facility.

### Summary

This updated guideline responds to changes in healthcare delivery and addresses new concerns about transmission of infectious agents to patients and healthcare workers in the United States and infection control. The primary objective of the guideline is to improve the safety of the nation's healthcare delivery system by reducing the rates of HAIs.

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Abbreviations





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NOVEMBER 22, 2023

② SOURCES

CONTENT SOURCE:
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)

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Yes Partly No

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Part I. Scientific Review