




## Advisory Committee (HICPAC)

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

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## Appendix A:

Preamble The mode(s) and risk of transmission for each specific disease agent included in Appendix A were reviewed. Principle sources consulted for the development of disease-specific recommendations for Appendix A included infectious disease manuals and textbooks 833, 1043, 1044. The published literature was searched for evidence of person-to-person transmission in healthcare and non-healthcare settings with a focus on reported outbreaks that would assist in developing recommendations for all settings where healthcare is delivered. Criteria used to assign Transmission-Based Precautions categories follow:

- A Transmission-Based Precautions category was assigned if there was strong evidence for person-to-person transmission via droplet, contact, or airborne routes in healthcare or non-healthcare settings and/or if patient factors (e.g., diapered infants, diarrhea, draining wounds) increased the risk of transmission
- Transmission-Based Precautions category assignments reflect the predominant mode(s) of transmission
- If there was no evidence for person-to-person transmission by droplet, contact or airborne routes, Standard Precautions were assigned
- If there was a low risk for person-to-person transmission and no evidence of healthcare-associated transmission, Standard Precautions were assigned
- Standard Precautions were assigned for bloodborne pathogens (e.g., hepatitis B and C viruses, human immunodeficiency virus) as per CDC recommendations for Universal Precautions issued in 1988 780. Subsequent experience has confirmed the efficacy of Standard Precautions to prevent exposure to infected blood and body fluid 778, 779, 866.

Additional information relevant to use of precautions was added in the comments column to assist the caregiver in decision-making. Citations were added as needed to support a change in or provide additional evidence for recommendations for a specific disease and for new infectious agents (e.g., SARS-CoV, avian influenza) that have been added to Appendix A. The reader may refer to more detailed discussion concerning modes of transmission and emerging pathogens in the background text and for MDRO control in Appendix B.

## TYPE AND DURATION OF PRECAUTIONS RECOMMENDED FOR SELECTED INFECTIONS AND CONDITIONS

<b>Infection/Condition</b>	<b>Type*</b>	<b>Duration</b>	<b>Precautions/Comments</b>
Abscess			
Draining, major	C	DI	No dressing or containment of drainage; until drainage stops or can be contained by dressing
Draining, minor or limited	S		Dressing covers and contains drainage
Acquired human immunodeficiency syndrome (HIV)	S		Post-exposure chemoprophylaxis for some blood exposures 866.
Actinomycosis	S		Not transmitted from person to person
Adenovirus infection ( see agent-specific guidance under gastroenteritis, conjunctivitis, pneumonia)			
Amebiasis	S		Person to person transmission is rare. Transmission in settings for the mentally challenged and in a family group has been reported 1045. Use care when handling diapered infants and mentally challenged persons 1046.
Anthrax	S		Infected patients do not generally pose a transmission risk.
Cutaneous	S		Transmission through non-intact skin contact with draining lesions possible, therefore use Contact Precautions if large amount of uncontained drainage. Handwashing with soap and water preferable to use of waterless alcohol based antiseptics since alcohol does not have sporicidal activity 983.
Pulmonary	S		Not transmitted from person to person

<p>Environmental: aerosolizable spore- containing powder or other substance</p>	<p>DE</p>	<p>Until decontamination of environment complete 203. Wear respirator (N95 mask or PAPRs), protective clothing; decontaminate persons with powder on them (<a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5135a3.htm">http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5135a3.htm</a>) <b>Hand hygiene:</b> Handwashing for 30-60 seconds with soap and water or 2% chlorhexidene gluconate after spore contact (alcohol handrubs inactive against spores 983. <b>Post-exposure prophylaxis following environmental exposure:</b> 60 days of antimicrobials (either doxycycline, ciprofloxacin, or levofloxacin) and post-exposure vaccine under IND</p>
<p>Antibiotic-associated colitis (see Clostridium difficile)</p>		
<p>Arthropod-borne viral encephalitides (eastern, western, Venezuelan equine encephalomyelitis; St Louis, California encephalitis; West Nile Virus) and viral fevers (dengue, yellow fever, Colorado tick fever)</p>	<p>S</p>	<p>Not transmitted from person to person except rarely by transfusion, and for West Nile virus by organ transplant, breastmilk or transplacentally 530, 1047. Install screens in windows and doors in endemic areas Use DEET-containing mosquito repellants and clothing to cover extremities</p>
<p>Ascariasis</p>	<p>S</p>	<p>Not transmitted from person to person</p>
<p>Aspergillosis</p>	<p>S</p>	<p>Contact Precautions and Airborne Precautions if massive soft tissue infection with copious drainage and repeated irrigations required 154.</p>
<p>Avian influenza (see influenza, avian below)</p>		
<p>Babesiosis</p>	<p>S</p>	<p>Not transmitted from person to person except rarely by transfusion,</p>

Blastomycosis, North American, cutaneous or pulmonary	S		Not transmitted from person to person
Botulism	S		Not transmitted from person to person
Bronchiolitis (see respiratory infections in infants and young children)	C	DI	Use mask according to Standard Precautions.  Not transmitted from person to person except rarely via banked spermatozoa and sexual contact 1048, 1049. Provide antimicrobial prophylaxis following laboratory exposure 1050.
Brucellosis (undulant, Malta, Mediterranean fever)	S		
Campylobacter gastroenteritis (see gastroenteritis)			
Candidiasis, all forms including mucocutaneous	S		
Cat-scratch fever (benign inoculation lymphoreticulosis)	S		Not transmitted from person to person
Cellulitis	S		
Chancroid (soft chancre) ( <i>H. ducreyi</i> )	S		Transmitted sexually from person to person
Chickenpox (see varicella)			
Chlamydia trachomatis			
Conjunctivitis	S		
Genital (lymphogranuloma venereum)	S		
Pneumonia (infants < 3 mos. of age))	S		
Chlamydia pneumoniae	S		Outbreaks in institutionalized populations reported, rarely 1051, 1052
Cholera (see gastroenteritis)			
Closed-cavity infection			

Open drain in place; limited or minor drainage	S		Contact Precautions if there is copious uncontained drainage
No drain or closed drainage system in place	S		
<i>Clostridium</i>			
C. botulinum	S		Not transmitted from person to person
C. difficile (see Gastroenteritis, C. difficile)	C	DI	
C. perfringens			
Food poisoning	S		Not transmitted from person to person
Gas gangrene	S		Transmission from person to person rare; one outbreak in a surgical setting reported 1053. Use Contact Precautions if wound drainage is extensive.
Coccidioidomycosis (valley fever)			
Draining lesions	S		Not transmitted from person to person except under extraordinary circumstances because the infectious arthroconidial form of Coccidioides immitis is not produced in humans 1054 .
Pneumonia	S		Not transmitted from person to person except under extraordinary circumstances, (e.g., inhalation of aerosolized tissue phase endospores during necropsy, transplantation of infected lung) because the infectious arthroconidial form of Coccidioides immitis is not produced in humans 1054, 1055.
Colorado tick fever	S		Not transmitted from person to person

<p>Congenital rubella</p>	<p>C</p>	<p>Until 1 yr of age</p>	<p>Standard Precautions if nasopharyngeal and urine cultures repeatedly neg. after 3 mos. of age</p>
<p>Conjunctivitis</p>			
<p>    Acute bacterial</p>	<p>S</p>		
<p>    Chlamydia</p>	<p>S</p>		
<p>    Gonococcal</p>	<p>S</p>		
<p>Acute viral (acute hemorrhagic)</p>	<p>C</p>	<p>DI</p>	<p>Adenovirus most common; enterovirus 70 1056, Coxsackie virus A24 1057) also associated with community outbreaks. Highly contagious; outbreaks in eye clinics, pediatric and neonatal settings, institutional settings reported. Eye clinics should follow Standard Precautions when handling patients with conjunctivitis. Routine use of infection control measures in the handling of instruments and equipment will prevent the occurrence of outbreaks in this and other settings. 460, 814, 1058, 1059 461, 1060.</p>
<p>Corona virus associated with SARS (SARS-CoV) (see severe acute respiratory syndrome)</p>			
<p>Coxsackie virus disease (see enteroviral infection)</p>			
<p>Creutzfeldt-Jakob disease CJD, vCJD</p>	<p>S</p>		<p>Use disposable instruments or special sterilization/disinfection for surfaces, objects contaminated with neural tissue if CJD or vCJD suspected and has not been R/O; No special burial procedures 1061</p>
<p>Croup (see respiratory infections in infants and young children)</p>			
<p>Crimean-Congo Fever (see Viral Hemorrhagic Fever)</p>	<p>S</p>		

Cryptococcosis	S		Not transmitted from person to person, except rarely via tissue and corneal transplant 1062, 1063
Cryptosporidiosis (see gastroenteritis)			
Cysticercosis	S		Not transmitted from person to person
Cytomegalovirus infection, including in neonates and immunosuppressed patients	S		No additional precautions for pregnant HCWs
Decubitus ulcer (see Pressure ulcer)			
Dengue fever			
Diarrhea, acute-infective etiology suspected (see gastroenteritis)			
Diphtheria			
Cutaneous	C	CN	Until 2 cultures taken 24 hrs. apart negative
Pharyngeal	D	CN	Until 2 cultures taken 24 hrs. apart negative
Ebola virus (see viral hemorrhagic fevers)			
Echinococcosis (hydatidosis)	S		
Echovirus (see enteroviral infection)			
Encephalitis or encephalomyelitis (see specific etiologic agents)			
Endometritis (endomyometritis)	S		
Enterobiasis (pinworm disease, oxyuriasis)	S		
Enterococcus species (see multidrug-resistant organisms if			

epidemiologically significant or vancomycin resistant)		
Enterocolitis, <i>C. difficile</i> (see <i>C. difficile</i> , gastroenteritis)		
Enteroviral infections (i.e., Group A and B Coxsackie viruses and Echo viruses) (excludes polio virus)	S	Use Contact Precautions for diapered or incontinent children for duration of illness and to control institutional outbreaks
Epiglottitis, due to <i>Haemophilus influenzae</i> type b	D	U 24 hrs See specific disease agents for epiglottitis due to other etiologies)
Epstein-Barr virus infection, including infectious mononucleosis	S	
Erythema infectiosum (also see Parvovirus B19)		
Escherichia coli gastroenteritis (see gastroenteritis)		
Food poisoning		
Botulism	S	Not transmitted from person to person
<i>C. perfringens</i> or <i>welchii</i>	S	Not transmitted from person to person
Staphylococcal	S	Not transmitted from person to person
Furunculosis, staphylococcal	S	Contact if drainage not controlled. Follow institutional policies if MRSA
Infants and young children	C	DI
Gangrene (gas gangrene)	S	Not transmitted from person to person
Gastroenteritis	S	Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks for gastroenteritis caused by all of the agents below



Adenovirus	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
Campylobacter species	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
Cholera ( <i>Vibrio cholerae</i> )	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
<i>C. difficile</i>	C	DI	Discontinue antibiotics if appropriate. Do not share electronic thermometers 853, 854; ensure consistent environmental cleaning and disinfection. Hypochlorite solutions may be required for cleaning if transmission continues 847. Handwashing with soap and water preferred because of the absence of sporicidal activity of alcohol in waterless antiseptic handrubs 983.
Cryptosporidium species	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
<i>E. coli</i>			
Enteropathogenic O157:H7 and other shiga toxin-producing Strains	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
Other species	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
<i>Giardia lamblia</i>	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control

Noroviruses	S	institutional outbreaks
		<p>Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks. Persons who clean areas heavily contaminated with feces or vomitus may benefit from wearing masks since virus can be aerosolized from these body substances 142, 147 148; ensure consistent environmental cleaning and disinfection with focus on restrooms even when apparently unsoiled 273, 1064). Hypochlorite solutions may be required when there is continued transmission 290-292. Alcohol is less active, but there is no evidence that alcohol antiseptic handrubs are not effective for hand decontamination 294. Cohorting of affected patients to separate airspaces and toilet facilities may help interrupt transmission during outbreaks.</p>
Rotavirus	C	DI
		<p>Ensure consistent environmental cleaning and disinfection and frequent removal of soiled diapers. Prolonged shedding may occur in both immunocompetent and immunocompromised children and the elderly 932, 933.</p>
Salmonella species (including S. typhi)	S	<p>Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks</p>
Shigella species (Bacillary dysentery)	S	<p>Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks</p>
Vibrio parahaemolyticus	S	<p>Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control</p>

		institutional outbreaks
Viral (if not covered elsewhere)	S	Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
<i>Yersinia enterocolitica</i>	S	Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
German measles (see rubella; see congenital rubella)		
Giardiasis (see gastroenteritis)		
Gonococcal ophthalmia neonatorum (gonorrheal ophthalmia, acute conjunctivitis of newborn)	S	
Gonorrhea	S	
Granuloma inguinale (Donovanosis, granuloma venereum)	S	
Guillain-Barré' syndrome	S	Not an infectious condition
<i>Haemophilus influenzae</i> (see disease-specific recommendations)		
Hand, foot, and mouth disease (see enteroviral infection)		
Hansen's Disease (see Leprosy)		
Hantavirus pulmonary syndrome	S	Not transmitted from person to person
<i>Helicobacter pylori</i>	S	
Hepatitis, viral		
Type A	S	Provide hepatitis A vaccine post-exposure as recommended 1065
Diapered or incontinent patients	C	Maintain Contact Precautions in infants and children <3 years of age for duration of hospitalization; for

			children 3-14 yrs. of age for 2 weeks after onset of symptoms; >14 yrs. of age for 1 week after onset of symptoms 833, 1066, 1067.
Type B-HBsAg positive; acute or chronic	S		See specific recommendations for care of patients in hemodialysis centers 778
Type C and other unspecified non-A, non-B	S		See specific recommendations for care of patients in hemodialysis centers 778
Type D (seen only with hepatitis B)	S		
Type E	S		Use Contact Precautions for diapered or incontinent individuals for the duration of illness 1068
Type G	S		
Herpangina (see enteroviral infection)			
Hookworm	S		
Herpes simplex (Herpesvirus hominis)			
Encephalitis	S		
Mucocutaneous, disseminated or primary, severe	C	Until lesions dry and crusted	
Mucocutaneous, recurrent (skin, oral, genital)	S		
Neonatal	C	Until lesions dry and crusted	Also, for asymptomatic, exposed infants delivered vaginally or by C-section and if mother has active infection and membranes have been ruptured for more than 4 to 6 hrs until infant surface cultures obtained at 24-36 hrs. of age negative after 48 hrs incubation 1069, 1070
Herpes zoster (varicella-zoster) (shingles)			

Disseminated disease in any patient			Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for protection of immune HCWs; no recommendation for type of protection, i.e. surgical mask or respirator; for susceptible HCWs.
Localized disease in immunocompromised patient until disseminated infection ruled out	A, C	DI	
Localized in patient with intact immune system with lesions that can be contained/covered	S	DI	Susceptible HCWs should not provide direct patient care when other immune caregivers are available.
Histoplasmosis	S		Not transmitted from person to person
Human immunodeficiency virus (HIV)	S		Post-exposure chemoprophylaxis for some blood exposures 866.  HAI reported 1071, but route of transmission not established 823. Assumed to be Contact transmission as for RSV since the viruses are closely related and have similar clinical manifestations and epidemiology. Wear masks according to Standard Precautions..
Human metapneumovirus	C	DI	
Impetigo	C	U 24 hrs	
Infectious mononucleosis	S		
Influenza			
Human (seasonal influenza)	D	5 days except DI in immuno compromised persons	Single patient room when available or cohort; avoid placement with high-risk patients; mask patient when transported out of room; chemoprophylaxis/vaccine to control/prevent outbreaks 611. Use gown and gloves according to Standard Precautions may be especially important in pediatric settings. Duration of precautions for immunocompromised patients cannot be defined; prolonged duration of viral shedding (i.e. for several weeks)

Avian (e.g., H5N1, H7, H9 strains))			has been observed; implications for transmission are unknown 930.
			See <a href="http://www.cdc.gov/flu/avian/professional/infect-control.htm">www.cdc.gov/flu/avian/professional/infect-control.htm</a> for current avian influenza guidance.
Pandemic influenza (also a human influenza virus)	D	5 days from onset of symptoms	See <a href="http://www.pandemicflu.gov">http://www.pandemicflu.gov</a> for current pandemic influenza guidance.
Kawasaki syndrome	S		Not an infectious condition
Lassa fever (see viral hemorrhagic fevers)			
Legionnaires' disease	S		Not transmitted from person to person
Leprosy	S		
Leptospirosis	S		Not transmitted from person to person
Lice			See <a href="http://www.cdc.gov/ncidod/dpd/parasites/lice/default.htm">http://www.cdc.gov/ncidod/dpd/parasites/lice/default.htm</a>
Head (pediculosis)	C	U 24 hrs	
			Transmitted person to person through infested clothing. Wear gown and gloves when removing clothing; bag and wash clothes according to CDC guidance above
Body	S		
			Transmitted person to person through sexual contact
Pubic	S		
			Person-to-person transmission rare; cross-transmission in neonatal settings reported 1072, 1073 1074, 1075
Listeriosis (listeria monocytogenes)	S		
			Not transmitted from person to person
Lyme disease	S		
			Not transmitted from person to person
Lymphocytic choriomeningitis	S		
			Not transmitted from person to person
Lymphogranuloma venereum	S		

Malaria	S		Not transmitted from person to person except through transfusion rarely and through a failure to follow Standard Precautions during patient care 1076-1079. Install screens in windows and doors in endemic areas. Use DEET-containing mosquito repellants and clothing to cover extremities
Marburg virus disease (see viral hemorrhagic fevers)			
Measles (rubeola)	A	4 days after onset of rash; DI in immune compromised	Susceptible HCWs should not enter room if immune care providers are available; no recommendation for face protection for immune HCW; no recommendation for type of face protection for susceptible HCWs, i.e., mask or respirator 1027, 1028. For exposed susceptibles, post-exposure vaccine within 72 hrs. or immune globulin within 6 days when available 17, 1032, 1034. Place exposed susceptible patients on Airborne Precautions and exclude susceptible healthcare personnel from duty from day 5 after first exposure to day 21 after last exposure, regardless of post-exposure vaccine 17.
Melioidosis, all forms	S		Not transmitted from person to person
Meningitis			
Aseptic (nonbacterial or viral; also see enteroviral infections)	S		Contact for infants and young children
Bacterial, gram-negative enteric, in neonates	S		
Fungal	S		
Haemophilus influenzae, type b known or suspected	D	U 24 hrs	

Listeria monocytogenes (See Listeriosis)	S		
Neisseria meningitidis (meningococcal) known or suspected	D	U 24 hrs	See meningococcal disease below
Streptococcus pneumoniae	S		Concurrent, active pulmonary disease or draining cutaneous lesions may necessitate addition of Contact and/or Airborne Precautions;
M. tuberculosis	S		For children, airborne precautions until active tuberculosis ruled out in visiting family members (see tuberculosis below) 42
Other diagnosed bacterial	S		
Meningococcal disease: sepsis, pneumonia, meningitis	D	U 24 hrs	Postexposure chemoprophylaxis for household contacts, HCWs exposed to respiratory secretions; postexposure vaccine only to control outbreaks 15, 17.
Molluscum contagiosum	S		
Monkeypox	A, C	A-Until monkeypox confirmed and smallpox excluded C-Until lesions crusted	Use See <a href="http://www.cdc.gov/ncidod/monkeypox">www.cdc.gov/ncidod/monkeypox</a> for most current recommendations. Transmission in hospital settings unlikely 269. Pre- and post-exposure smallpox vaccine recommended for exposed HCWs
Mucormycosis	S		
Multidrug-resistant organisms (MDROs), infection or colonization (e.g., MRSA, VRE, VISA/VRSA, ESBLs, resistant S. pneumoniae)	S/C		MDROs judged by the infection control program, based on local, state, regional, or national recommendations, to be of clinical and epidemiologic significance. Contact Precautions recommended in settings with evidence of ongoing transmission, acute care settings with increased risk for transmission or



			wounds that cannot be contained by dressings. See recommendations for management options in Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006 870. Contact state health department for guidance regarding new or emerging MDRO.
			After onset of swelling; susceptible HCWs should not provide care if immune caregivers are available. Note: (Recent assessment of outbreaks in healthy 18-24 year olds has indicated that salivary viral shedding occurred early in the course of illness and that 5 days of isolation after onset of parotitis may be appropriate in community settings; however the implications for healthcare personnel and high-risk patient populations remain to be clarified.)
Mumps (infectious parotitis)	D	U 9 days	
Mycobacteria, nontuberculosis (atypical)			Not transmitted person-to-person
Pulmonary	S		
Wound	S		
Mycoplasma pneumonia	D		
Necrotizing enterocolitis	S		Contact Precautions when cases clustered temporally 1080-1083 .
Nocardiosis, draining lesions, or other presentations	S		Not transmitted person-to-person
Norovirus (see gastroenteritis)			
Norwalk agent gastroenteritis (see gastroenteritis)			
Orf	S		
Parainfluenza virus infection, respiratory in infants and young children		DI	Viral shedding may be prolonged in immunosuppressed patients 1009, 1010. Reliability of antigen testing to

Parvovirus B19 (Erythema infectiosum)	D		determine when to remove patients with prolonged hospitalizations from Contact Precautions uncertain. Maintain precautions for duration of hospitalization when chronic disease occurs in an immunocompromised patient. For patients with transient aplastic crisis or red-cell crisis, maintain precautions for 7 days. Duration of precautions for immunosuppressed patients with persistently positive PCR not defined, but transmission has occurred 929.
Pediculosis (lice)	C	U 24 hrs after treatment	
Pertussis (whooping cough)	D	U 5 days	Single patient room preferred. Cohorting an option. Post-exposure chemoprophylaxis for household contacts and HCWs with prolonged exposure to respiratory secretions 863. Recommendations for Tdap vaccine in adults under development.
Pinworm infection (Enterobiasis)	S		
Plague (Yersinia pestis)			
Bubonic	S		
Pneumonic	D	U 48 hrs	Antimicrobial prophylaxis for exposed HCW 207.
Pneumonia			
Adenovirus	D, C	DI	Outbreaks in pediatric and institutional settings reported 376, 1084-1086. In immunocompromised hosts, extend duration of Droplet and Contact Precautions due to prolonged shedding of virus 931
Bacterial not listed elsewhere (including gram-negative bacterial)	S		

B. cepacia in patients with CF, including respiratory tract colonization	C	Unknown	Avoid exposure to other persons with CF; private room preferred. Criteria for D/C precautions not established. See CF Foundation guideline 20
B. cepacia in patients without CF(see Multidrug-resistant organisms)			
Chlamydia	S		
Fungal	S		
Haemophilus influenzae, type b			
Adults	S		
Infants and children	D	U 24 hrs	
Legionella spp.	S		
Meningococcal	D	U 24 hrs	See meningococcal disease above
Multidrug-resistant bacterial (see multidrug-resistant organisms)			
Mycoplasma (primary atypical pneumonia)	D	DI	
Pneumococcal pneumonia	S		Use Droplet Precautions if evidence of transmission within a patient care unit or facility 196-198, 1087
Pneumocystis jiroveci (Pneumocystis carinii )	S		Avoid placement in the same room with an immunocompromised patient.
Staphylococcus aureus	S		For MRSA, see MDROs
Streptococcus, group A			
Adults	D	U 24 hrs	See streptococcal disease (group A streptococcus) below Contact precautions if skin lesions present
Infants and young children	D	U 24 hrs	Contact Precautions if skin lesions present

Varicella-zoster (See  
Varicella-Zoster)

Viral

Adults S

Infants and young  
children (see respiratory  
infectious disease, acute,  
or specific viral agent)

Poliomyelitis C DI

Pressure ulcer (decubitus ulcer,  
pressure sore) infected

Major C DI

If no dressing or containment of  
drainage; until drainage stops or can  
be contained by dressing

Minor or limited S

If dressing covers and contains  
drainage

Prion disease (See  
Creutzfeld-Jacob Disease)

Psittacosis (ornithosis)  
(Chlamydia psittaci) S

Not transmitted from person to  
person

Q fever S

Person to person transmission rare;  
transmission via corneal, tissue and  
organ transplants has been reported  
539, 1088. If patient has bitten  
another individual or saliva has  
contaminated an open wound or  
mucous membrane, wash exposed  
area thoroughly and administer  
postexposure prophylaxis. 1089

Rabies S

Rat-bite fever (Streptobacillus  
moniliformis disease, Spirillum  
minus disease) S

Not transmitted from person to  
person

Relapsing fever S

Not transmitted from person to  
person

Resistant bacterial infection or  
colonization (see multidrug-

resistant organisms)

Respiratory infectious disease,  
acute (if not covered  
elsewhere)

Adults S

Infants and young children C DI

Also see syndromes or conditions listed in Table 2

Respiratory syncytial virus infection, in infants, young children and immunocompromised adults C DI

Wear mask according to Standard Precautions 24 CB 116, 117. In immunocompromised patients, extend the duration of Contact Precautions due to prolonged shedding 928). Reliability of antigen testing to determine when to remove patients with prolonged hospitalizations from Contact Precautions uncertain.

Reye's syndrome S

Not an infectious condition

Rheumatic fever S

Not an infectious condition

Rhinovirus D DI

Droplet most important route of transmission 104 1090. Outbreaks have occurred in NICUs and LTCFs 413, 1091, 1092. Add Contact Precautions if copious moist secretions and close contact likely to occur (e.g., young infants) 111, 833.

Rickettsial fevers, tickborne (Rocky Mountain spotted fever, tickborne typhus fever) S

Not transmitted from person to person except through transfusion, rarely

Rickettsialpox (vesicular rickettsiosis) S

Not transmitted from person to person

Ringworm (dermatophytosis, dermatomycosis, tinea) S

Rarely, outbreaks have occurred in healthcare settings, (e.g., NICU 1093, rehabilitation hospital 1094. Use Contact Precautions for outbreak.

Ritter's disease (staphylococcal scalded skin syndrome) C DI

See staphylococcal disease, scalded skin syndrome below

Rocky Mountain spotted fever S

Roseola infantum (exanthem subitum; caused by HHV-6)	S		
Rotavirus infection (see gastroenteritis)			Susceptible HCWs should not enter room if immune caregivers are available. No recommendation for wearing face protection (e.g., a surgical mask) if immune. Pregnant women who are not immune should not care for these patients 17, 33.
Rubella (German measles) (also see congenital rubella)	D	U 7 days after onset of rash	Administer vaccine within three days of exposure to non-pregnant susceptible individuals. Place exposed susceptible patients on Droplet Precautions; exclude susceptible healthcare personnel from duty from day 5 after first exposure to day 21 after last exposure, regardless of post-exposure vaccine.
Rubeola (see measles)			
Salmonellosis (see gastroenteritis)			
Scabies	C	U 24	
Scalded skin syndrome, staphylococcal	C	DI	See staphylococcal disease, scalded skin syndrome below)
Schistosomiasis (bilharziasis)	S		
Severe acute respiratory syndrome (SARS)	A, D,C	DI plus 10 days after resolution of fever, provided respiratory symptoms are absent or improving	Airborne Precautions preferred; D if AIIR unavailable. N95 or higher respiratory protection; surgical mask if N95 unavailable; eye protection (goggles, face shield); aerosol-generating procedures and "supershedders" highest risk for transmission via small droplet nuclei and large droplets 93, 94, 96. Vigilant environmental disinfection (see <a href="http://www.cdc.gov/ncidod/sars">www.cdc.gov/ncidod/sars</a> )
Shigellosis (see gastroenteritis)			

Smallpox (variola; see vaccinia for management of vaccinated persons)	A, C	DI	Until all scabs have crusted and separated (3-4 weeks). Non-vaccinated HCWs should not provide care when immune HCWs are available; N95 or higher respiratory protection for susceptible and successfully vaccinated individuals; postexposure vaccine within 4 days of exposure protective 108, 129, 1038-1040.
Sporotrichosis	S		
Spirillum minor disease (rat-bite fever)	S		Not transmitted from person to person
Staphylococcal disease (S aureus)			
Skin, wound, or burn			
Major	C	DI	No dressing or dressing does not contain drainage adequately
Minor or limited	S		Dressing covers and contains drainage adequately
Enterocolitis	S		Use Contact Precautions for diapered or incontinent children for duration of illness
Multidrug-resistant (see multidrug-resistant organisms)			
Pneumonia	S		
Scalded skin syndrome	C	DI	Consider healthcare personnel as potential source of nursery, NICU outbreak 1095.
Toxic shock syndrome	S		
Streptobacillus moniliformis disease (rat-bite fever)	S		Not transmitted from person to person
Streptococcal disease (group A streptococcus)			
Skin, wound, or burn			

Major	C, D	U 24 hrs	No dressing or dressing does not contain drainage adequately
Minor or limited	S		Dressing covers and contains drainage adequately
Endometritis (puerperal sepsis)	S		
Pharyngitis in infants and young children	D	U 24 hrs	
Pneumonia	D	U 24 hrs	
Scarlet fever in infants and young children	D	U 24 hrs	
Serious invasive disease	D	U 24 hrs	Outbreaks of serious invasive disease have occurred secondary to transmission among patients and healthcare personnel 162, 972, 1096-1098 Contact Precautions for draining wound as above; follow rec. for antimicrobial prophylaxis in selected conditions 160.
Streptococcal disease (group B streptococcus), neonatal	S		
Streptococcal disease (not group A or B) unless covered elsewhere			
Multidrug-resistant (see multidrug-resistant organisms)			
Strongyloidiasis	S		
Syphilis			
Latent (tertiary) and seropositivity without lesions	S		
Skin and mucous membrane, including congenital, primary, Secondary	S		



Tapeworm disease		
Hymenolepis nana	S	Not transmitted from person to person
Taenia solium (pork)	S	
Other	S	
Tetanus	S	Not transmitted from person to person
Tinea (e.g., dermatophytosis, dermatomycosis, ringworm)	S	Rare episodes of person-to-person transmission
Toxoplasmosis	S	Transmission from person to person is rare; vertical transmission from mother to child, transmission through organs and blood transfusion rare
Toxic shock syndrome (staphylococcal disease, streptococcal disease)	S	Droplet Precautions for the first 24 hours after implementation of antibiotic therapy if Group A streptococcus is a likely etiology
Trachoma, acute	S	
Transmissible spongiform encephalopathy (see Creutzfeld-Jacob disease, CJD, vCJD)		
Trench mouth (Vincent's angina)	S	
Trichinosis	S	
Trichomoniasis	S	
Trichuriasis (whipworm disease)	S	
Tuberculosis (M. tuberculosis)		
Extrapulmonary, draining lesion)	A, C	Discontinue precautions only when patient is improving clinically, and drainage has ceased or there are three consecutive negative cultures of continued drainage 1025, 1026. Examine for evidence of active pulmonary tuberculosis.

<p>Extrapulmonary, no draining lesion, meningitis</p>	<p>S</p>	<p>Examine for evidence of pulmonary tuberculosis. For infants and children, use Airborne Precautions until active pulmonary tuberculosis in visiting family members ruled out 42</p>
<p>Pulmonary or laryngeal disease, confirmed</p>	<p>A</p>	<p>Discontinue precautions only when patient on effective therapy is improving clinically and has three consecutive sputum smears negative for acid-fast bacilli collected on separate days (MMWR 2005; 54: RR-17 <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm?s_cid=rr5417a1_e">www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm?s_cid=rr5417a1_e</a>) 12.</p>
<p>Pulmonary or laryngeal disease, suspected</p>	<p>A</p>	<p>Discontinue precautions only when the likelihood of infectious TB disease is deemed negligible, and either 1) there is another diagnosis that explains the clinical syndrome or 2) the results of three sputum smears for AFB are negative. Each of the three sputum specimens should be collected 8-24 hours apart, and at least one should be an early morning specimen</p>
<p>Skin-test positive with no evidence of current active disease</p>	<p>S</p>	
<p>Tularemia</p>		
<p>Draining lesion</p>	<p>S</p>	<p>Not transmitted from person to person</p>
<p>Pulmonary</p>	<p>S</p>	<p>Not transmitted from person to person</p>
<p>Typhoid (<i>Salmonella typhi</i>) fever (see gastroenteritis)</p>		
<p>Typhus</p>		
<p><i>Rickettsia prowazekii</i> (Epidemic or Louse-borne typhus)</p>	<p>S</p>	<p>Transmitted from person to person through close personal or clothing contact</p>

<i>Rickettsia typhi</i>	S		Not transmitted from person to person
Urinary tract infection (including pyelonephritis), with or without urinary cathete	S		
Vaccinia (vaccination site, adverse events following vaccination) *			Only vaccinated HCWs have contact with active vaccination sites and care for persons with adverse vaccinia events; if unvaccinated, only HCWs without contraindications to vaccine may provide care.
Vaccination site care (including autoinoculated areas)	S		Vaccination recommended for vaccinators; for newly vaccinated HCWs: semi-permeable dressing over gauze until scab separates, with dressing change as fluid accumulates, ~3-5 days; gloves, hand hygiene for dressing change; vaccinated HCW or HCW without contraindication to vaccine for dressing changes 205, 221, 225.
Eczema vaccinatum	C	Until lesions dry and	
Fetal vaccinia	C	crusted, scabs	For contact with virus-containing lesions and exudative material
Generalized vaccinia	C	separated	
Progressive vaccinia	C		
Postvaccinia encephalitis	S		
Blepharitis or conjunctivitis	S/C		Use Contact Precautions if there is copious drainage
Iritis or keratitis	S		
Vaccinia-associated erythema multiforme (Stevens Johnson Syndrome)	S		Not an infectious condition
Secondary bacterial infection (e.g., <i>S. aureus</i> , group A beta hemolytic streptococcus)	S/C		Follow organism-specific (strep, staph most frequent) recommendations and consider magnitude of drainage

Varicella Zoster	A, C	Until lesions dry and crusted	Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for face protection of immune HCWs; no recommendation for type of protection, i.e. surgical mask or respirator for susceptible HCWs. In immunocompromised host with varicella pneumonia, prolong duration of precautions for duration of illness. Post-exposure prophylaxis: provide post-exposure vaccine ASAP but within 120 hours; for susceptible exposed persons for whom vaccine is contraindicated (immunocompromised persons, pregnant women, newborns whose mother's varicella onset is <5days before delivery or within 48 hrs after delivery) provide VZIG, when available, within 96 hours; if unavailable, use IVIG, Use Airborne Precautions for exposed susceptible persons and exclude exposed susceptible healthcare workers beginning 8 days after first exposure until 21 days after last exposure or 28 if received VZIG, regardless of postexposure vaccination. 1036.
Variola (see smallpox)			
<i>Vibrio parahaemolyticus</i> (see gastroenteritis)			
Vincent's angina (trench mouth)	S		
Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses	S, D, C	DI	Single-patient room preferred. Emphasize: 1) use of sharps safety devices and safe work practices, 2) hand hygiene; 3) barrier protection against blood and body fluids upon entry into room (single gloves and fluid-resistant or impermeable gown,

face/eye protection with masks, goggles or face shields); and 4) appropriate waste handling. Use N95 or higher respirators when performing aerosol-generating procedures. Largest viral load in final stages of illness when hemorrhage may occur; additional PPE, including double gloves, leg and shoe coverings may be used, especially in resource-limited settings where options for cleaning and laundry are limited. Notify public health officials immediately if Ebola is suspected 212, 314, 740, 772 Also see Table 3 for Ebola as a bioterrorism agent

Viral respiratory diseases (not covered elsewhere)

Adults	S
Infants and young children (see respiratory infectious disease, acute)	

Whooping cough (see pertussis)

Wound infections

Major	C	DI	No dressing or dressing does not contain drainage adequately
Minor or limited	S		Dressing covers and contains drainage adequately

*Yersinia enterocolitica* gastroenteritis (see gastroenteritis)

Zoster (varicella-zoster) (see herpes zoster)

Zygomycosis (phycomycosis, mucormycosis)	S	Not transmitted person-to-person
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1 Type of Precautions: A, Airborne Precautions; C, Contact; D, Droplet; S, Standard; when A, C, and D are specified, also use S.

† Duration of precautions: CN, until off antimicrobial treatment and culture-negative; DI, duration of illness (with wound lesions, DI means until wounds stop draining); DE, until environment completely decontaminated; U, until time specified in hours (hrs) after initiation of effective therapy; Unknown: criteria for establishing eradication of pathogen has not been determined

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