

Section 1: Basic Issues in Infection Control

1.4 Isolation Precautions

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This set of isolation precautions is a two-tier system that applies to healthcare environment in hospital and community. The first tier Standard Precautions (SP) are designed for all patients/ residents/ clients regardless of their diagnosis, that mainly prevent the transmission of microorganisms via contact of blood, body fluid, secretion, excretion, mucous membrane

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and non-intact skin (1). In conditions that Standard Precautions do not adequately confer protection against acquisition of the infections, for example, some respiratory infections, the second tier Transmission-based precautions are necessary in addition to SP.

1 Standard Precautions (SP)

Standard precautions (1-2) apply to all patients/ residents/ clients in healthcare facilities, regardless of their diagnosis or presumed infection status. They apply to situations when there are contacts with:

- ✧ blood;
- ✧ body fluids, excretions, secretions, except sweat;
- ✧ mucous membranes; and
- ✧ non-intact skin

1.1 Hand hygiene

Under standard precautions, hand hygiene should be performed (1-2):

- ✧ between direct patient/ resident/ client contacts;
- ✧ after touching blood, body fluids, excretions, secretions, mucous membranes, non-intact skin and contaminated items;
- ✧ after gloves are removed;
- ✧ when performing the task or procedure from a contaminated site to a clean site on the same patient/ resident/ client.

Alcoholic handrub is preferred if the hands are not visibly soiled (3).

In institutional settings, hand hygiene facilities should be available and accessible

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to residents and visitors. Education on hand hygiene should be provided to them (2).

To review the comprehensive issue on hand hygiene, please refer to *Hand Hygiene Section of ICB Infection Control Guidelines*.

1.2 Personal protective equipment

1.2.1 Gloves

Gloves should be worn when contact with blood, body fluid, secretion, excretion, mucous membrane and non-intact skin (1, 4). To prevent transmission of the organisms, gloves should be removed once the procedure is completed (1-2).

1.2.2 Mask, eyeprotection, faceshield

When performing patient care activities that are likely to generate splashes of blood, body fluids, excretions or secretions, wear a mask and eye protection or face shield to protect mucous membranes of the eyes, nose, and mouth (1-2).

Staff should wear mask if he/she has respiratory symptoms or when caring patient with respiratory symptoms.

1.2.3 Gown/apron

An appropriate gown/ apron should be worn to protect the skin and prevent soiling of the clothing of healthcare workers (HCWs) when splashing procedure is anticipated (1-2).

1.3 Accommodation for institutional patient/ resident

The patient/ resident/ client should be placed in a designated area such as corner

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of the room or single room when available if he/ she contaminates the environment or who cannot (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control, such as spitting. (1).

1.4 Healthcare equipment

- ✧ Single-use items should be discarded properly.
- ✧ Contaminated reusable items should be cleaned and reprocessed accordingly after use.
- ✧ The contaminated items should be handled with care to prevent exposure to skin or mucous membrane, and contamination of environment (1-2).

1.5 Environmental control

- ✧ Establish schedule and procedures for regular cleaning/ disinfection of environmental surfaces (1-2).
- ✧ For certain pathogens, especially enterococci, which can survive in the inanimate environment for prolonged periods of time, adequate disinfection of bedside equipment and environmental surfaces (e.g., bedrails, bedside tables, carts, commodes, doorknobs, faucet handles) is indicated, in addition to thorough cleaning (1).

1.6 Linen management

Used linen should be handled and processed properly in order to prevent the transmission of microorganisms to HCWs and patients/ residents/ clients and contaminating the environment (1). Please refer to handling of linen from the

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Linen Management Section of ICB Infection Control Guidelines.

1.7 Prevention of sharp injuries and blood and body fluid exposure

- ✧ HCWs should cover all wounds before work to prevent non-intact skin exposure. Precautions should be taken to prevent sharp injury (1).
- ✧ Mouthpiece and resuscitation bags should be used in cardiopulmonary resuscitation instead of mouth-to-mouth ventilation method to prevent direct contact to blood/ body fluid (2).

Please refer to prevention of sharp injury from the *Prevention of Blood and Body Fluid Exposure Section of ICB Infection Control Guidelines.*

1.8 Respiratory hygiene/ cough etiquette in healthcare settings

The following measures are designed to prevent the transmission of all respiratory infections in healthcare settings (5). (Box 1)

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Box 1: Respiratory Hygiene/ Cough Etiquette in Healthcare Settings

- 1 Alerts to clients
 - ✧ Alerts should be in place advising patients/ visitors to inform the healthcare personnel symptoms of a respiratory infection when they first register for care or visit, such as use of posters or videos.
- 2 Respiratory hygiene/ cough etiquette
 - ✧ Cover the nose/ mouth when coughing or sneezing.
 - ✧ Use tissue papers to contain respiratory secretions and dispose them in the waste receptacle.
 - ✧ Perform hand hygiene after contacting respiratory secretions and contaminated objects/ materials.
- 3 Masking and separation of persons with respiratory symptoms
 - ✧ Mask the persons who are having respiratory symptoms to contain the respiratory secretions.
 - ✧ Separate these symptomatic persons at least one metre away from others as far as possible.
- 4 Droplet precautions (refer to point 2.2)
 - ✧ Healthcare personnel should implement droplet precautions when examining a patient with symptoms of respiratory infection, particularly if fever is present.

2 Additional Precautions (Transmission-based Precautions)

Additional precautions (Transmission-based precautions) apply to patients/ residents/ clients documented or suspected to be infected with highly transmissible or epidemiologically important pathogens. A combination of different additional

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(transmission-based) precautions should be used in addition to Standard Precautions.

Appendix 1: listed the type and duration of precautions needed for selected infections and conditions (1).

2.1 Airborne precautions

Airborne Precautions are applied for patients/ residents/ clients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (small-particle residues [5 micrometres or smaller in size] that may remain suspended in the air for long period of time) or dust particles containing the infectious agent (1).

2.1.1 Placement of patient/ resident/ client

Patient/ Resident/ Client should be put into a single room with the room door closed and air discharged directly to outdoors (1). Please refer to specific ventilation requirement as listed in table.

Table 1: Engineering specifications for Airborne Infection Isolation Rooms: (6)

Engineering features	Airborne Infection Isolation Room
Pressure differentials in relation to the adjacent areas	>-2.5 Pascal (0.01 inch water gauge)
Air change per hour (ACH)	<u>Minimum 6 ACH(for existing facilities);</u> <u>≥12ACH(forrenovationornewconstruction)</u>
Filtration efficiency of supply air	90% (or as per local hospital policy)
Filtration efficiency of exhaust air	Not required if direct exhaust air to the outside; or HEPA filter at 99.97% at 0.3 μm for recirculated air
Clean to dirty airflow in room	Towards the patient

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- ✧ If there is no appropriate facility to place the infectious patient/ resident, he/ she then should be transferred to a facility with appropriate isolation facilities.
- ✧ For ambulatory setting without room with special ventilation, the client should be put in a single room during waiting. He/ She should be examined or discharged or transferred to appropriate facility as soon as possible. If feasible, the visit should be arranged at the time to minimize exposure of other clients, such as at the end of the session (2).

2.1.2 Patient/ resident transport

- ✧ Transport of institutional patient/ resident from the room for essential purposes only;
- ✧ If transport or movement is necessary, place a surgical mask on the patient/ resident, if possible (1-2].

2.1.3 Respiratory protection for HCWs

- ✧ HCWs should wear a respirator when entering the room (1-2).
- ✧ For caring patients/ residents/ clients with known or suspected measles or chickenpox, susceptible persons should not enter the room if other immune caregivers are available. Persons immune to measles or chickenpox need not wear respiratory protection (1-2).

2.2 Droplet precautions

Droplet Precautions are designed for patients/ residents/ clients known or suspected to be infected with microorganisms transmitted by large-particle droplets (larger than 5

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micrometres) generated by patient during coughing, sneezing, talking, etc (1).

2.2.1 Patient/ resident/ client placement

- ✧ Patient/ Resident/ Client should be cohorted;
- ✧ Spatial separation of at least one metre between the infected patient/ resident/ client and other patients/ residents/ clients and visitors should be maintained (1-2).

2.2.2 Patient/ resident transport

- ✧ Patient/ resident should be transported from the room for essential purposes only;
- ✧ If transport or movement is necessary, place a surgical mask on the patient/ resident if possible (1-2).

2.2.3 Protection of HCWs

HCWs should wear a surgical mask when working within one metre of the patient/ resident/ client (1-2).

2.3 Contact precautions

In addition to Standard Precautions, Contact Precautions are used for patients/ residents/ clients known or suspected to be infected or colonized with epidemiologically important microorganisms that can be transmitted by direct or indirect contact of patients'/ residents'/ clients' environmental surfaces or healthcare items (1), such as the organism has a low infective dose, or may be transmitted from the source patient's intact skin, or environmental contamination is likely (2).

2.3.1 Patient/ resident placement

- ✧ Patient/ Resident is preferably put in a single room with toilet and handwashing facility. Alternatively, cohort patients/ residents infected or

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colonized with the same microorganisms (1).

- ✧ Participation of group activity in institutional patient/ resident should be avoided until symptoms are subsided (2).

2.3.2 Patient/ resident transport

- ✧ If transport is necessary, minimize the environmental contamination as far as possible, for example, cover the drainage wound with water-proof dressings (1-2).

2.3.3 Gloves and hand hygiene

- ✧ Gloves should be worn when having “dirty” patient/ resident/ client care procedure that contact with blood, body fluid, secretion, excretion, mucous membrane, non-intact skin or clinical indicated, such as infectious skin problem (7-9).
- ✧ Remove gloves after completing the procedures and perform hand hygiene immediately (8).
- ✧ Gloves should not be worn routinely on entry to areas such as a cubicle or a ward where multiple patients with the same infection are placed together for contact precautions (8).

2.3.4 Gown

A gown/ apron should be worn if your clothing will have substantial contact with the patient/ resident/ client or his/her immediate environment (1,10), such as diarrhea, drainage wound/ stoma, desquamating skin condition of a resident if his/ her condition is likely to increase the dissemination of organisms into environment.

2.3.5 Healthcare equipment

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When possible, dedicate the use of non-critical care equipment to a single patient/ resident/ client (or cohort of patients/ residents infected or colonized with the same pathogen requiring precautions). Otherwise, proper cleaning/ disinfection of the equipment are necessary before other patient/ resident/ client use (1).

2.3.6 Environmental control

The environment of patients on Contact Precautions (transmission-based precautions) should be cleaned with the same procedures used for patients on Standard Precautions, unless the infecting microorganisms and the amount of environmental contamination indicate special cleaning. In these cases, a more frequent environmental cleaning/ disinfecting schedule are needed (11). “Active damp scrubbing” for cleaning/ disinfecting environmental surfaces should be used (10).

3 Precautions for Multidrug Resistant Organisms (MDROs)

3.1 In acute care settings

Contact precautions may be needed to prevent MDROs spread in hospital based on the clinical and epidemiologic significance (1, 11). For some emerging MDROs, a more stringent infection control approach should be adopted in addition to Contact precautions (point 2.3) (2), for example, Vancomycin resistant enterococci.

Measures should include:

- ✧ Single room for patient placement with handwashing and toilet facilities is preferred.
- ✧ Number of persons entering the room should be minimized.
- ✧ A frequent cleaning/ disinfecting schedule for the environment and patient

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care equipment.

- ◇ Dedicated non-critical items are preferred. Otherwise, decontamination should be done before sharing the equipment with other patients.
- ◇ Patient transfer should be avoided. If transfer is inevitable, the receiving department/ institute should be notified.
- ◇ Patient's risk on spreading of MDRO's should be evaluated from time to time in order to implement the relevant precautionary measures.

3.2 In ambulatory care services settings

3.2.1 Ambulatory care services refer to day care centres or out-patient clinics.

3.2.2 Contact precautions may be implemented on a case-by-case basis. Pay special attention to heavy shedders, such as those who have uncontrolled secretions (e.g. tracheostomy), draining wound, bowel incontinence, ostomy tubes/ bags, or those who are total dependent in activities of daily living (13-19).

3.2.3 Place the patient with MDROs in area that has less frequent contact with other patients, for example, at the end or corner of the dialysis centre, as far as possible (12).

3.3 In long-term care settings

3.3.1 Long-term care settings refer to residential care homes.

3.3.2 A resident should be put into a single room (if available) or an area with barrier partition if his/her condition is likely to increase the dissemination of organisms

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into environment, such as uncontained diarrhoea, desquamating skin condition, or conditions stated at point 3.2.2. (2, 12, 20).

3.3.3 Residents should not be excluded from social or other group activities unless shedding of large number of organisms is likely (2, 12, 20).

3.3.4 Residents' hands should be washed, draining wounds and bodily fluids should be covered and contained just before group activities (12).

3.3.5 Perform hand hygiene after direct contact with residents and when contamination occurs (2, 12, 20-21).

3.3.6 Personal protective equipment should be used according to standard precautions.

3.3.7 Regular cleaning schedule should be adhered to ordinary time. During outbreaks, the environment should be cleaned more frequently with detergent and/ or low level disinfectant (2).

3.3.8 Education on hand hygiene and other personal hygienic measures should be provided to HCWs, residents and their family (2, 12, 20).

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Table 2: Summary of recommended PPE usage in different precautions

PPE		N95 respirator	Surgical mask	Eye protection	Gown	Gloves
Precautions						
Standard Precautions (SP)		-	Splashing procedure	Splashing procedure	Splashing procedure	Touching blood, body fluid, secretion, excretion and contaminated items
Additional (Transmission-Based) Precautions	Airborne Precautions	When entering patient's room	Place on the patient/resident if transport or movement is necessary	-	-	-
	Droplet Precautions	-	Within one metre of patient/resident/client Place on the patient/resident if transport or movement is necessary	-	-	-
	Contact Precautions	-	-	-	Substantial contact	During "dirty" patient care procedure

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Appendix I

Type and Duration of Precautions Needed for Selected Infections and Conditions in Hospital Settings (1-2)

Infection/ Condition	Precautions	
	Type*	Duration+
Abscess		
Draining, major ^a	C	DI
Draining, minor or limited ^b	S	
Acquired immunodeficiency syndrome	S	
Actinomycosis	S	
Adenovirus infection, in infants and young children	D, C	DI
Amebiasis	S	
Anthrax		
Cutaneous	S	
Pulmonary	S	
Antibiotic-associated colitis (see Clostridium difficile)		
Arthropodborne viral encephalitides (eastern, western, Venezuelan equine encephalomyelitis; St Louis, California encephalitis)	S	
Arthropodborne viral fevers (dengue, yellow fever, Colorado tick fever)	S	
Ascariasis	S	
Aspergillosis	S	
Avian influenza (22-23)	A, C, D	DI ^d
Babesiosis	S	
Blastomycosis, North American, cutaneous or pulmonary	S	
Botulism	S	
Bronchiolitis (see respiratory infections in infants and young children)		
Brucellosis (undulant, Malta, Mediterranean fever)	S	
Campylobacter gastroenteritis (see gastroenteritis)		
Candidiasis, all forms including mucocutaneous	S	
Cat-scratch fever (benign inoculation lymphoreticulosis)	S	
Cellulitis, uncontrolled drainage	C	DI
Chancroid (soft chancre)	S	
Chickenpox (varicella; see F ^c for varicella exposure)	A, C	F ^e
Chlamydia trachomatis		
Conjunctivitis	S	
Genital	S	
Respiratory	S	
Cholera (see gastroenteritis)		
Closed-cavity infection		
Draining, limited or minor	S	
Not draining	S	
Clostridium		
C. botulinum	S	
C. difficile	C	DI
C. perfringens		
Food poisoning	S	
Gas gangrene	S	
Coccidioidomycosis (valley fever)		
Draining lesions	S	
Pneumonia	S	
Colorado tick fever	S	

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Congenital rubella	C	F ^f
Conjunctivitis		
Acute bacterial	S	
Chlamydia	S	
Gonococcal	S	
Acute viral (acute haemorrhagic)	C	DI
Coxsackievirus disease (see enteroviral infection)		
Creutzfeldt-Jakob disease	S ^g	
Croup (see respiratory infections in infants and young children)		
Cryptococcosis	S	
Cryptosporidiosis (see gastroenteritis)		
Cysticercosis	S	
Cytomegalovirus infection, neonatal or immunosuppressed	S	
Decutitus ulcer, infected		
Major ^a	C	DI
Minor or limited ^b	S	
Dengue	S	
Diarrhoea, acute-infective etiology suspected (see gastroenteritis)		
Diphtheria		
Cutaneous	C	CN ^h
Pharyngeal	D	CN ^h
Ebola viral haemorrhagic fever	C	DI
Echinococcosis (hydatidosis)	S	
Echovirus (see enteroviral infection)		
Encephalitis or encephalomyelitis (see specific etiologic agents)		
Endometritis	S	
Enterobiasis (pinworm disease, oxyuriasis)	S	
Enterococcus species (see multidrug-resistant organisms if epidemiologically significant or vancomycin resistant)		
Enterocolitis, Clostridium difficile	C	DI
Enteroviral infections		
Adults	S	
Infants and young children	C	DI
Epiglottitis, due to Haemophilus influenzae	D	U(24 hrs)
Epstein-Barr virus infection, including infectious mononucleosis	S	
Erythema infectiosum (also see Parvovirus B19)	S	
Escherichia coli gastroenteritis (see gastroenteritis)		
Food poisoning		
Botulism	S	
Clostridium perfringens or welchii	S	
Staphylococcal	S	
Furunculosis-staphylococcal		
Infants and young children	C	DI
Gangrene (gas gangrene)	S	
Gastroenteritis		
Campylobacter species	S _i	
Chloera	S _i	
Clostridium difficile	C	DI
Cryptosporidium species	S _i	
Escherichia coli		
Enterohaemorrhagic O157:H7	S _i	
Diapered or incontinent	C	DI
Other species	S _i	
Giardia lamblia	S _i	
Rotavirus	S _i	
Diapered or incontinent	C	DI

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Salmonella species (including <i>S. typhi</i>)	Si	
Shigella species	Si	
Diapered or incontinent	C	DI
<i>Vibrio parahaemolyticus</i>	Si	
Viral (if not covered elsewhere)	Si	
<i>Yersinia enterocolitica</i>	Si	
German measles (see rubella)		
Giardiasis (see gastroenteritis)		
Gonococcal ophthalmia neonatorum (gonorrhoeal ophthalmia, acute conjunctivitis of new born)	S	
Gonorrhoea	S	
Granuloma inguinale (donovanosis, granuloma venereum)	S	
Guillain-Barre syndrome	S	
Hand, foot and mouth disease (see enteroviral infection)		
Hantavirus pulmonary syndrome	S	
<i>Helicobacter pylori</i>	S	
Haemorrhagic fevers (for example, Lassa and Ebola)	C	DI
Hepatitis, viral		
Type A	S	
Diapered or incontinent patients	C	F ^k
Type B-HBsAg positive	S	
Type C and other unspecified non-A, non-B	S	
Type E	S	
Herpangina (see enteroviral infection)		
Herpes simplex (<i>Herpesvirus hominis</i>)		
Encephalitis	S	
Neonatal ^l	C	DI
Mucocutaneous, disseminated or primary, severe	C	DI
Mucocutaneous, recurrent (skin, oral, genital)	S	
Herpes zoster (<i>varicella-zoster</i>)		
Localized in immunocompromised patient, or disseminated	A, C	DI ^m
Localized in normal patient	S ^m	
Histoplasmosis	S	
HIV (see human immunodeficiency virus)	S	
Hookworm disease (<i>ancylostomiasis, uncinariasis</i>)	S	
Human immunodeficiency virus (HIV) infection	S	
Impetigo	C	U(24 hrs)
Infectious mononucleosis	S	
Influenza	D	DI
Avian (see avian influenza)		
Kawasaki syndrome	S	
Lassa fever	C	DI
Legionnaires' disease	S	
Leprosy	S	
Leptospirosis	S	
Lice (pediculosis)	C	U(24 hrs)
Listeriosis	S	
Lyme disease	S	
Lymphocytic choriomeningitis	S	
Lymphogranuloma venereum	S	
Malaria	S	
Marburg virus disease	C	DI
Measles (rubeola), all presentations	A	DI
Melioidosis, all forms	S	
Meningitis		
Aseptic (nonbacterial or viral meningitis; also see enteroviral infections)	S	

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Bacterial, gram-negative enteric, in neonates	S	
Fungal	S	
Haemophilus influenzae, known or suspected	D	U(24 hrs)
Listeria monocytogenes	S	
Neisseria meningitides (meningococcal) known or suspected	D	U(24 hrs)
Pneumococcal	S	
Tuberculosis ^o	S	
Other diagnosed bacterial	S	
Meningococcal pneumonia	D	U(24 hrs)
Meningococcaemia (meningococcal sepsis)	D	U(24 hrs)
Molluscum contagiosum	S	
Mucormycosis	S	
Mumps (infectious parotitis)	D	F ^a
Multidrug-resistant organisms in hospital		
Gastrointestinal	C	CN
Respiratory	C	CN
Pneumococcal	S	
Skin, wound, or burn	C	CN
Mycobacteria, nontuberculosis (atypical)		
Pulmonary	S	
Wound	S	
Mycoplasma pneumonia	D	DI
Necrotizing enterocolitis	S	
Nocardiosis, draining lesions or other presentations	S	
Norwalk agent gastroenteritis	C	U(48 hrs)
Orf	S	
Parainfluenza virus infection, respiratory in infants and young children	D,C	DI
Parvovirus B19	D	F ^r
Pediculosis (lice)	C	U(24 hrs)
Pertussis (whooping cough)	D	F ^s
Pinworm infection	S	
Plague		
Bubonic	S	
Pneumonic	D	U(72 hrs)
Pleurodynia (see enteroviral infection)		
Pneumonia		
Adenovirus	D, C	DI
Bacterial not listed elsewhere (including gram-negative bacterial)	S	
Burkholderia cepacia in cystic fibrosis (CF) patients, including respiratory tract colonization	S ^t	
Chlamydia	S	
Fungal	S	
Haemophilus influenzae		
Adults	S	
Infants and children (any age)	D	U(24 hrs)
Legionella	S	
Meningococcal	D	U(24 hrs)
Multidrug-resistant bacterial (see multidrug-resistant organisms)		
Mycoplasma (primary atypical pneumonia)	D	DI
Pneumococcal	S	
Multidrug-resistant (see multidrug-resistant organisms)		
Pneumocystis carinii	S ^u	
Pseudomonas cepacia (see Burkholderia cepacia)	S ^t	
Staphylococcus aureus	S	
Streptococcus, group A		
Adults	S	

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Infants and young children	D	U(24 hrs)
Viral		
Adults	S	
Infants and young children (see respiratory infectious disease, acute)		
Poliomyelitis	S	
Psittacosis (ornithosis)	S	
Q fever	S	
Rabies	S	
Rat-bite fever (Streptobacillus moniliformis disease, Spirillum minus disease)	S	
Relapsing fever	S	
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
Respiratory syncytial virus infection, in infants and young children, and immunocompromised adults	D,C	DI
Reye's syndrome	S	
Rheumatic fever	S	
Rickettsial fevers, tickborne (Rocky Mountain spotted fever, tickborne typhus fever)	S	
Rickettsialpox (vesicular rickettsiosis)	S	
Ringworm (dermatophytosis, dermatomycosis, tinea)	S	
Ritter's disease (staphylococcal scalded skin syndrome)	S	
Rocky Mountain spotted fever	S	
Roseola infantum (exanthema subitum)	S	
Rotavirus infection (see gastroenteritis)		
Rubella (German measles; also see congenital rubella)	D	F ^v
Salmonellosis (see gastroenteritis)		
Scabies	C	U(24 hrs)
Scalded skin syndrome, staphylococcal (Ritter's disease)	S	
Schistosomiasis (bilharziasis)	S	
Severe acute respiratory syndrome (SARS) (24-25)	A ^c ,D,C	DI
Shigellosis (see gastroenteritis)		
Sporotrichosis	S	
Spirillum minus disease (rat-bite fever)	S	
Staphylococcal disease (S. aureus)		
Skin, wound, or burn		
Major ^a	C	DI
Minor or limited ^b	S	
Enterocolitis	S ⁱ	
Multidrug-resistant (see multidrug-resistant organisms)		
Pneumonia	S	
Scalded skin syndrome	S	
Toxic shock syndrome	S	
Streptobacillus moniliformis disease (rat-bite fever)	S	
Streptococcal disease (group A streptococcus)		
Skin, wound, or burn		
Major ^a	C	U(24 hrs)
Minor or limited ^b	S	
Endometritis (puerperal sepsis)	S	
Pharyngitis in infants and young children	D	U(24 hrs)
Pneumonia in infants and young children	D	U(24 hrs)
Scarlet fever in infants and young children	D	U(24 hrs)
Streptococcal disease (group B streptococcus), neonatal	S	
Streptococcal disease (not group A or B) unless covered elsewhere	S	
Multidrug-resistant (see multidrug-resistant organisms)		
Strongyloidiasis	S	

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Syphilis			
Skin and mucous membrane, including congenital, primary, secondary	S		
Latent (tertiary) and seropositivity without lesions	S		
Tapeworm disease			
Hymenolepis nana	S		
Taenia solium (pork)	S		
Other	S		
Tetanus	S		
Tinea (fungus infection dermatophytosis, dermatomycosis, ringworm)	S		
Toxoplasmosis	S		
Toxic shock syndrome (staphylococcal disease)	S		
Trachoma, acute	S		
Trench mouth (Vincent's angina)	S		
Trichinosis	S		
Trichomoniasis			
Trichuriasis (whipworm disease)	S		
Tuberculosis			
Extrapulmonary, draining lesion (including scrofula)	S		
Extrapulmonary, meningitis ^o	S		
Pulmonary, confirmed or suspected or laryngeal disease	A		F ^w
Skin-test positive with no evidence of current pulmonary disease	S		
Tularemia			
Draining lesion	S		
Pulmonary	S		
Typhoid (Salmonella typhi) fever (see gastroenteritis)			
Typus, endemic and epidemic	S		
Urinary tract infection (including pyelonephritis), with or without urinary catheter	S		
Varicella (chickenpox)	A, C		F ^e
Vibrio parahaemolyticus (see gastroenteritis)			
Vincent's angina (trench mouth)	S		
Viral diseases			
Respiratory (if not covered elsewhere)			
Adults	S		
Infants and young children (see respiratory infectious disease, acute)			
Whooping cough (pertussis)	D		F ^s
Wound infections			
Major ^a	C		DI
Minor or limited ^b	S		
Yersinia enterocolitica gastroenteritis (see gastroenteritis)			
Zoster (varicella-zoster)			
Disseminated	A, C		DI ^m
Localized in immunocompromised patient	A, C		DI ^m
Localized in normal patient	S ^m		

* Type of Precautions: A=Airborne; C=Contact; D=Droplet; S=Standard; when A, C and D are specified, also use S.

+ Duration of precautions: CN=until off antibiotics and culture-negative; DI=duration of illness (with wound lesions, DI means until they stop draining); U=until time specified in hours (hrs) after initiation of effective therapy; F=see footnote.

^a No dressing or dressing does not contain drainage adequately.

^b Dressing covers and contains drainage adequately.

^c Airborne isolation room is preferred especially when performing aerosol-generating procedures. Airborne precautions when performing aerosol-generating procedures. Eye protection is recommended when within 3 ft to patient.

^d For 14 days after onset of symptoms.

^e Maintain precautions until all lesions are crusted.

^f Place infant on precautions during any admission until 1 year of age, unless nasopharyngeal and urine cultures are negative for virus after age 3 months.

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^e Additional special precautions are necessary for handling and decontamination of body fluids and tissues, and contaminated items from patients with confirmed or suspected disease.

^h Until two cultures taken at least 24 hours apart are negative.

ⁱ Eye protection is recommended when within one metre to patient.

^j Use Contact Precautions in infants and children <3 years of age for duration of hospitalization; in children 3 to 14 years of age, until 2 weeks after onset of symptoms; and in others, until 1 week after onset of symptoms.

^k Maintain precautions in infants and children <3 years of age for duration of hospitalization; in children 3 to 14 years of age, until 2 weeks after onset of symptoms; and in others, until 1 week after onset of symptoms.

^l For infants delivered vaginally or by C-section and if mother has active infection and membranes have been ruptured for more than 4 to 6 hours.

^m Persons susceptible to varicella are also at risk for developing varicella when exposed to patients with herpes zoster lesions; therefore, susceptibles should not enter the room if immune caregivers are available.

^o Patient should be examined for evidence of current (active) pulmonary tuberculosis. If evidence exists, additional precautions are necessary (see tuberculosis).

^p Resistant bacteria judged by the infection control program, based on current institutional or national recommendations, to be of special clinical and epidemiologic significance.

^q For 9 days after onset of swelling.

^r Maintain precautions for duration of hospitalization when chronic disease occurs in an immunodeficient patient. For patients with transient aplastic crisis or red-cell crisis, maintain precautions for 7 days.

^s Maintain precautions until 5 days after patient is placed on effective therapy.

^t Avoid cohorting or placement in the same room with a CF patient who is not infected or colonized with *B. cepacia*. Persons with CF who visit or provide care and are not infected or colonized with *B. cepacia* may elect to wear a mask when within one metre of a colonized or infected patient.

^u Avoid placement in the same room with an immunocompromised patient.

^v Until 7 days after onset of rash.

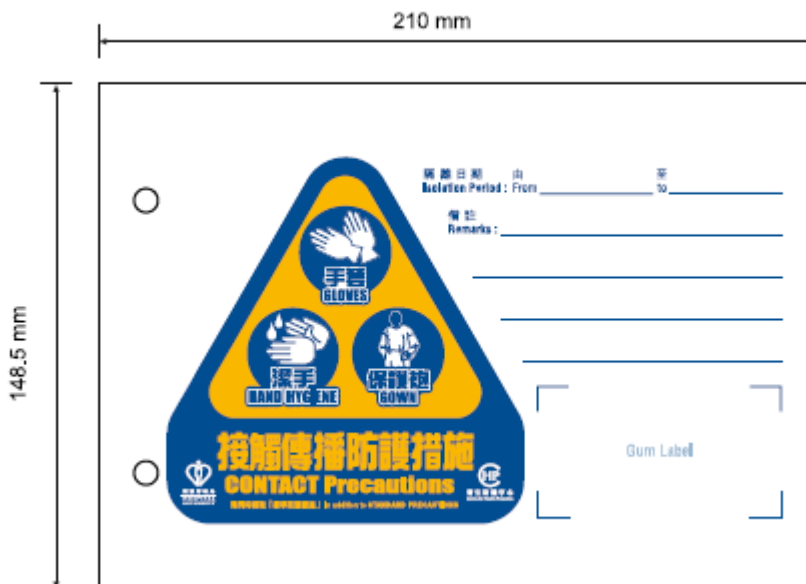
^w Discontinue precautions only when TB patient is on effective therapy, is improving clinically, and has three consecutive negative sputum smears collected on different days, or TB is ruled out.

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Appendix II

Isolation Precautions Signage



Contact Precautions	Additions ¹	
	A	D
Chickenpox	√	
Gastroenteritis caused by <i>Clostridium difficile</i> , Norovirus or Rotavirus		
Herpes simplex – neonatal or mucocutaneous, disseminated, primary, severe		
Herpes zoster – localized in immunocompromised patient or disseminated	√	
Impetigo		
Multidrug – resistant organisms (as advised by hospital IC team)		
Respiratory infections (in infants and young children) caused by Adenovirus, Parainfluenza virus or Respiratory syncytial virus (RSV)		√
Scabies		

Remarks:
¹ A – Airborne Precautions, D – Droplet Precautions
Please note that this list is not exhaustive. For specific recommendations on isolation precautions, please consult Hospital Infection Control Team.

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Airborne Precautions	Additional ¹	
	D	C
Chickenpox ²		✓
Herpes zoster ² – localized in immunocompromised patient or disseminated		✓
Measles ²		
Pulmonary tuberculosis		

Remarks:
¹: D – Droplet Precautions, C – Contact Precautions
²: Invasive persons, no N95 respirator required
 Please note that this list is not exhaustive. For specific recommendations on isolation precautions, please consult Hospital Infection Control Team.

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Droplet Precautions	Additional ¹	
	A	C
Diphtheria – pharyngeal		
Group A streptococcal disease (in infants and young children) – pharyngitis, pneumonia or scarlet fever		
Haemophilus influenzae – pneumonia (in infants and young children), epiglottitis or meningitis		
Influenza		
Meningococcal diseases – meningitis, pneumonia, sepsis		
Mumps		
Mycoplasma pneumoniae		
Parvovirus B19		
Pertussis		
Respiratory infections (in infants and young children) caused by Adenovirus, Parainfluenza virus or Respiratory syncytial virus (RSV)		√
Rubella		

Remarks:
¹: A – Airborne Precautions, C – Contact Precautions
Please note that this list is not exhaustive. For specific recommendations on isolation precautions, please consult Hospital Infection Control Team.

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