

**APPENDIX 8**

**REPRINTS OF GUIDELINES FOR THE PREVENTION AND CONTROL OF NOSOCOMIAL INFECTIONS**

**CDC GUIDELINE FOR  
ISOLATION PRECAUTIONS IN HOSPITALS**

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**AND**

**CDC GUIDELINE FOR INFECTION CONTROL  
IN HOSPITAL PERSONNEL**

Walter W. Williams, MD, MPH

Part of the Manual Entitled  
**Guidelines for Prevention and Control of Nosocomial Infections**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**Public Health Service  
Centers for Disease Control  
Center for Infectious Diseases  
Hospital Infections Program  
Atlanta, Georgia 30333**



September 1983

**TO: Hospital Infection Control Committees  
State Epidemiologists  
State Public Health Laboratory Directors**

**SUBJECT: Guideline for Isolation Precautions in Hospitals and  
Guideline for Infection Control in Hospital Personnel**

The Hospital Infections Program of the Center for Infectious Diseases is distributing under this cover the new CDC guidelines on hospital infection control. The two guidelines, "Guideline for Isolation Precautions in Hospitals" and "Guideline for Infection Control in Hospital Personnel," are the same guidelines that were published in a special supplement to the July/August 1983 issue of the journal Infection Control. In hospitals, the new guidelines and section dividers should be inserted in the blue notebook manual, Guidelines for the Prevention and Control of Nosocomial Infections, which CDC sent to each hospital in 1981. In health departments, the materials may be placed with other reference material from CDC.

CDC cannot fill requests for additional copies of these guidelines. The "Guideline for Isolation Precautions in Hospitals" and color-coded instruction cards will be available in 2-4 weeks for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402; these supersede and replace the manual entitled "Isolation Techniques for Use in Hospitals, 2nd Edition 1975," and accompanying cards, which have been sold by the Superintendent of Documents since 1970.

The "Guideline for Infection Control in Hospital Personnel" and the "Guideline for Isolation Precautions in Hospitals" will be available in 4-6 weeks for purchase in single or multiple copies from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. In addition to these two new guidelines, NTIS also sells the other guidelines in this series in looseleaf form, with or without the 3-ring binder with dividers to hold them.

Walter R. Dowdle, Ph.D.  
Director  
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## **Preface to the Guidelines Series**

The *Guidelines for the Prevention and Control of Nosocomial Infections* is a series of guidelines intended for use by hospital personnel who are responsible for infection surveillance and control activities. The guidelines have been derived from a variety of sources, including studies conducted by the Centers for Disease Control and by others and have undergone extensive review by experts, many of whom are engaged in the daily practice of infection surveillance and control. The guidelines are assembled in loose-leaf form to allow for periodic revisions and additions, since we fully expect the guidelines to change as new knowledge is acquired.

The titles of the various guidelines are listed below. Others may be added in the future. Within each guideline the date of original publication and subsequent revision, if any, appear at the bottom of each page. Additional copies of all guidelines are available from:

National Technical Information Service  
U.S. Department of Commerce  
Springfield, Virginia 22161

### **Titles of Published Guidelines**

Guideline for Prevention of Catheter-associated Urinary Tract Infections  
Guideline for Hospital Environmental Control  
Guideline for Prevention of Intravascular Infections  
Guideline for Prevention of Surgical Wound Infections  
Guideline for Prevention of Nosocomial Pneumonia  
Guideline for Isolation Precautions in Hospitals  
Guideline for Infection Control in Hospital Personnel

### **Proposed Guideline Topics**

Guideline for Prevention of Infections during Total Parenteral Nutrition  
Guideline for Surveillance of Nosocomial Infections  
Guideline on the Role of the Microbiology Laboratory in Infection Control

All comments, suggestions, and criticisms of the guidelines should be sent to:

Guidelines Activity  
Hospital Infections Program  
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For Sale By Superintendent Of Documents; Washington, D.C.

## **Guideline for Isolation Precautions in Hospitals**

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\*The Guidelines may be purchased from the  
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## Preface

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The first Centers for Disease Control (CDC) recommendations for isolation appeared in the manual *Isolation Techniques for Use in Hospitals*, published in 1970. The second edition of the manual was published first in 1975 and with minor revisions in 1978. All have been reprinted many times. Because knowledge of the epidemiology of infectious diseases can change, isolation recommendations should be revised periodically. Furthermore, CDC recognizes the need to keep isolation recommendations current by including newly described syndromes, such as toxic shock syndrome and acquired immunodeficiency syndrome, and emerging pathogens, such as multiply-resistant microorganisms and *Legionella pneumophila*.

The 1983 CDC recommendations for isolation precautions have been developed as a guideline, similar to those recently published on other topics. The title of the isolation recommendations has been changed to include the word "guideline," and it will become part of the CDC series entitled *Guidelines for the Prevention and Control of Nosocomial Infections*. Adult and pediatric infectious disease specialists,

hospital epidemiologists, infection control nurses, and a surgeon served in a working group to give CDC consultation by outside experts.

The isolation precautions presented in this guideline are considered to be a collection of prudent practices recommended by CDC personnel and a panel of outside experts. Some of the isolation recommendations are based on well-documented modes of transmission identified in epidemiologic studies. Other recommendations are based on a reasonable theoretical rationale, as evidenced by consensus of the working group members. Since there have been few studies to test the efficacy of isolation recommendations, members of the working group did not rank the recommendations by the degree to which they have been substantiated by scientific data or the strength of the working group's opinion on their effectiveness or practical value. The recommendations presented in this guideline may be modified as necessary for an individual hospital and are not meant to restrict hospitals from requiring additional precautions. The guideline will be revised as the need is recognized.

## Section 1: Introduction

### MAJOR CHANGES IN GUIDELINE FOR ISOLATION PRECAUTIONS IN HOSPITALS FROM PREVIOUS EDITIONS OF ISOLATION MANUAL

The Guideline for Isolation Precautions in Hospitals contains many important changes from previous editions of the manual *Isolation Techniques for Use in Hospitals*:

1. Rather than recommending only an isolation system based on categories of isolation, we have included an alternative system: disease-specific isolation precautions. For the first time, hospitals can choose *one* of these alternative systems for isolation—or they can, of course, design their own system. Some hospitals may prefer to continue using the more familiar, convenient, and simple category-specific isolation precautions. Disease-specific isolation precautions, however, may be more economical, in that only the particular precautions to interrupt transmission of the specific disease are recommended, so time and materials are not spent on unnecessary precautions. With disease-specific isolation precautions, we recommend using a single instruction card on which the need for specific precautions can be shown by checking appropriate items and filling in blanks. When isolation categories are used, we still recommend using standard color-coded category-specific instruction cards; however, the colors have been changed and the cards have been revised to correspond to changes made in the category-specific recommendations.
  2. Major changes have been made in the titles of and specifications for categories of isolation and the diseases or conditions requiring specific categories of isolation.
    - a. We have retained 3 categories of isolation (Strict Isolation, Respiratory Isolation, and Enteric Precautions) with modifications. We have substantially modified Enteric Precautions to minimize unnecessary use of gowns and gloves. This modification has permitted infections formerly under Excretion Precautions to be combined with those under Enteric Precautions. We have added and deleted diseases from Strict Isolation and Respiratory Isolation.
    - b. We have created 4 new categories of isolation (for a total of 7 categories): Contact Isolation, Tuberculosis Isolation, Drainage/Secretion Precautions, and Blood/Body Fluid Precautions.
      - 1) Contact Isolation is intended for patients with highly transmissible or epidemiologically important infections that do not require Strict Isolation, for example, patients infected or colonized by multiply-resistant bacteria.
      - 2) Tuberculosis Isolation was created because of the unique precautions needed to interrupt tuberculosis transmission; pulmonary and laryngeal tuberculosis have been removed from the Respiratory Isolation category. It is called AFB Isolation (for acid-fast bacilli) on the instruction card to protect the patient's privacy.
      - 3) The category Drainage/Secretion Precautions was created by combining and modifying Wound and Skin Precautions, Discharge (lesion) Precautions, and Secretion (oral) Precautions found in previous editions.
      - 4) Blood/Body Fluid Precautions is intended both for patients with infective blood, as in malaria, and for patients with infective blood and body fluids, as in hepatitis B; the old category of Blood Precautions has been eliminated.
    - c. We have eliminated the category Protective Isolation but discuss special infection problems related to compromised patients (see Care of Severely Compromised Patients).
  3. We have identified the secretions, excretions, body fluids, and tissues that are or might be infective for each disease or condition that requires isolation precautions. Such identification will permit personnel to determine when to use gowns and gloves and how to handle used articles when taking care of patients on isolation precautions.
  4. With some diseases or conditions, isolation precautions for infants and young children are different from those for other patients. For example, we recommend more stringent isolation precautions for infants and young children with acute respiratory infections than for adults because of the greater risk of spread and consequences of infection in infants and young children.
  5. We have added a section on modifications of isolation precautions in intensive care units and in newborn and infant nurseries.
  6. We have added a number of diseases and commonly used synonyms to the alphabetical listing of diseases or conditions that require isolation precautions to assist personnel in locating them more rapidly.
  7. We have deleted the section describing the special precautions that are necessary for smallpox; we now recommend that the State Health Department and CDC be consulted about any suspected case of smallpox, Lassa fever, or other viral hemorrhagic fevers, such as Marburg virus disease, for advice about management of the patient and contacts.
  8. We have deleted the section on recommendations for disinfection and sterilization of patient-care objects; we now refer the reader to the CDC Guideline for Hospital Environmental Control: Cleaning, Disinfection, and Sterilization of Hospital Equipment.
- Nevertheless, the Guideline for Isolation Precautions in Hospitals, like the 2 previous editions of the isolation manual, is still intended primarily for acute-care hospitals, al-



though it may be applicable to some extended-care and other patient-care institutions. It is designed to establish a balance between isolation precautions that are ideal and those that are practical. Once again, it is designed to eliminate ritual and to establish effective precautions that isolate the disease and not the patients. Since gaps still exist in knowledge of the epidemiology of some diseases, we expect disagreement with some of our recommendations. Hospitals are encouraged to modify or supplement these recommendations to meet their own needs.

## **DECIDING WHICH SYSTEM OF ISOLATION PRECAUTIONS TO USE IN YOUR HOSPITAL**

To use the new approaches introduced in this guideline most effectively, each hospital's infection control committee must thoroughly review the entire guideline and *MAKE A DECISION* regarding which of the alternative systems of isolation precautions to use.

The first step is for all members of the committee who will participate in this decision to review the entire guideline carefully. This is necessary because the Guideline for Isolation Precautions in Hospitals contains many changes in recommended procedures as well as format from the previous manual *Isolation Techniques for Use in Hospitals*. To facilitate this review, we have summarized the most important changes in the introduction to the guideline and have included the rationale for these changes in other sections of the document.

The second step is for the infection control committee to *MAKE A DECISION* as to whether their hospital will use System A, the Category-Specific System, or System B, the Disease-Specific System, both of which are thoroughly described in this guideline. Of course, in some hospitals the committee may decide instead to use the information and recommendations in this guideline to create their own system of isolation precautions. However, from a logistical point of view, *the committee should not try to combine different elements taken from both systems*, because mixing the 2 approaches may lead to confusion among hospital personnel who are expected to apply the isolation precautions in patient care. Personnel throughout the hospital who will be using isolation precautions should be trained to apply only the *system* that is officially adopted by the infection control committee.

In deciding between the 2 alternative systems, the committee members should consider the relative advantages and disadvantages of each approach. Most importantly, the category-specific system (System A) is a simpler system that requires patient-care personnel to learn only a few set routines for applying isolation precautions (corresponding to the 7 categories), but because many different diseases are grouped into a few categories, some unnecessary precautions will be applied to some diseases (some degree of over-isolation). Alternatively, the disease-specific system (System B) ensures that the

isolation precautions applied are only ones required to interrupt transmission of the infection; since the set of precautions is individualized to each disease, this system requires more training and a much higher level of attention on the part of patient-care personnel for it to be applied correctly in all cases. Use of this system, however, should result in less over-isolation.

In the process of customizing the isolation procedures, some hospitals may need to revise their current practices only slightly, whereas others may choose to adopt an entirely new approach (eg, switching from the traditional category-specific system to the new disease-specific system). Major changes in isolation precautions will affect nursing personnel in particular, and factors such as whether primary nursing or team nursing is used in the hospital may influence the decision to change. The personnel who are in the best position to project benefits and anticipate problems stemming from revising isolation policies and procedures are those involved in infection control, particularly those involved in regular ward rounds and ongoing consultation with patient-care personnel about isolation precautions; therefore, they are probably in the best position to advise the infection control committee and other policymakers about the feasibility of proposed changes.

If the committee *HAS DECIDED* to use System A or System B in the hospital, the third step is to prepare a hospital isolation guide or manual which could simply incorporate the specific parts of this guideline that pertain to the particular approach adopted. If System A, the Category-Specific System, has been adopted, they should construct a manual containing introductory material from Section 1, Section 2 (pages 7-8), part of Section 3 (pages 9-46), and Section 4 (pages 80-81) of this guideline. Alternatively, if System B, the Disease-Specific System has been adopted, they should construct a manual containing introductory material from Section 1, Section 2 (pages 7-8), part of Section 3 (pages 9-13 and 47-79), and Section 4 (pages 80-81) of this guideline. Since this guideline is in the public domain, and thus not subject to the copyright laws, these sections may be duplicated for use as needed by hospitals or produced by commercial vendors.

The fourth step is to distribute the system-specific isolation guide to the hospital's patient-care personnel. One copy should be put in a convenient place in every nursing station, and relevant parts of the guide should simultaneously be incorporated into the standing procedure manuals of the Nursing Service and other applicable hospital departments.

The fifth step is to put the new system into action and keep it running as smoothly as possible. This requires planning and delivering effective in-service training to those who will apply the system, monitoring performance to assure compliance and detect problems, and making adjustments as necessary.

By following these 5 decision-making and implementation steps, the hospital can produce a management system for applying isolation precautions based on the latest recommendations, yet customized most appropriately to its own unique needs.

## Section 2: Rationale and Responsibilities for Isolation Precautions

### RATIONALE FOR ISOLATION PRECAUTIONS

Spread of infection within a hospital requires 3 elements: a source of infecting organisms, a susceptible host, and a means of transmission for the organism.

#### Source

The source of the infecting agent may be patients, personnel, or on occasion, visitors, and may include persons with acute disease, persons in the incubation period of the disease, or persons who are colonized by the infectious agent but have no apparent disease. Another source of infection can be the person's own endogenous flora (autogenous infection). Other potential sources are inanimate objects in the environment that have become contaminated, including equipment and medications.

#### Host

Patients' resistance to pathogenic microorganisms varies greatly. Some persons may be immune to or able to resist colonization by an infectious agent; others exposed to the same agent may establish a commensal relationship with the infecting organism and become asymptomatic carriers; still others may develop clinical disease. Persons with diabetes mellitus, lymphoma, leukemia, neoplasia, granulocytopenia, or uremia and those treated with certain antimicrobials, corticosteroids, irradiation, or immunosuppressive agents may be particularly prone to infection. Age, chronic debilitating disease, shock, coma, traumatic injury, or surgical procedures also make a person more susceptible.

#### Transmission

Microorganisms are transmitted by various routes, and the same microorganism may be transmitted by more than 1 route. For example, varicella-zoster virus can spread either by the airborne route (droplet nuclei) or by direct contact. The differences in infectivity and in the mode of transmission of the various agents form the basis for the differences in isolation precautions that are recommended in this guideline.

There are 4 main routes of transmission—contact, vehicle, airborne, and vectorborne.

A. Contact transmission, the most important and frequent means of transmission of nosocomial infections, can be divided into 3 subgroups: direct contact, indirect contact, and droplet contact.

1. Direct contact—This involves direct physical transfer between a susceptible host and an infected or colonized person, such as occurs when hospital personnel turn patients, give baths, change dressings, or perform other procedures requiring direct personal contact. Direct contact can also occur between 2 patients, 1 serving as the source

- of infection and the other as a susceptible host.
2. Indirect contact—This involves personal contact of the susceptible host with a contaminated intermediate object, usually inanimate, such as bed linens, clothing, instruments, and dressings.
3. Droplet contact—Infectious agents may come in contact with the conjunctivae, nose, or mouth of a susceptible person as a result of coughing, sneezing, or talking by an infected person who has clinical disease or is a carrier of the organism. This is considered "contact" transmission rather than airborne since droplets usually travel no more than about 3 feet.

- B. The vehicle route applies in diseases transmitted through these contaminated items:
1. food, such as in salmonellosis
  2. water, such as in legionellosis
  3. drugs, such as in bacteremia resulting from infusion of a contaminated infusion product
  4. blood, such as in hepatitis B, or non-A, non-B hepatitis.

C. Airborne transmission occurs by dissemination of either droplet nuclei (residue of evaporated droplets that may remain suspended in the air for long periods of time) or dust particles in the air containing the infectious agent. Organisms carried in this manner can be widely dispersed by air currents before being inhaled by or deposited on the susceptible host.

D. Vectorborne transmission is of greater concern in tropical countries, for example, with mosquito-transmitted malaria. It is of little significance in hospitals in the United States.

Isolation precautions are designed to prevent the spread of microorganisms among patients, personnel, and visitors. Since agent and host factors are more difficult to control, interruption of the chain of infection in the hospital is directed primarily at transmission. The isolation precautions recommended in this guideline are based on this concept.

Nevertheless, placing a patient on isolation precautions often presents certain disadvantages to both the hospital and the patient. Some isolation precautions may be time-consuming and add to the cost of hospitalization. They may make frequent visits by physicians, nurses, and other personnel inconvenient, and they may make it difficult for hospital personnel to give the prompt and frequent care that is sometimes required. The occasional recommendation of a private room under some circumstances uses valuable space that might otherwise accommodate several patients. Moreover, forced solitude deprives the patient of normal social relationships and may be psychologically injurious, especially for children. In an attempt to balance the disadvan-

tages of placing a patient on isolation precautions against the various hazards posed by transmissible infections, we have tried to design "degrees of isolation."

In general, it is safer to "over-isolate" than to "under-isolate," particularly when the diagnosis is uncertain and several diseases are seriously being considered. For the patient who appears to have a disease requiring isolation precautions, it is important to institute appropriate isolation precautions immediately rather than wait for confirmation of the diagnosis. Furthermore, certain general precautions may be required even though the patient does not fully meet the criteria for specific isolation precautions. For example, patients with bacteriuria and indwelling urinary catheters are known to serve as reservoirs of infection for roommates who also have indwelling urinary catheters. Passive carriage on the hands of personnel who provide urinary catheter care transmits these infections. Thus, noninfected patients with catheters should not, *where practical*, share rooms with catheterized patients who have bacteriuria.

Isolation precautions also may have to be modified for a patient who needs constant care or whose clinical condition may require emergency intervention such as those in intensive care units or nurseries. When such modifications are made, it is essential that the risk to other patients or hospital personnel of acquiring nosocomial infection be minimized.

## RESPONSIBILITIES FOR CARRYING OUT ISOLATION PRECAUTIONS

The hospital is responsible for ensuring that patients are placed on appropriate isolation precautions. Each hospital should designate clearly, as a matter of policy, the personnel responsible for placing a patient on isolation precautions and the personnel who have the ultimate authority to make decisions regarding isolation precautions when conflicts arise.

All personnel—physicians, nurses, technicians, students, and others—are responsible for complying with isolation precautions and for tactfully calling observed infractions to the attention of offenders. Physicians should observe the proper isolation precautions at all times; they must teach by example. The responsibilities of hospital personnel for carrying out isolation precautions cannot be effectively dictated but must arise from a personal sense of responsibility.

Patients also have a responsibility for complying with isolation precautions. The appropriate measures should be explained to the patient by physicians and nurses. An important general patient responsibility is handwashing after touching infective material and potentially contaminated articles.

Infractions of the isolation protocol by some are sufficient to negate the conscientious efforts of others. The maxim holds true: "The chain is no stronger than its weakest link."

## Section 3: Techniques and Recommendations for Isolation Precautions

### TECHNIQUES FOR ISOLATION PRECAUTIONS

This section contains information essential to understanding and properly using the isolation precautions that appear in the guideline and on the instruction cards. Many of the techniques and recommendations for isolation precautions are appropriate not only for patients known or suspected to be infected but also for routine patient care. For example, gowns are appropriate for patient-care personnel when soiling with feces is likely, whether or not the patient is known or suspected to be infected with an enteric pathogen, and caution should be used when handling any used needle.

#### *Handwashing*

Handwashing is the single most important means of preventing the spread of infection. Personnel should always wash their hands, even when gloves are used, after taking care of an infected patient or one who is colonized with microorganisms of special clinical or epidemiologic significance, for example, multiply-resistant bacteria. In addition, personnel should wash their hands after touching excretions (feces, urine, or material soiled with them) or secretions (from wounds, skin infections, etc.) before touching any patient again. Hands should also be washed before performing invasive procedures, touching wounds, or touching patients who are particularly susceptible to infection. Hands should be washed between all patient contacts in intensive care units and newborn nurseries. (See Guideline for Hospital Environmental Control: Antiseptics, Handwashing, and Handwashing Facilities.)

When taking care of patients infected (or colonized) with virulent or epidemiologically important microorganisms, personnel should consider using antiseptics for handwashing rather than soap and water, especially in intensive care units. Antiseptics will inhibit or kill many microorganisms that may not be completely removed by normal handwashing; antiseptics that have a residual effect will continue to suppress microbial growth well after handwashing. Such antiseptics should not be used as a substitute for adequate handwashing, however.

#### *Private Room*

In general, a private room can reduce the possibility of transmission of infectious agents in 2 ways. First, it separates infected or colonized patients from susceptible patients and thus lessens the chance for transmission by any route. Second, it may act as a reminder for personnel to wash their hands before leaving the room and contacting other patients, especially if a sink is available at the doorway. Nevertheless, a private room is not necessary to prevent the spread of many infections.

A private room is indicated for patients with infections that are highly infectious or are caused by microorganisms that are likely to be virulent when transmitted. A private room is also indicated if patient hygiene is poor, for ex-

ample, if a patient does not wash hands after touching infective material (feces and purulent drainage or secretions), contaminates the environment, or shares contaminated articles. Such patients may include infants, children, and patients who have altered mental status. A private room may also be indicated for patients colonized with microorganisms of special clinical or epidemiologic significance, for example, multiply-resistant bacteria. Finally, a private room may be indicated for patients whose blood is infective, for example, hepatitis B, if profuse bleeding is likely to cause environmental contamination.

In addition to handwashing facilities, a private room should contain bathing and toilet facilities if the room is used for patients requiring isolation precautions. Toilet facilities obviate the need for portable commodes or special precautions for transporting commodes, bedpans, and urinals. An anteroom between the room and the hall, especially for rooms housing patients with highly infectious diseases spread by airborne transmission, will help maintain isolation precautions by reducing the possibility of airborne spread of infectious agents from the room into the corridor whenever the door of the room is opened. Anterooms also provide storage space for supplies, such as gowns, gloves, and masks.

For a few infections, a private room with special ventilation is indicated. We define special ventilation as that which results in negative air pressure in the room in relation to the anteroom or hall, when the room door is closed. The ventilation air, which should generally result in 6 air changes per hour, preferably should be discharged outdoors away from intake vents or receive high efficiency filtration before being recirculated to other rooms.

#### *Roommates for Patients on Isolation Precautions*

If infected or colonized patients are not placed in private rooms, they should be placed with appropriate roommates. Generally, infected patients should not share a room with a patient who is likely to become infected or in whom consequences of infection are likely to be severe.

When an infected patient shares a room with noninfected patients, it is assumed that patients and personnel will take measures to prevent the spread of infection. For example, a patient whose fecal material is infective may be in a room with others as long as he or she is cooperative, washes hands carefully, and does not have such severe diarrhea or fecal incontinence that either roommates or objects used by them become contaminated. Likewise, personnel need to wear gloves and wash hands when indicated and ensure that contaminated articles are discarded or returned for decontamination and reprocessing. When these conditions cannot be met, a private room is advisable.

In general, patients infected by the same microorganism may share a room. Also, infants and young children with the same respiratory clinical syndrome, for example, croup, may share a room. Such grouping (or cohorting) of patients

is especially useful during outbreaks when there is a shortage of private rooms.

### **Masks**

In general, masks are recommended to prevent transmission of infectious agents through the air. Masks protect the wearer from inhaling 1) large-particle aerosols (droplets) that are transmitted by close contact and generally travel only short distances (about 3 feet) and 2) small-particle aerosols (droplet nuclei) that remain suspended in the air and thus travel longer distances. Masks might also prevent transmission of some infections that are spread by direct contact with mucous membranes, because masks may discourage personnel from touching the mucous membranes of their eyes, nose, and mouth until after they have washed their hands and removed the mask. The high efficiency disposable masks are more effective than cotton gauze or paper tissue masks in preventing airborne and droplet spread.

If the infection is transmitted by large-particle aerosols (droplets), we recommend masks only for those close to the patient. If the infection is transmitted over longer distances by air, we recommend masks for all persons entering the room. When masks are indicated, they should be used only once (because masks become ineffective when moist) and discarded in an appropriate receptacle; masks should not be lowered around the neck and reused. All masks should cover both the nose and the mouth.

### **Gowns**

In general, gowns are recommended to prevent soiling of clothing when taking care of patients. Gowns are not necessary for most patient care because such soiling is not likely. However, gowns are indicated when taking care of patients on isolation precautions if clothes are likely to be soiled with infective secretions or excretions, for example, when changing the bed of an incontinent patient who has infectious diarrhea or when holding an infant who has a respiratory infection. Furthermore, gowns are indicated, even when gross soiling is not anticipated, for all persons entering the room of patients who have infections that if transmitted in hospitals frequently cause serious illness, for example, varicella (chickenpox) or disseminated zoster. When gowns are indicated, they should be worn only once and then discarded in an appropriate receptacle. Clean, freshly laundered or disposable gowns may be worn in most circumstances. In some instances, as with extensive burns or extensive wounds, sterile gowns may be worn when changing dressings.

### **Gloves**

In general, there are 3 distinct reasons for wearing gloves. First, gloves reduce the possibility that personnel will become infected with microorganisms that are infecting patients; for example, gloves should prevent personnel from developing herpetic whitlow after giving oral care or suctioning a patient with oral herpes simplex infections. Second, gloves reduce the likelihood that personnel will transmit their own endogenous microbial flora to patients; for example, sterile gloves are used for this reason when personnel perform operations or touch open surgical wounds. Third, gloves reduce the possibility that personnel will become transiently colonized with microorganisms that can be transmitted to other patients. Under most conditions, such transient colonization can be eliminated by handwashing. Thus,

in hospitals where handwashing is performed carefully and appropriately by all personnel, gloves are theoretically not necessary to prevent transient colonization of personnel and subsequent transmission by them to others. However, since handwashing practices are thought to be inadequate in most hospitals, gloves appear to be a practical means of preventing transient hand colonization and spread of some infections. Therefore, for many diseases or conditions listed in this guideline, wearing gloves is indicated for touching the excretions, secretions, blood, or body fluids that are listed as infective material. Gloves may not be needed if "no touch" technique (not touching infective materials with hands) can be used.

When gloves are indicated, disposable single-use gloves (sterile or nonsterile, depending on the purpose for use) should be worn. Used gloves should be discarded into an appropriate receptacle. After direct contact with a patient's excretions or secretions, when taking care of that patient, gloves should be changed if care of that patient has not been completed.

### **Bagging of Articles**

Used articles may need to be enclosed in an impervious bag before they are removed from the room or cubicle of a patient on isolation precautions. Such bagging is intended to prevent inadvertent exposures of personnel to articles contaminated with infective material and prevent contamination of the environment. Most articles do not need to be bagged unless they are contaminated (or likely to be contaminated) with infective material. (See the Tables, which contain an alphabetical listing of diseases, for identification of the infective material for each disease.) A single bag is probably adequate if the bag is impervious and sturdy (not easily penetrated) and if the article can be placed in the bag without contaminating the outside of the bag; otherwise, double bagging should be used. Bags should be labeled or be a particular color designated solely for contaminated articles or infectious wastes.

### **Disposable Patient-care Equipment**

A variety of disposable patient-care equipment is available and should be considered for patients on isolation precautions. Use of these disposable articles reduces the possibility that equipment will serve as a fomite, but they must be disposed of safely and adequately. Equipment that is contaminated (or likely to be contaminated) with infective material should be bagged, labeled, and disposed of in accordance with the hospital's policy for disposal of infectious wastes. Local regulations may call for incineration or disposal in an authorized sanitary landfill without the bag's being opened. No special precautions are indicated for disposable patient-care equipment that is not contaminated (or likely to be contaminated) with infective material. (See Guideline for Hospital Environmental Control: Housekeeping Services and Waste Disposal.)

### **Reusable Patient-care Equipment**

Ideally, such equipment should be returned to a central processing area for decontamination and reprocessing by trained personnel. When contaminated with infective material, equipment should be bagged and labeled before being removed from the patient's room or cubicle and remain bagged until decontaminated or sterilized. Special procedure trays should be separated into component parts and handled ap-

appropriately (some components can be discarded; others may need to be sent to the laundry or central services for reprocessing). (See Guideline for Hospital Environmental Control: Cleaning, Disinfection, and Sterilization of Hospital Equipment.)

### ***Needles and Syringes***

In general, personnel should use caution when handling all used needles and syringes because it is usually not known which patient's blood is contaminated with hepatitis virus or other microorganisms. To prevent needle-stick injuries, used needles should not be recapped; they should be placed in a prominently labeled, puncture-resistant container designated specifically for this purpose. Needles should not be purposely bent or broken by hand, because accidental needle puncture may occur. When some needle-cutting devices are used, blood may spatter onto environmental surfaces; however, currently no data are available from controlled studies examining the effect, if any, of these devices on the incidence of needle-transmissible infections. If the patient's blood is infective, disposable syringes and needles are preferred. If reusable syringes are used, they should be bagged and returned for decontamination and reprocessing. (See Guideline for Hospital Environmental Control: Cleaning, Disinfection, and Sterilization of Hospital Equipment.)

### ***Sphygmomanometer and Stethoscope***

No special precautions are indicated unless this equipment is contaminated (or likely to be contaminated) with infective material. If contaminated, the equipment should be disinfected in the manner appropriate to the object and to the etiologic agent that necessitated isolation precautions. (See Guideline for Hospital Environmental Control: Cleaning, Disinfection, and Sterilization of Hospital Equipment.)

### ***Thermometers***

Thermometers from patients on isolation precautions should be sterilized or receive high-level disinfection before being used by another patient. (See Guideline for Hospital Environmental Control: Cleaning, Disinfection, and Sterilization of Hospital Equipment.)

### ***Linen***

In general, soiled linen should be handled as little as possible and with a minimum of agitation to prevent gross microbial contamination of the air and of persons handling the linen. Soiled linen from patients on isolation precautions should be put in a laundry bag in the patient's room or cubicle. The bag should be labeled or be a particular color (for example, red) specifically designated for such linen so that whoever receives the linen knows to take the necessary precautions. Linens will require less handling if the bag is hot-water-soluble because such bags can be placed directly into the washing machine; however, a hot-water soluble bag may need to be double-bagged because they are generally easily punctured or torn or may dissolve when wet. Linen from patients on isolation precautions should not be sorted before being laundered. If mattresses and pillows are covered with impervious plastic, they can be cleaned by wiping with a disinfectant-detergent. (See Guideline for Hospital Environmental Control: Laundry Services.)

### ***Dishes***

No special precautions are necessary for dishes unless they are visibly contaminated with infective material, for example, with blood, drainage, or secretions. Disposable dishes

contaminated with infective material can be handled as disposable patient-care equipment. Reusable dishes, utensils, and trays contaminated with infective material should be bagged and labeled before being returned to the food service department. Food service personnel who handle these dishes should wear gloves, and they should wash their hands before handling clean dishes or food.

### ***Drinking Water***

No special precautions are indicated for drinking water. Containers used to hold water for patients on isolation precautions and glasses should be handled as dishes.

### ***Dressings and Tissues***

All dressings, paper tissues, and other disposable items soiled with infective material (respiratory, oral, or wound secretions) should be bagged and labeled and disposed of in accordance with the hospital's policy for disposal of infectious wastes. Local regulations may call for incineration or disposal in an authorized sanitary landfill without being opened. (See Guideline for Hospital Environmental Control: Housekeeping Services and Waste Disposal.)

### ***Urine and Feces***

Urine and feces from patients on isolation precautions can be flushed down the toilet if the hospital uses a municipal or other safe sewage treatment system. A urinal or bedpan from a patient on isolation precautions should be cleaned and disinfected or sterilized before being used by another patient. (See Guideline for Hospital Environmental Control: Cleaning, Disinfection, and Sterilization of Hospital Equipment.)

### ***Laboratory Specimens***

In general, each specimen should be put in a well-constructed container with a secure lid to prevent leaking during transport. Care should be taken when collecting specimens to avoid contamination of the outside of the container. If the outside of the container is visibly contaminated, it should be cleaned or disinfected or be placed in an impervious bag. Specimens from patients on isolation precautions may need to be placed in an impervious bag and labeled before being removed from the room or cubicle; bagging is intended to prevent inadvertent exposures of laboratory or transport personnel to infective material and prevent contamination of the environment. Whether specimens from patients on isolation precautions need to be bagged before being sent to the laboratory will depend on the kind of specimen and container, the procedures for collecting specimens, and the methods for transporting and receiving specimens in the hospital laboratory.

### ***Patient's Chart***

The chart should not be allowed to come into contact with infective material or objects that may be contaminated with infective material.

### ***Visitors***

Visitors should talk with a nurse before entering the room or cubicle of a patient on isolation precautions and, if indicated, should be instructed in the appropriate use of gown, mask, gloves, or other special precautions.

### ***Transporting Infected or Colonized Patients***

Patients infected with virulent or epidemiologically important microorganisms should leave their room only for essential purposes. Appropriate barriers (masks, impervious dressings, etc.) to prevent transmission should be used by

the patient and transport personnel. Personnel in the area to which the patient is to be taken should be notified of the impending arrival of the patient and of precautions to be used to prevent transmission of infection. Patients should be alerted to the potential spread of their disease and informed as to how they can assist in maintaining a barrier against transmission of their infection to others.

### **Clothing**

Clothing soiled with infective material should be bagged before being sent home or to the hospital laundry; it should be washed with a detergent and, if possible, hot water and bleach.

### **Books, Magazines, and Toys**

In general, any of these articles visibly soiled with infective material should be disinfected or destroyed. A child with an infection that may be spread by fomites or by contact transmission should not share toys with other children.

### **Routine Cleaning**

The same routine daily cleaning procedures used in other hospital rooms should be used to clean rooms or cubicles of patients on isolation precautions. Cleaning equipment used in rooms of patients whose infection requires a private room should be disinfected before being used in other patient rooms. For example, dirty water should be discarded, wiping cloths and mop heads should be laundered and thoroughly dried, and buckets should be disinfected before being refilled. If cleaning cloths and mop heads are contaminated with infective material or blood, they should be bagged and labeled before being sent to the laundry. (See Guideline for Hospital Environmental Control: Housekeeping Services and Waste Disposal.)

### **Terminal Cleaning**

When isolation precautions have been discontinued, the remaining infection control responsibilities relate to the inanimate environment. Therefore, certain epidemiologic aspects of environmental transmission should be kept in mind by personnel involved with terminal cleaning (cleaning after the patient has been taken off isolation precautions or has ceased to be a source of infection). Although microorganisms may be present on walls, floors, and table tops in rooms used for patients on isolation precautions, these environmental surfaces, unless visibly contaminated, are rarely associated with transmission of infections to others. In contrast, microorganisms on contaminated patient-care equipment are frequently associated with transmission of infections to other patients when such equipment is not appropriately decontaminated and reprocessed. Therefore, terminal cleaning should primarily be directed toward those items that have been in direct contact with the patient or in contact with the patient's infective material (excretions, secretions, blood, or body fluids). Disinfectant-detergent solution used during terminal cleaning should be freshly prepared. Terminal cleaning of rooms (or cubicles) consists of the following:

- a. Generally, housekeeping personnel should use the same precautions to protect themselves during terminal cleaning that they would use if the patient were still in the room; however, masks are not needed if they had been indicated previously only for direct or close patient contact.
- b. All nondisposable receptacles (drainage bottles, urinals,

bedpans, flowmeter jars, thermometer holders, etc.) should be returned for decontamination and reprocessing. Articles that are contaminated (or likely to be contaminated) with infective material should be bagged and labeled before being sent for decontamination and reprocessing.

- c. All disposable items should be discarded. Articles that are contaminated (or likely to be contaminated) with infective material should be bagged, labeled, and disposed of in accordance with the hospital's policy on disposal of infectious wastes. Local regulations may call for the bag's incineration or disposal in an authorized sanitary landfill without being opened. No special precautions are indicated for disposal of items that are not contaminated (or not likely to be contaminated) with infective material.
- d. All equipment that is not sent to central services or discarded should be cleaned with a disinfectant-detergent solution.
- e. All horizontal surfaces of furniture and mattress covers should be cleaned with a disinfectant-detergent solution.
- f. All floors should be wet-vacuumed or mopped with a disinfectant-detergent solution. (For recommendations on carpets, see Guideline for Hospital Environmental Control: Housekeeping Services and Waste Disposal.)
- g. Routine washing of walls, blinds, and curtains is not indicated; however, these should be washed if they are visibly soiled. Cubicle curtains should be changed if visibly soiled.
- h. Disinfectant fogging is an unsatisfactory method of decontaminating air and surfaces and thus should not be used.
- i. Airing a room from which a patient has been discharged is not an effective terminal disinfection procedure and is not necessary.
- j. The State Health Department and the Centers for Disease Control, Hospital Infections Program, should be consulted about cleaning the room of a patient who has suspected smallpox, Lassa fever, Ebola fever, or other hemorrhagic fevers, such as Marburg disease.

### **Postmortem Handling of Bodies**

Generally, personnel should use the same precautions to protect themselves during postmortem handling of bodies that they would use if the patient were still alive; however, masks are usually not necessary unless aerosols are expected to be generated. Autopsy personnel should be notified about the patient's disease status so that appropriate precautions can be maintained during and after autopsy. State or local regulations may call for additional special precautions for postmortem handling of bodies.

### **Miscellaneous**

- a. Isolation carts—Some institutions use pre-stocked isolation carts that contain equipment and supplies for isolation precautions. These can be wheeled to the general area where needed but should be placed in a clean area. Carts should be kept adequately stocked with all necessary supplies.
- b. Admission—If a susceptible person has been exposed recently to an infectious disease requiring isolation

precautions, the physician should postpone elective admission or prescribe appropriate isolation precautions for a nonelective admission. This situation is most likely to occur with children or young adults.

- c. Prophylaxis and immunization—When used appropriately, prophylactic antimicrobials and active or

passive immunization may prevent or ameliorate the course of infections to which patients or personnel have been exposed. These measures should be considered as adjuncts to isolation precautions in preventing the spread of disease (see Guideline for Infection Control in Hospital Personnel).



## Alternative Systems for Isolation Precautions

### SYSTEM A. CATEGORY-SPECIFIC ISOLATION PRECAUTIONS

Category-specific isolation precautions is 1 of 2 isolation systems recommended by CDC. This system was the only one recommended in the first 2 editions of the CDC manual, *Isolation Techniques for Use in Hospitals*. Isolation categories are derived by grouping diseases for which similar isolation precautions are indicated. For diseases to be grouped into isolation categories, more isolation precautions must be required with some diseases than just those that are necessary to prevent transmission of those diseases. (Hospitals wishing to avoid overuse of isolation precautions may use the alternative isolation system, disease-specific isolation precautions.) Nevertheless, category-specific isolation precautions have advantages in that they are easier to administer and to teach personnel.

Seven isolation categories are used: Strict Isolation, Contact Isolation, Respiratory Isolation, Tuberculosis (AFB) Isolation, Enteric Precautions, Drainage/Secretion Precautions, and Blood/Body Fluid Precautions. The specifications for each category and the diseases and conditions included in the category are discussed below. (Additional information essential to understanding and properly using category-specific isolation precautions is contained in the preceding section, Techniques for Isolation Precautions, and in Table A, Category-Specific Isolation Precautions.)

#### Strict Isolation

*Strict Isolation* is an isolation category designed to prevent transmission of highly contagious or virulent infections that may be spread by both air and contact.

#### Specifications for Strict Isolation

1. Private room is indicated; door should be kept closed. In general, patients infected with the same organism may share a room.
2. Masks are indicated for all persons entering the room.
3. Gowns are indicated for all persons entering the room.
4. Gloves are indicated for all persons entering the room.
5. Hands must be washed after touching the patient or potentially contaminated articles and before taking care of another patient.
6. Articles contaminated with infective material should be discarded or bagged and labeled before being sent for decontamination and reprocessing.

#### Diseases Requiring Strict Isolation

Diphtheria, pharyngeal  
Lassa fever and other viral hemorrhagic fevers, such as Marburg virus disease\*  
Plague, pneumonic  
Smallpox\*  
Varicella (chickenpox)  
Zoster, localized in immunocompromised patient or disseminated

#### Contact Isolation

*Contact Isolation* is designed to prevent transmission of highly transmissible or epidemiologically important infections (or colonization) that do not warrant Strict Isolation.

All diseases or conditions included in this category are spread primarily by close or direct contact. Thus, masks, gowns, and gloves are recommended for anyone in close or direct contact with any patient who has an infection (or colonization) that is included in this category. For individual diseases or conditions, however, 1 or more of these 3 barriers may not be indicated. For example, masks and gloves are not generally indicated for care of infants and young children with acute viral respiratory infections, gowns are not generally indicated for gonococcal conjunctivitis in newborns, and masks are not generally indicated for care of patients infected with multiply-resistant microorganisms, except those with pneumonia. Therefore, some degree of "over-isolation" may occur in this category.

#### Specifications for Contact Isolation

1. Private room is indicated. In general, patients infected with the same organism may share a room. During outbreaks, infants and young children with the same respiratory clinical syndrome may share a room.
2. Masks are indicated for those who come close to the patient.
3. Gowns are indicated if soiling is likely.
4. Gloves are indicated for touching infective material.
5. Hands must be washed after touching the patient or potentially contaminated articles and before taking care of another patient.
6. Articles contaminated with infective material should be discarded or bagged and labeled before being sent for decontamination and reprocessing.

#### Diseases or Conditions Requiring Contact Isolation

Acute respiratory infections in infants and young children, including croup, colds, bronchitis, and bronchiolitis caused by respiratory syncytial virus, adenovirus, coronavirus, influenza viruses, parainfluenza viruses, and rhinovirus  
Conjunctivitis, gonococcal, in newborns  
Diphtheria, cutaneous  
Endometritis, group A *Streptococcus*  
Furunculosis, staphylococcal, in newborns  
Herpes simplex, disseminated, severe primary or neonatal  
Impetigo  
Influenza, in infants and young children  
Multiply-resistant bacteria, infection or colonization (any site) with any of the following:

1. Gram-negative bacilli resistant to all aminoglycosides that are tested. (In general, such organisms should be resistant to gentamicin, tobramycin, and amikacin for these special precautions to be indicated.)
  2. *Staphylococcus aureus* resistant to methicillin (or nafcillin or oxacillin if they are used instead of methicillin for testing)
  3. *Pneumococcus* resistant to penicillin
  4. *Haemophilus influenzae* resistant to ampicillin (beta-lactamase positive) and chloramphenicol
  5. Other resistant bacteria may be included if they are judged by the infection control team to be of special clinical and epidemiologic significance.
- Pediculosis

\*A private room with special ventilation is indicated.

Pharyngitis, infectious, in infants and young children  
 Pneumonia, viral, in infants and young children  
 Pneumonia, *Staphylococcus aureus* or group A *Streptococcus*  
 Rabies  
 Rubella, congenital and other  
 Scabies  
 Scalded skin syndrome, staphylococcal (Ritter's disease)  
 Skin, wound, or burn infection, major (draining and not covered by dressing or dressing does not adequately contain the purulent material) including those infected with *Staphylococcus aureus* or group A *Streptococcus*  
 Vaccinia (generalized and progressive eczema vaccinatum)

### **Respiratory Isolation**

*Respiratory Isolation* is designed to prevent transmission of infectious diseases primarily over short distances through the air (droplet transmission). Direct and indirect contact transmission occurs with some infections in this isolation category but is infrequent.

#### **Specifications for Respiratory Isolation**

1. Private room is indicated. In general, patients infected with the same organism may share a room.
2. Masks are indicated for those who come close to the patient.
3. Gowns are not indicated.
4. Gloves are not indicated.
5. Hands must be washed after touching the patient or potentially contaminated articles and before taking care of another patient.
6. Articles contaminated with infective material should be discarded or bagged and labeled before being sent for decontamination and reprocessing.

#### **Diseases Requiring Respiratory Isolation**

Epiglottitis, *Haemophilus influenzae*  
 Erythema infectiosum  
 Measles  
 Meningitis

*Haemophilus influenzae*, known or suspected  
 Meningococcal, known or suspected  
 Meningococcal pneumonia  
 Meningococemia  
 Mumps

Pertussis (whooping cough)  
 Pneumonia, *Haemophilus influenzae*, in children (any age)

#### **Tuberculosis Isolation (AFB Isolation)**

*Tuberculosis Isolation* (AFB Isolation) is an isolation category for patients with pulmonary TB who have a positive sputum smear or a chest X-ray that strongly suggests current (active) TB. Laryngeal TB is also included in this isolation category. In general, infants and young children with pulmonary TB do not require isolation precautions because they rarely cough, and their bronchial secretions contain few AFB, compared with adults with pulmonary TB. On the instruction card, this category is called AFB (for acid-fast bacilli) Isolation to protect the patient's privacy.

#### **Specifications for Tuberculosis Isolation (AFB Isolation)**

1. Private room with special ventilation is indicated; door should be kept closed. In general, patients infected with the same organism may share a room.
2. Masks are indicated only if the patient is coughing and does not reliably cover mouth.

3. Gowns are indicated only if needed to prevent gross contamination of clothing.
4. Gloves are not indicated.
5. Hands must be washed after touching the patient or potentially contaminated articles and before taking care of another patient.
6. Articles are rarely involved in transmission of TB. However, articles should be thoroughly cleaned and disinfected, or discarded.

### **Enteric Precautions**

*Enteric Precautions* are designed to prevent infections that are transmitted by direct or indirect contact with feces. Hepatitis A is included in this category because it is spread through feces, although the disease is much less likely to be transmitted after the onset of jaundice. Most infections in this category primarily cause gastrointestinal symptoms, but some do not. For example, feces from patients infected with "poliovirus" and coxsackieviruses are infective, but these infections do not usually cause prominent gastrointestinal symptoms.

#### **Specifications for Enteric Precautions**

1. Private room is indicated if patient hygiene is poor. A patient with poor hygiene does not wash hands after touching infective material, contaminates the environment with infective material, or shares contaminated articles with other patients. In general, patients infected with the same organism may share a room.
2. Masks are not indicated.
3. Gowns are indicated if soiling is likely.
4. Gloves are indicated if touching infective material.
5. Hands must be washed after touching the patient or potentially contaminated articles and before taking care of another patient.
6. Articles contaminated with infective material should be discarded or bagged and labeled before being sent for decontamination and reprocessing.

#### **Diseases Requiring Enteric Precautions**

Amebic dysentery  
 Cholera  
 Coxsackievirus disease  
 Diarrhea, acute illness with suspected infectious etiology  
 Echovirus disease  
 Encephalitis (unless known not to be caused by enteroviruses)  
 Enterocolitis caused by *Clostridium difficile* or *Staphylococcus aureus*  
 Enteroviral infection  
 Gastroenteritis caused by  
   *Campylobacter* species  
   *Cryptosporidium* species  
   *Dientamoeba fragilis*  
   *Escherichia coli* (enterotoxigenic, enteropathogenic, or enteroinvasive)  
   *Giardia lamblia*  
   *Salmonella* species  
   *Shigella* species  
   *Vibrio parahaemolyticus*  
 Viruses—including Norwalk agent and rotavirus  
*Yersinia enterocolitica*  
 Unknown etiology but presumed to be an infectious agent

Hand, foot, and mouth disease  
 Hepatitis, viral, type A  
 Herpangina  
 Meningitis, viral (unless known not to be caused by enteroviruses)  
 Necrotizing enterocolitis  
 Pleurodynia  
 Poliomyelitis  
 Typhoid fever (*Salmonella typhi*)  
 Viral pericarditis, myocarditis, or meningitis (unless known not to be caused by enteroviruses).

#### **Drainage/Secretion Precautions**

*Drainage/Secretion Precautions* are designed to prevent infections that are transmitted by direct or indirect contact with purulent material or drainage from an infected body site. This newly created isolation category includes many infections formerly included in Wound and Skin Precautions, Discharge (lesion), and Secretion (oral) Precautions, which have been discontinued. Infectious diseases included in this category are those that result in the production of infective purulent material, drainage, or secretions, unless the disease is included in another isolation category that requires more rigorous precautions. For example, minor or limited skin, wound, or burn infections are included in this category, but major skin, wound, or burn infections are included in Contact Isolation. (If you have questions about a specific disease, see the alphabetical listing of infectious diseases in Table A, Category-Specific Isolation Precautions.)

#### **Specifications for Drainage/Secretion Precautions**

1. Private room is not indicated.
2. Masks are not indicated.
3. Gowns are indicated if soiling is likely.
4. Gloves are indicated for touching infective material.
5. Hands must be washed after touching the patient or potentially contaminated articles and before taking care of another patient.
6. Articles contaminated with infective material should be discarded or bagged and labeled before being sent for decontamination and reprocessing.

#### **Diseases Requiring Drainage/Secretion Precautions**

The following infections are examples of those included in this category provided they are *not* a) caused by multiply-resistant microorganisms, b) major (draining and not covered by a dressing or dressing does not adequately contain the drainage) skin, wound, or burn infections, including those caused by *Staphylococcus aureus* or group A *Streptococcus*, or c) gonococcal eye infections in newborns. See Contact Isolation if the infection is 1 of these 3.

Abscess, minor or limited  
 Burn infection, minor or limited  
 Conjunctivitis  
 Decubitus ulcer, infected, minor or limited  
 Skin infection, minor or limited  
 Wound infection, minor or limited

#### **Blood/Body Fluid Precautions**

*Blood/Body Fluid Precautions* are designed to prevent infections that are transmitted by direct or indirect contact with infective blood or body fluids. Infectious diseases included in this category are those that result in the production of infective blood or body fluids, unless the disease is in-

cluded in another isolation category that requires more rigorous precautions, for example, Strict Isolation. (If you have questions about a specific disease, see the alphabetical listing of infectious diseases in Table A, Category-Specific Isolation Precautions.) For some diseases included in this category, such as malaria, only blood is infective; for other diseases, such as hepatitis B (including antigen carriers), blood and body fluids (saliva, semen, etc.) are infective.

#### **Specifications for Blood/Body Fluid Precautions**

1. Private room is indicated if patient hygiene is poor. A patient with poor hygiene does not wash hands after touching infective material, contaminates the environment with infective material, or shares contaminated articles with other patients. In general, patients infected with the same organism may share a room.
2. Masks are not indicated.
3. Gowns are indicated if soiling of clothing with blood or body fluids is likely.
4. Gloves are indicated for touching blood or body fluids.
5. Hands must be washed immediately if they are potentially contaminated with blood or body fluids and before taking care of another patient.
6. Articles contaminated with blood or body fluids should be discarded or bagged and labeled before being sent for decontamination and reprocessing.
7. Care should be taken to avoid needle-stick injuries. Used needles should not be recapped or bent; they should be placed in a prominently labeled, puncture-resistant container designated specifically for such disposal.
8. Blood spills should be cleaned up promptly with a solution of 5.25% sodium hypochlorite diluted 1:10 with water.

#### **Diseases Requiring Blood/Body Fluid Precautions**

Acquired immunodeficiency syndrome (AIDS)  
 Arthropodborne viral fevers (for example, dengue, yellow fever, and Colorado tick fever)  
 Babesiosis  
 Creutzfeldt-Jakob disease  
 Hepatitis B (including HBsAg antigen carrier)  
 Hepatitis, non-A, non-B  
 Leptospirosis  
 Malaria  
 Rat-bite fever  
 Relapsing fever  
 Syphilis, primary and secondary with skin and mucous membrane lesions

**TABLE A. Category-Specific Isolation Precautions**

Table A, Category-Specific Isolation Precautions, lists most of the common infectious agents and diseases that are likely to be found in U.S. hospitals and the category of isolation indicated for each. Diseases are listed alphabetically in several ways: by anatomical site or syndrome (abscess, burn wound, cellulitis, etc.), by etiologic agent (*Chlamydia trachomatis*, *Clostridium perfringens*, *Escherichia coli*, etc.), and sometimes by a combination of syndrome and etiologic agent (endometritis, group A *Streptococcus*, pneumonia, *Staphylococcus aureus*, etc.). In an attempt to make the table useful to all hospital personnel, including those from nonclinical areas (admitting, dietary, housekeeping, laundry, etc.), we have also included common terminology and jargon (such as gangrene

and "TORCH" syndrome) in the alphabetical listing of diseases.

For some diseases or conditions listed in Table A, we recommend more stringent isolation precautions for infants and young children than for adults since the risk of spread and the consequences of infection are greater in infants and young children. We use the term "young children" rather than an age breakpoint because children mature at such different rates. Thus, the interpretation of the term "young children" will differ in various pediatric settings according to patient population.

In addition to showing the category of isolation for each disease, Table A, Category-Specific Isolation Precautions,

identifies which secretions, excretions, discharges, body fluids, and tissues are infective or might be infective. Again, common terms such as feces and pus are used to describe infective material. In the table the term "pus" refers to grossly purulent as well as serous drainage that is likely to be infective. In the table we also tell how long to apply the category-specific precautions for each disease and, in the comments column, list other considerations that personnel should be aware of when taking care of an infected or colonized patient for whom isolation precautions are indicated. Additional information essential to understanding and properly using category-specific isolation precautions is contained in the first part of this section in Techniques for Isolation Precautions (page 9).

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>  | <b>CATEGORY</b>                 | <b>INFECTIVE MATERIAL</b>        | <b>APPLY PRECAUTIONS HOW LONG?</b> | <b>COMMENTS</b>   |
|---|---------------------------------|----------------------------------|------------------------------------|---|
| Abscess, etiology unknown                                       |                                 |                                  |                                    |   |
| Draining, major   | Contact Isolation               | Pus                              | Duration of illness                | Major = no dressing or dressing does not adequately contain the pus.  |
| Draining, minor or limited                                      | Drainage/ Secretion Precautions | Pus                              | Duration of illness                | Minor or limited = dressing covers and adequately contains the pus, or infected area is very small, such as a stitch abscess.   |
| Not draining  | None                            |                                  |                                    |   |
| Acquired immunodeficiency syndrome (AIDS)                       | Blood Body Fluid Precautions    | Blood and body fluids            | Duration of illness                | Use caution when handling blood and blood-soiled articles. Take special care to avoid needle-stick injuries. If gastrointestinal bleeding is likely, wear gloves if touching feces. (Acquired immune deficiency syndrome [AIDS]: precautions for clinical and laboratory staffs. MMWR 1982; 31:577-80.) |
| Actinomycosis, all lesions                                      | None                            |                                  |                                    |   |
| Adenovirus infection, respiratory in infants and young children | Contact Isolation               | Respiratory secretions and feces | Duration of hospitalization        | During epidemics patients believed to have adenovirus infection may be placed in the same room (cohorting).   |
| Amebiasis   |                                 |                                  |                                    |   |
| Dysentery   | Enteric Precautions             | Feces                            | Duration of illness                |   |
| Liver abscess   | None                            |                                  |                                    |   |
| Anthrax   |                                 |                                  |                                    |   |
| Cutaneous   | Drainage/ Secretion Precautions | Pus                              | Duration of illness                |   |
| Inhalation  | Drainage/ Secretion Precautions | Respiratory secretions may be    | Duration of illness                |   |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>   | <b>CATEGORY</b>                | <b>INFECTIVE MATERIAL</b>     | <b>APPLY PRE-CAUTIONS HOW LONG?</b> | <b>COMMENTS</b>   |
|--|--------------------------------|-------------------------------|-------------------------------------|---|
| Arthropodborne viral encephalitides (eastern equine, western equine, and Venezuelan equine encephalomyelitis, St. Louis and California encephalitis) | None                           |                               |                                     |   |
| Arthropodborne viral fevers (dengue, yellow fever, and Colorado tick fever)  | Blood/Body Fluid Precautions   | Blood                         | Duration of hospitalization         |   |
| Ascariasis   | None                           |                               |                                     |   |
| Aspergillosis  | None                           |                               |                                     |   |
| Babesiosis   | Blood/Body Fluid Precautions   | Blood                         | Duration of illness                 |   |
| Blastomycosis, North American, cutaneous or pulmonary  | None                           |                               |                                     |   |
| Botulism   |                                |                               |                                     |   |
| Infant   | None                           |                               |                                     |   |
| Other  | None                           |                               |                                     |   |
| Bronchiolitis, etiology unknown in infants and young children  | Contact Isolation              | Respiratory secretions        | Duration of illness                 | Various etiologic agents, such as respiratory syncytial virus, parainfluenza viruses, adenoviruses, and influenza viruses, have been associated with this syndrome (Committee on Infectious Diseases, American Academy of Pediatrics, 1982 Red Book); therefore, precautions to prevent their spread are generally indicated. |
| Bronchitis, infective, etiology unknown  |                                |                               |                                     |   |
| Adults   | None                           | Respiratory secretions may be |                                     |   |
| Infants and young children   | Contact Isolation              | Respiratory secretions        | Duration of illness                 |   |
| Brucellosis (undulant fever, Malta fever, Mediterranean fever)   |                                |                               |                                     |   |
| Draining lesions, limited or minor   | Drainage/Secretion Precautions | Pus                           | Duration of illness                 | Limited or minor = dressing covers and adequately contains the pus, or infected area is very small.   |
| Other  | None                           |                               |                                     |   |
| Burn wound (see separate section on Care of Patients with Burns)   |                                |                               |                                     |   |
| <i>Campylobacter</i> gastroenteritis   | Enteric Precautions            | Feces                         | Duration of illness                 |   |
| Candidiasis, all forms, including mucocutaneous (moniliasis, thrush)   | None                           |                               |                                     |   |
| Cat-scratch fever (benign inoculation lymphoreticulosis)   | None                           |                               |                                     |   |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>                                | <b>CATEGORY</b>                 | <b>INFECTIVE MATERIAL</b>                    | <b>APPLY PRE-CAUTIONS HOW LONG?</b> | <b>COMMENTS</b>  |
|---|---------------------------------|--|-------------------------------------|--|
| <b>Cellulitis</b>                             |                                 |  |                                     |  |
| Draining, limited or minor                    | Drainage/ Secretion Precautions | Pus  | Duration of illness                 | Limited or minor = dressing covers and adequately contains the pus, or infected area is very small.  |
| Intact skin                                   | None                            |  |                                     |  |
| Chancroid (soft chancre)                      | None                            |  |                                     |  |
| Chickenpox (varicella)                        | Strict Isolation                | Respiratory secretions and lesion secretions | Until all lesions are crusted       | Persons who are not susceptible do not need to wear a mask. Susceptible persons should, if possible, stay out of room. Special ventilation for the room, if available, may be advantageous, especially for outbreak control. Neonates born to mothers with active varicella should be placed in Strict Isolation at birth. Exposed susceptible patients should be placed in Strict Isolation beginning 10 days after exposure and continuing until 21 days after last exposure. See CDC Guideline for Infection Control in Hospital Personnel for recommendations for exposed susceptible personnel. |
| <b><i>Chlamydia trachomatis</i> infection</b> |                                 |  |                                     |  |
| Conjunctivitis                                | Drainage/ Secretion Precautions | Purulent exudate                             | Duration of illness                 |  |
| Genital                                       | Drainage/ Secretion Precautions | Genital discharge                            | Duration of illness                 |  |
| Respiratory                                   | Drainage/ Secretion Precautions | Respiratory secretions                       | Duration of illness                 |  |
| Cholera                                       | Enteric Precautions             | Feces  | Duration of illness                 |  |
| <b>Closed-cavity infection</b>                |                                 |  |                                     |  |
| Draining, limited or minor                    | Drainage/ Secretion Precautions | Pus  | Duration of illness                 | Limited or minor = dressing covers and adequately contains the pus, or infected area is very small.  |
| Not draining                                  | None                            |  |                                     |  |
| <b><i>Clostridium perfringens</i></b>         |                                 |  |                                     |  |
| Food poisoning                                | None                            |  |                                     |  |
| Gas gangrene                                  | Drainage/ Secretion Precautions | Pus  | Duration of illness                 |  |
| Other   | Drainage/ Secretion Precautions | Pus  | Duration of illness                 |  |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>                                       | <b>CATEGORY</b>                 | <b>INFECTIVE MATERIAL</b>        | <b>APPLY PRECAUTIONS HOW LONG?</b>   | <b>COMMENTS</b>   |
|--|---------------------------------|----------------------------------|--|---|
| <b>Coccidioidomycosis (valley fever)</b>             |                                 |                                  |  |   |
| Draining lesions                                     | None                            | Drainage may be if spores form   |  |   |
| Pneumonia  | None                            |                                  |  |   |
| Colorado tick fever                                  | Blood/Body Fluid Precautions    | Blood                            | Duration of hospitalization  |   |
| <b>Common cold</b>                                   |                                 |                                  |  |   |
| Adults   | None                            | Respiratory secretions may be    |  |   |
| Infants and young children                           | Contact Isolation               | Respiratory secretions           | Duration of illness  | Although rhinoviruses are most frequently associated with the common cold and are mild in adults, severe infections may occur in infants and young children. Other etiologic agents, such as respiratory syncytial virus and parainfluenza viruses, may also cause this syndrome (Committee on Infectious Diseases, American Academy of Pediatrics, 1982 Red Book); therefore, precautions to prevent their spread are generally indicated. |
| Congenital rubella                                   | Contact Isolation               | Urine and respiratory secretions | During any admission for the 1st year after birth unless nasopharyngeal and urine cultures after 3 months of age are negative for rubella virus. | Susceptible persons should, if possible, stay out of room. Pregnant personnel may need special counseling (see CDC Guideline for Infection Control in Hospital Personnel).  |
| Conjunctivitis, acute bacterial (sore eye, pink eye) | Drainage/ Secretion Precautions | Purulent exudate                 | Duration of illness  |   |
| Conjunctivitis, <i>Chlamydia</i>                     | Drainage/ Secretion Precautions | Purulent exudate                 | Duration of illness  |   |
| <b>Conjunctivitis, gonococcal</b>                    |                                 |                                  |  |   |
| Adults   | Drainage/ Secretion Precautions | Purulent exudate                 | For 24 hours after start of effective therapy  |   |
| Newborns   | Contact Isolation               | Purulent exudate                 | For 24 hours after start of effective therapy  |   |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>  | <b>CATEGORY</b>                 | <b>INFECTIVE MATERIAL</b>               | <b>APPLY PRECAUTIONS HOW LONG?</b> | <b>COMMENTS</b>  |
|---|---------------------------------|---|------------------------------------|--|
| Conjunctivitis, viral and etiology unknown (acute hemorrhagic and swimming pool conjunctivitis) | Drainage/ Secretion Precautions | Purulent exudate                        | Duration of illness                | If patient hygiene is poor, a private room may be indicated.   |
| Coronavirus infection, respiratory  |                                 |   |                                    |  |
| Adults  | None                            | Respiratory secretions may be           |                                    |  |
| Infants and young children  | Contact Isolation               | Respiratory secretions                  | Duration of illness                |  |
| Coxsackievirus disease  | Enteric Precautions             | Feces and respiratory secretions        | For 7 days after onset             |  |
| Creutzfeldt-Jakob disease   | Blood/Body Fluid Precautions    | Blood, brain tissue, and spinal fluid   | Duration of hospitalization        | Use caution when handling blood, brain tissue, or spinal fluid. (Jarvis WR. Precautions for Creutzfeldt-Jakob disease. Infect Control 1982; 3:238-9.)  |
| Croup   | Contact Isolation               | Respiratory secretions                  | Duration of illness                | Because viral agents, such as parainfluenza viruses and influenza A virus, have been associated with this syndrome (Committee on Infectious Diseases, American Academy of Pediatrics, 1982 Red Book), precautions to prevent their spread are generally indicated. |
| Cryptococcosis  | None                            |   |                                    |  |
| Cysticercosis   | None                            |   |                                    |  |
| Cytomegalovirus infection, neonatal or immunosuppressed   | None                            | Urine and respiratory secretions may be |                                    | Pregnant personnel may need special counseling (see CDC Guideline for Infection Control in Hospital Personnel).  |
| Decubitus ulcer, infected   |                                 |   |                                    |  |
| Major   | Contact Isolation               | Pus                                     | Duration of illness                | Major = draining and not covered by dressing or dressing does not adequately contain the pus.  |
| Minor or limited  | Drainage/ Secretion Precautions | Pus                                     | Duration of illness                | Minor or limited = dressing covers and adequately contains the pus, or infected area is very small.  |
| Dengue  | Blood/Body Fluid Precautions    | Blood                                   | Duration of hospitalization        |  |
| Diarrhea, acute— <i>infective etiology suspected (see gastroenteritis)</i>                      | Enteric Precautions             | Feces                                   | Duration of illness                |  |



**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>   | <b>CATEGORY</b>                 | <b>INFECTIVE MATERIAL</b>        | <b>APPLY PRE-CAUTIONS HOW LONG?</b>   | <b>COMMENTS</b>   |
|--|---------------------------------|----------------------------------|---|---|
| <b>Diphtheria</b>  |                                 |                                  |   |   |
| Cutaneous  | Contact Isolation               | Lesion secretions                | Until 2 cultures from skin lesions, taken at least 24 hours apart after cessation of antimicrobial therapy, are negative for <i>Corynebacterium diphtheriae</i>       |   |
| Pharyngeal   | Strict Isolation                | Respiratory secretions           | Until 2 cultures from both nose and throat taken at least 24 hours apart after cessation of antimicrobial therapy are negative for <i>Corynebacterium diphtheriae</i> |   |
| Echinococcosis (hydatidosis)   | None                            |                                  |   |   |
| Echovirus disease  | Enteric Precautions             | Feces and respiratory secretions | For 7 days after onset  |   |
| Eczema vaccinatum (vaccinia)   | Contact Isolation               | Lesion secretions                | Duration of illness   |   |
| Encephalitis or encephalomyelitis, etiology unknown, but infection suspected (see also specific etiologic agents; likely causes include enterovirus and arthropodborne virus infections) | Enteric Precautions             | Feces                            | Duration of illness or 7 days after onset, whichever is less  | Although specific etiologic agents can include enteroviruses, arthropodborne viruses, and herpes simplex, precautions for enteroviruses are generally indicated until a definitive diagnosis can be made. |
| <b>Endometritis</b>  |                                 |                                  |   |   |
| Group A <i>Streptococcus</i>   | Contact Isolation               | Vaginal discharge                | For 24 hours after start of effective therapy   |   |
| Other  | Drainage/ Secretion Precautions | Vaginal discharge                | Duration of illness   |   |
| Enterobiasis (pinworm disease, oxyuriasis)   | None                            |                                  |   |   |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>   | <b>CATEGORY</b>                | <b>INFECTIVE MATERIAL</b>     | <b>APPLY PRE-CAUTIONS HOW LONG?</b>           | <b>COMMENTS</b>  |
|--|--------------------------------|-------------------------------|---|--|
| Enterocolitis (see also necrotizing enterocolitis)   |                                |                               |   |  |
| <i>Clostridium difficile</i>   | Enteric Precautions            | Feces                         | Duration of illness                           |  |
| <i>Staphylococcus</i>  | Enteric Precautions            | Feces                         | Duration of illness                           |  |
| Enteroviral infection  | Enteric Precautions            | Feces                         | For 7 days after onset                        |  |
| Epiglottitis, due to <i>Haemophilus influenzae</i>   | Respiratory Isolation          | Respiratory secretions        | For 24 hours after start of effective therapy |  |
| Epstein-Barr virus infection, any, including infectious mononucleosis                      | None                           | Respiratory secretions may be |   |  |
| Erysipeloid  | None                           |                               |   |  |
| Erythema infectiosum   | Respiratory Isolation          | Respiratory secretions        | For 7 days after onset                        |  |
| <i>Escherichia coli</i> gastroenteritis (enteropathogenic, enterotoxic, or enteroinvasive) | Enteric Precautions            | Feces                         | Duration of hospitalization                   |  |
| Fever of unknown origin (FUO)  |                                |                               |   | Patients with FUO usually do not need isolation precautions; however, if a patient has signs and symptoms compatible with (and is likely to have) a disease that requires isolation precautions, use those isolation precautions for that patient. |
| Food poisoning   |                                |                               |   |  |
| Botulism   | None                           |                               |   |  |
| <i>Clostridium perfringens</i> or <i>welchii</i> (food poisoning)                          | None                           |                               |   |  |
| Salmonellosis  | Enteric Precautions            | Feces                         | Duration of illness                           |  |
| Staphylococcal food poisoning  | None                           |                               |   |  |
| Furunculosis—staphylococcal  |                                |                               |   |  |
| Newborns   | Contact Isolation              | Pus                           | Duration of illness                           | During a nursery outbreak, cohorting of ill and colonized infants and use of gowns and gloves is recommended.  |
| Others   | Drainage/Secretion Precautions | Pus                           | Duration of illness                           |  |
| Gangrene   |                                |                               |   |  |
| Gas gangrene (due to any bacteria)   | Drainage/Secretion Precautions | Pus                           | Duration of illness                           |  |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>   | <b>CATEGORY</b>     | <b>INFECTIVE MATERIAL</b> | <b>APPLY PRE-CAUTIONS HOW LONG?</b>  | <b>COMMENTS</b>  |
|--|---------------------|---------------------------|--|--|
| <b>Gastroenteritis</b>   |                     |                           |  |  |
| <i>Campylobacter</i> species   | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Clostridium difficile</i>   | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Cryptosporidium</i> species   | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Dientamoeba fragilis</i>  | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Escherichia coli</i> (enteropathogenic, enterotoxigenic, or enteroinvasive) | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Giardia lamblia</i>   | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Rotavirus</i>   | Enteric Precautions | Feces                     | Duration of illness or 7 days after onset, whichever is less   |  |
| <i>Salmonella</i> species  | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Shigella</i> species  | Enteric Precautions | Feces                     | Until 3 consecutive cultures of feces taken after ending antimicrobial therapy are negative for infecting strain |  |
| Unknown etiology   | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Vibrio parahaemolyticus</i>   | Enteric Precautions | Feces                     | Duration of illness  |  |
| Viral  | Enteric Precautions | Feces                     | Duration of illness  |  |
| <i>Yersinia enterocolitica</i>   | Enteric Precautions | Feces                     | Duration of illness  |  |
| German measles (rubella) (see also congenital rubella)                         | Contact Isolation   | Respiratory secretions    | For 7 days after onset of rash   | Persons who are not susceptible do not need to wear a mask. Susceptible persons should, if possible, stay out of room. Pregnant personnel may need special counseling (see CDC Guideline for Infection Control in Hospital Personnel). |
| Giardiasis   | Enteric Precautions | Feces                     | Duration of illness  |  |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>   | <b>CATEGORY</b>              | <b>INFECTIVE MATERIAL</b>                      | <b>APPLY PRE-CAUTIONS HOW LONG?</b>           | <b>COMMENTS</b>   |
|--|------------------------------|--|---|---|
| Gonococcal ophthalmia neonatorum (gonorrhoeal ophthalmia, acute conjunctivitis of the newborn) | Contact Isolation            | Purulent exudate                               | For 24 hours after start of effective therapy |   |
| Gonorrhea  | None                         | Discharge may be                               |   |   |
| Granulocytopenia   | None                         |  |   | Wash hands well <i>before</i> taking care of patient (see separate section on Care of Severely Compromised Patients).   |
| Granuloma inguinale (donovaniasis, granuloma venereum)   | None                         | Drainage may be                                |   |   |
| Guillain-Barré syndrome  | None                         |  |   |   |
| Hand, foot, and mouth disease  | Enteric Precautions          | Feces  | For 7 days after onset                        |   |
| Hemorrhagic fevers (for example, Lassa fever)  | Strict Isolation             | Blood, body fluids, and respiratory secretions | Duration of illness                           | Call the State Health Department and Centers for Disease Control for advice about management of a suspected case.   |
| Hepatitis, viral   |                              |  |   |   |
| Type A (infectious)  | Enteric Precautions          | Feces may be                                   | For 7 days after onset of jaundice            | Hepatitis A is most contagious before symptoms and jaundice appear; once these appear, small, inapparent amounts of feces, which may contaminate the hands of personnel during patient care, do not appear to be infective. Thus, gowns and gloves are most useful when gross soiling with feces is anticipated or possible.  |
| Type B ("serum hepatitis"), including hepatitis B antigen (HBsAg) carrier                      | Blood/Body Fluid Precautions | Blood and body fluids                          | Until patient is HBsAg-negative               | Use caution when handling blood and blood-soiled articles. Take special care to avoid needle-stick injuries. Pregnant personnel may need special counseling (see CDC Guideline for Infection Control in Hospital Personnel). Gowns are indicated when clothing may become contaminated with body fluids or blood (for example, when blood splattering is anticipated). If gastrointestinal bleeding is likely, wear gloves if touching feces. A private room may be indicated if profuse bleeding is likely to cause environmental contamination. |
| Non-A, Non-B   | Blood/Body Fluid Precautions | Blood and body fluids                          | Duration of illness                           | Currently, the period of infectivity cannot be determined.  |
| Unspecified type, consistent with viral etiology   |                              |  |   | Maintain precautions indicated for the infections that are most likely.   |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>   | <b>CATEGORY</b>                 | <b>INFECTIVE MATERIAL</b>                             | <b>APPLY PRE-CAUTIONS HOW LONG?</b> | <b>COMMENTS</b>  |
|--|---------------------------------|---|-------------------------------------|--|
| Herpangina   | Enteric Precautions             | Feces   | For 7 days after onset              |  |
| <b>Herpes simplex (<i>Herpesvirus hominis</i>)</b>                       |                                 |   |                                     |  |
| Encephalitis   | None                            |   |                                     |  |
| Mucocutaneous, disseminated or primary, severe (skin, oral, and genital) | Contact Isolation               | Lesion secretions from infected site                  | Duration of illness                 |  |
| Mucocutaneous, recurrent (skin, oral, and genital)                       | Drainage/ Secretion Precautions | Lesion secretions from infected site                  | Until all lesions are crusted       |  |
| Neonatal (see comments for newborn with perinatal exposure)              | Contact Isolation               | Lesion secretions                                     | Duration of illness                 | The same isolation precautions are indicated for infants delivered (either vaginally or by cesarean section if membranes have been ruptured for more than 4-6 hours) to women with active genital herpes simplex infections. Infants delivered by cesarean section to women with active genital herpes simplex infections before and probably within 4-6 hours after membrane rupture are at minimal risk of developing herpes simplex infection; the same isolation precautions may still be indicated, however. (American Academy of Pediatrics Committee on Fetus and Newborn. Perinatal herpes simplex virus infections. <i>Pediatrics</i> 1980; 66:147-9. Also: Kibrick S, Herpes simplex infection at term. <i>JAMA</i> 1980; 243:157-60.) |
| <b>Herpes zoster (varicella-zoster)</b>                                  |                                 |   |                                     |  |
| Localized in immunocompromised patient, or disseminated                  | Strict Isolation                | Lesion secretions and possibly respiratory secretions | Duration of illness                 | Localized lesions in immunocompromised patients frequently become disseminated. Because such dissemination is unpredictable, use the same isolation precautions as for disseminated disease. Persons who are not susceptible do not need to wear a mask. Persons susceptible to varicella-zoster (chickenpox) should, if possible, stay out of room. Special ventilation for the room, if available, may be advantageous, especially for outbreak control. Exposed susceptible patients should be placed in Strict Isolation beginning 10 days after exposure and continuing until 21 days after last exposure. See CDC Guideline for Infection Control in Hospital Personnel for recommendations for exposed susceptible personnel.             |

**Table A. Category-Specific Isolation Precautions**

| <b>DISEASE</b>                                       | <b>CATEGORY</b>                       | <b>INFECTIVE MATERIAL</b>                   | <b>APPLY PRECAUTIONS HOW LONG?</b>                     | <b>COMMENTS</b>  |
|--|---------------------------------------|---|--|--|
| Herpes-zoster (cont.)<br>Localized in normal patient | Drainage/<br>Secretion<br>Precautions | Lesion<br>secretions                        | Until all lesions<br>are crusted                       | Persons susceptible to varicella-zoster (chickenpox) should, if possible, stay out of room. Roommates should not be susceptible to chickenpox. If patient hygiene is poor, a private room may be indicated.  |
| Histoplasmosis at any site                           | None                                  |   |  |  |
| Hookworm disease<br>(ancylostomiasis, uncinariasis)  | None                                  |   |  |  |
| Immunocompromised status                             | None                                  |   |  | Wash hands well <i>before</i> taking care of patients (see separate section on Care of Severely Compromised Patients).   |
| Impetigo   | Contact<br>Isolation                  | Lesions                                     | For 24 hours<br>after start of<br>effective<br>therapy |  |
| Infectious mononucleosis                             | None                                  | Respiratory<br>secretions may<br>be         |  |  |
| Influenza<br>Adults                                  | None                                  | Respiratory<br>secretions may<br>be         |  | In the absence of an epidemic, influenza may be difficult to diagnose on clinical grounds. Most patients will have fully recovered by the time laboratory diagnosis is established; therefore, placing patients with suspect influenza on isolation precautions, although theoretically desirable, is simply not practical in most hospitals. During epidemics, the accuracy of clinical diagnosis increases, and patients believed to have influenza may be placed in the same room (cohorting). Amantadine prophylaxis may be useful to prevent symptomatic influenza A infections in high-risk patients during epidemics. |
| Infants and young children                           | Contact<br>Isolation                  | Respiratory<br>secretions                   | Duration of<br>illness                                 | In the absence of an epidemic, influenza may be difficult to diagnose. During epidemics, patients believed to have influenza may be placed in the same room (cohorting).   |
| Jakob-Creutzfeldt disease                            | Blood/Body<br>Fluid<br>Precautions    | Blood, brain<br>tissue, and<br>spinal fluid | Duration of<br>hospitalization                         | Use caution when handling blood, brain tissue, or spinal fluid. (Jarvis WR, Precautions for Creutzfeldt-Jakob disease. Infect Control 1982; 3:238-9.)  |
| Kawasaki syndrome                                    | None                                  |   |  |  |
| Keratoconjunctivitis, infective                      | Drainage/<br>Secretion<br>Precautions | Purulent<br>exudate                         | Duration of<br>illness                                 | If patient hygiene is poor, a private room may be indicated.   |