

Isolation of Patients with Infectious Conditions Procedure

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Applicable Statutory, Legal or National Best Practice Requirements	Health and Social care Act (Hygiene Code) 2015. PHE Tool Kit Community CPE 2015. NICE IPC in the Community 2012
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Version Control Sheet

Version	Date	Reviewed By	Comment
0.1	10.11.2016	Peter Morgan Sandra Holt	New procedure

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1 Introduction

This procedure is intended to provide some general principles of isolation precautions, when they may be required and the rationale behind their use. Isolation precautions should be used for patients who are either known or suspected to have an infectious disease, are carrying a multi-resistant organism or are particularly vulnerable to infection. It is important however, that staff ensure that standard infection prevention control precautions are used for all patients regardless of their status. These precautions include hand hygiene, use of gloves, aprons and occasionally masks, following a risk assessment to identify the risks of exposure to blood, body fluids and micro-organisms.

1.1 Objective

To reduce the risk of cross infection from patients infected or colonised with harmful microorganisms (pathogens) in the in-patient setting. To ensure that care staff are aware of the procedures necessary for the appropriate management and placement of patients infected or suspected to be infected whilst in the in-patient setting.

2 General Principles

2.1 Source Isolation

Source isolation is designed to prevent the spread of pathogens from an infected patient to other patients, care staff and visitors. This has previously been known as barrier nursing. The need for isolation is determined by the way the organism or disease is transmitted. Source isolation can be achieved by placing patients in:

- Single rooms
- Ward/bays (cohort)

Examples of organisms requiring source isolation may include:

- Pulmonary Tuberculosis (unlikely to be managed in a community in patient unit)
- Extended Spectrum Beta Lactamase (ESBL) producing coliforms
- Meticillin Resistant Staphylococcus aureus (MRSA)infection
- Clostridium difficile
- Diarrhoea and vomiting e.g. Norovirus
- Carbapenemase Producing Enterobacteriaceae (CPE)
- Influenza

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Transmission of harmful pathogens/organism is known as the mode of spread. The table below outlines the usual modes of spread, some example conditions and some harmful pathogens that care staff may come into contact with in their clinical practice.

Mode of spread	Example Conditions	Example pathogen
Contact	Diarrhoea Infectious rashes, antibiotic resistant organisms, skin and soft tissue infections	Clostridium difficile, Escherichia coli 0157, Staphylococcus Aureus including Methicillin resistant strains, Viral diarrhoea and vomiting
Droplet	Meningitis, infectious rashes, respiratory tract infections	Respiratory Syncytial virus <i>Haemophilus</i> Influenza, Influenza virus, Mumps, Rubella virus
Airborne	Infectious rashes, respiratory tract infections	Varicella virus (chicken pox), Respiratory Syncytial virus (RSV), <i>Mycobacterium tuberculosis</i>

When single rooms or isolation rooms are not available and where several patients with the same confirmed organism have been identified these patients may be nursed together in a bay or ward. This is called 'cohort nursing'. This should be managed with the support and advice of a member of the infection, prevention and control team.

It is acknowledged that there are constraints to placing every patient into a side room who is either colonised with a pathogen or who is showing clinical signs of infection. If it is not possible because the patient would be at a greater risk by being isolated, the Infection Prevention and Control Team should be contacted for advice and a thorough risk assessment must be carried out.

2.2 Risk Assessment

Risk assessment is the assessment of the factors that influence the transmission of a pathogen and its impact. It enables staff to prioritise the use of isolation facilities.

Using the information at 'Appendix 3' all patients identified with an alert organism will be risk assessed for the need for isolation. Where further advice is required the Infection, Prevention and Control Team can be contacted.

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2.3 Summary of isolation precautions

Precautions	Airborne	Contact	Enteric	Standard
Side room	Yes*	Yes	Yes	No
Apron	For contact with secretions	For patient contact	For contact with excreta	If splashing is likely
Gloves	For contact with secretions	For direct contact with infected site	For contact with secretions	For potential contact with blood/body fluids
<i>Gloves and aprons must be worn for contact with all body fluids</i>				
Masks**	If aerosol generating procedure	No	No	No
Goggles	If splashing of body fluids is likely	If splashing of body fluids is likely	If splashing of body fluids is likely	If splashing of body fluids is likely
Handwashing	<i>Follow the five Moments for Hand Hygiene</i>			
Equipment	Follow manufacturer guidance and appropriate policy			
Crockery/Cutlery	No special precautions			
Linen	Red alginate bag for infected linen			
Waste	Orange clinical waste bag			
Special precautions	Label specimens, store and transport appropriately, see IPC Manual			

*patients in this category should not be nursed in a double room, unless this is related to an outbreak i.e. influenza, and side rooms are not available

** it is unlikely that masks will be required in the community setting, this information is added for completeness.

3. Effective Communication

Information regarding the cause or likely cause of infection should be cascaded to other members of the team verbally and where appropriate in patient documentation. Signs on doors, and any labels in notes should be used sensitively ensuring that patient confidentiality is maintained.

The patient and relatives must be informed as to the reasons why isolation is required. A full explanation as to procedures and precautions must be provided to them.

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4. Procedure for Source Isolation

4.1 Preparation of the isolation room/bed space

Action	Rational
Staff should ensure that single rooms or bays being used for source isolation are clearly identified, this may include some form of colour coding. Patient confidentiality must not be breached.	To inform anyone intending to enter the room or approaching the bed space of the situation and the precautions required.
Consider what equipment and supplies are required for the area and the patients care.	To decrease entries and exits to the area.
Remove all non-essential furniture. The remaining furniture should be easy to clean	To support cleaning and minimize the risk of furniture harbouring microbial spores
Ensure that the hand basin has sufficient liquid soap and paper towels for staff use. Ensure Alcohol hand sanitizers are full.	Facilities for hand decontamination within the infected area are essential for effective barrier nursing.
Place an orange clinical waste bag in the room in a foot-operated bin. The bag must be sealed before it is removed from the room. For patients isolated in main bays clinical the same procedure applies	To comply with clinical waste regulations. Orange is the recognized colour for clinical infection.
As far as is reasonably possible provide the patient with his/her own equipment i.e. commodes, sphygmomanometer etc., and all items necessary for attending to personal hygiene. Use disposable items whenever possible i.e. disposable hoist sling, disposable blood pressure cuffs, wash bowls. Reusable equipment must be thoroughly decontaminated before being used for another patient	Equipment used regularly by the patient should be kept within the infected area to prevent the spread of infection. To reduce the risk of cross infection and appropriate decontamination of reusable equipment
Keep dressing, creams and lotions etc., to a minimum and store them within the room. These must be single patient use only!	All partially used materials must be discarded when isolation ends (sterilization is not possible); therefore unnecessary waste should be avoided.
Gloves and Aprons should be kept outside the room so that staff and visitors can access them before entering the room/bay.	To ensure that appropriate PPE is worn

4.2 Entering the isolation room/ward

Action	Rational
Collect all equipment needed. This may include dressings for example	To avoid entering and leaving the infected area unnecessarily.
Before entering the room hands should be washed with liquid soap and water	To reduce the risk of cross infection. NB hand washing is best practice during isolation of patients and during outbreaks
Put on a disposable plastic apron and gloves before entering the room	To protect the uniform/clothes from contamination
Staff or visitors should enter the room/bay shutting the door behind you	To reduce the risk of airborne organisms leaving the room

4.3 Attending to the patient during isolation

Action	Rational
Patient's meals/water jug should be delivered from the nurse looking after that patient, and where possible collected separately. Staff should again wear appropriate PPE i.e. apron and gloves. Hands must be washed on leaving the room. The patient must be offered the facilities to decontaminate their hands before eating.	To reduce cross infection
Ideally, patients should be nursed in en-suite rooms. If this is not available, a separate bedpan or urinal and commode should be left in the patient's room. Gloves and aprons must be worn by staff when dealing with body fluids. Bedpans and urinals should be covered and taken immediately to the sluice. Ideally disposable bedpans/urinals should be used. Commodes must be decontaminated using 1000ppm hypochlorite solution.	To reduce risk of cross infection. To ensure reusable equipment is decontaminated appropriately
Body fluids spills must be dealt with immediately following the body fluid spills guidance (appendix)	To reduce risk of cross infection
If en-suite facilities are not available an infected patient must be bathed or showered last on the ward. Decontaminate the bath or shower cubicle following each patient use. A hypochlorite solution should be used following cleaning of the bath/shower. Use hypochlorite 1 in 1000 parts per million.	To reduce risk of cross infection

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Linen should be placed in a red alginate polythene bag, which must be secured tightly before it leaves the room, and taken to the laundry or dirty utility.	To reduce risk of cross infection and environmental contamination.
Orange clinical infected bags should be kept in the room for disposal of contaminated materials. The bag's top should be sealed before leaving the room	To ensure correct waste disposal

4.4 Leaving the isolation room

Action	Rational
All PPE must be removed and discarded in orange clinical infected bags when staff or visitors leave the room/bay.	To reduce risk of cross infection. To ensure correct waste disposal
Wash hands and leave the room closing the door behind you. Gel hands after shutting the door.	To reduce self-contamination and airborne spread

4.5 Room cleaning

It is of paramount importance that the isolation room, bay or bed space is cleaned daily. Domestic staff must be given access to the room/bay and ward staff must facilitate this process by working with domestic services to achieve high standards of cleanliness.

Action	Rational
Domestic staff must understand why isolation is required and should be instructed on the correct procedure. Nursing staff must work in close collaboration with the domestic staff to ensure correct procedures are followed.	To reduce the risk of mistakes and to ensure that barrier nursing is maintained.
The area where isolation is being carried must be cleaned last.	To reduce the risk of the transmission of organisms.
Separate cleaning equipment must be kept for this area. Appropriate colour coding system must be used when cleaning isolation rooms, bay or bed spaces (NHS cleaning standards advise all equipment is denoted as 'Yellow'). This will include disposable cloths, mops and buckets.	Cleaning equipment can easily become infected. Cross-infection may result from shared cleaning equipment.
Members of the domestic services staff must wear gloves and plastic aprons while cleaning and handling waste within the isolation room/bay or bed space.	Gloves will protect the domestic from exposure to cleaning chemicals and the potential contamination from blood and body fluids.
Floor (hard surface). These must be washed daily with a freshly diluted disinfectant i.e. hypochlorite solution as	Daily cleaning will keep bacterial count reduced. Organisms, especially Gram-negative bacteria, multiply quickly in the

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appropriate. All excess water must be removed. Buckets should be filled in the domestic room or sluice they must not be filled from the clinical hand basin. Cleaning solutions must be changed after each room or bed space as a minimum.	presence of moisture and on equipment
After use, the bucket must be washed and dried and returned to the domestic cupboard (not the sluice). Mop heads if not disposable should be removed after use with isolation patients and laundered in a hot wash daily. All cloths must be single use and disposed of as clinical waste	Bacteria will not easily survive on clean, dry surfaces. Mop heads become contaminated easily.
Furniture and fittings should be damp dusted daily using disposable yellow cloths and 1000ppm hypochlorite solution	
The toilet, shower and bathroom area must be cleaned at least once a day with a 1000ppm hypochlorite solution	

4.6 Discharging the Patient – Terminal Cleaning of the Room

Action	Rational
Nursing staff must inform the domestic team that the room will need to be deep cleaned following the discharge or transfer of the patient.	To ensure that the domestic staff undertake a deep clean
Prior to the deep clean, nursing staff should strip the bed and clean all medical and nursing equipment with a hypochlorite solution. This equipment can then be removed from the room by nursing staff to allow the domestic staff to clean.	To support a full terminal clean.
Curtains must be taken down and clean curtains put up following the deep clean	To reduce the risk of ongoing environmental contamination
The room can be re-used as soon as it has been correctly and thoroughly deep cleaned. Open windows and allow room to dry thoroughly before use.	Most organisms will survive in the environment for long periods of time. Effective cleaning will remove these organisms. Once cleaning has been completed and the room is dry, the room is ready to admit another patient.

5 Protective Isolation

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Protective isolation is intended to prevent a more susceptible patient acquiring Infection. Protective Isolation (reverse barrier nursing) is where the patient requires protection i.e. they are immunocompromised.

Staff or visitors with infections including colds, flu like symptoms, should not be at work or in the clinical environment. Staff with skin conditions and active cold sores should not care for or visit the patient.

Staff should always adhere to standard infection, prevention and control procedures, i.e. as a minimum use of PPE and appropriate hand hygiene in practice.

6 References

Department of Health (2008) (update 2015) The Health Act Code of Practice for the Prevention and Control of Health Care Associated Infections

Joint Working Group (2001) Review of Hospital Isolation and Infection Control Related Precautions.

NICE (2012) Healthcare-associated infections: prevention and control in primary and community care.

Web Link: <https://www.nice.org.uk/guidance/cg139/chapter/1-Guidance>

The Royal Marsden Manual Online edition (accessed November 2016).

<http://www.rmmonline.co.uk>

PHE (2015) Toolkit for managing carbapenemase-producing Enterobacteriaceae in non-acute and community settings. PHE Publications gateway number: 2015144

Web link:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/329227/Acute_trust_toolkit_for_the_early_detection.pdf

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Appendix 1

Daily procedure for cleaning an isolation room or a bay space of an infected patient.

NB these rooms should be cleaned last after all other areas

Method:

- Wash hands and put on disposable gloves and apron.
- An apron must be worn when entering any isolation room or isolation bed space in a Bay. Masks should only be worn when instructed to by the nurse in charge.
- Disposable gloves should be worn for cleaning to prevent exposure to chemicals and if there is a potential exposure to blood and body fluids.
- Prepare a 1000ppm hypochlorite cleaning solution in a well-ventilated area (refer to manufacturer's instructions.) Ensure the correct dilution as per manufactures instructions (see also appendix 4)
- Using the hypochlorite solution damp dust all ledges, surfaces and fixed equipment; lamps (unplug all electrical equipment), chairs, lockers, bedside table/ desk, radiator, door handles.
- Clean the wash basin, taps and en-suite if applicable moving from clean to dirty surfaces, i.e. tap down into sink then pedestal.
- If vacuum cleaners are used in isolation rooms or bays, they must be HEPA filter vacuums.
- Mop the floor area removing any blood or body fluid spills
- Dispose of all cloths when the task is completed into orange infected waste bag
- Place reusable mop heads into plastic bag for separate laundering or if disposable place into orange waste bags
- Remove and dispose of gloves and apron. On completion of task into the orange clinical waste bag. Seal and tag bag before removing from the room.
- Wash hands.

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Appendix 2

Procedure for the Terminal Clean of isolated patients

Method

Prior to the commencement of a terminal clean, nursing staff should ensure that all medical items and equipment have been removed from the room to the dirty utility for cleaning and decontamination. The bed should be stripped and pillows and bed mattress cleaned with 1000ppm hypochlorite cleaning solution and dried thoroughly. All patients belongings should be removed.

- Wash hands and put on disposable gloves and apron.
- Only yellow disposable cloths and mops should be used. The cloths and mops should be used for one bed space only and disposed of after use. Under no circumstances should J-cloths be re-used from one bed space or room to another.
- Prepare the 1000 ppm hypochlorite cleaning solution in a well-ventilated area (refer to manufacturer's instructions (see also appendix 4). Ensure the correct dilution solution is made as manufactures instructions.
- Dispose of waste correctly. Place any remaining rubbish into the orange clinical waste bag. Tie and tag the bag before removing from the room. Dispose of according to Trust clinical waste policy.
- Curtains are to be changed and these must be removed prior to the commencement of cleaning. Place curtains into a red alginate bag and then into a laundry bag, or if disposable, into an orange clinical bag. Seal bag before removal from the room or area.
- Dampen or rinse a cloth in the cleaning solution and wring out well. Only yellow disposable cloths and mops should be used. The cloths and mops should be used for that side room or bed space only and disposed of after use. Under no circumstances should J-cloths or mops be re-used.
- Damp dust the bed, table, chair, lamps (unplug all electrical equipment), radiator, bedside lock (inside, outside and base) and any other furniture, fixtures and fitting including door handles
- Clean wash basin, taps and en-suite if applicable moving from clean to dirty surfaces. Mop the floor area removing all dirt and any body fluids
- If vacuum cleaners are used in isolation rooms or bays, they must be HEPA filter vacuums.
- Dispose all used cleaning cloths and disposable mops into orange clinical waste bags. If mops are non-disposable, these should be placed in a plastic bag for separate laundering

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- Open windows to facilitate drying of surfaces and to allow the room to ventilate.
- Before handling clean curtains, remove apron and gloves and wash hands. Rehang clean curtains when the room is dry.
- Inform ward staff that the room is ready for occupation.

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Appendix 3

Alert Organism Risk Assessment for the Use of Isolation Rooms

All patients suspected or known to be colonised or infected with an infectious disease or condition must be isolated, in line with this Isolation Policy. However, due to limited isolation facilities it is recognised that, at times, single rooms will need to be prioritised. The following information is intended to assist Senior Nursing staff and Ward Managers in this process. Please note the initial assessment for isolation can be downgraded as the patient recovers and/or following advice from the IPC team.

Code	
1	High priority for a single room and own toilet facilities and ensuite. Inform infection prevention and control (IPC) team if a single room is not available.
2	Single room required. Assess patients currently in single room. Where a single room is not available nurse in the main bay, providing other patients in the bay are not deemed vulnerable i.e. open wounds, invasive devices or immunocompromised. If possible move patient to single room at earliest possible time.
3	Low risk. Single room or cohort in a bay as required.
0	Does not require isolation

Alert organism	notes	code	Comment
MRSA	Colonised from screening i.e. nose/groin	2/3	Check that no other patients in the bay have an open wound or invasive device
	Sputum positive	1	
	Open oozing wound	1	Impermeable type of dressing applied when possible
	Dry surgical wound	2/3	Check that no other patients in the bay have an open wound or invasive device

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Alert organism	notes	code	Comment
Suspected or confirmed diarrhoea and/or vomiting could include campylobacter, Salmonella, shigella, Rota, and noro virus	Suspected or confirmed	1	Until asymptomatic for 48 hours or confirmed as non-infectious
Vomiting only, thought to be infectious in nature		1	Vomiting should take precedence over viral diarrhoea if single rooms are limited until 48 hours symptom free
Clostridium difficile	Diarrhoea	1	Remain isolated until discharge or 48 hours diarrhoea free and patient is able to maintain own hygiene
Clostridium difficile	Asymptomatic	2/3	Side room if patient is not able to maintain their own personal hygiene or become symptomatic
ESBL (ESBL is a cross infection hazard, does not necessarily need isolation unless in an augmented care setting. Hand hygiene essential)	Urine continent patient	2/3	If patient is self-caring encourage hand hygiene. Increase cleaning of bay/side room toilet
	Urine incontinent patient	1	
	Urine catheterised patient	1	
ESBL in any other site			Contact IPC team
Carbapenemase-producing Enterobacteriaceae (CPE)	Colonised or infected	1	Discuss with the IPC team
Vancomycin resistant enterococci	Colonised or infected	1	Discuss with the IPC team

Alert organism	notes	code	Comment
Shingles	Rash and weeping vesicles	1	Side room is rash cannot be covered, then until vesicles are dry. If on face contact the IPC team
Scabies		0	Discuss with the IPC team may require contact tracing
Norwegian scabies		1	Discuss with the IPC team
Influenza		1/2	Isolate cases until there are no side rooms or outbreak decaled then outbreak team will be required and cohort nursing.

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Body Fluid spills flow charts

