

Nursing Times Learning has launched a unit on patient isolation, in association with the Infection Prevention Society, which explores precautions to prevent infection spread

Principles of transmission-based precautions

To minimise the risk of transmitting infectious agents, patients may be isolated in single rooms. Previously, patient isolation was called “isolation precautions” or “barrier nursing” and, while it can be adapted to other health and social care settings, it is more commonly related to acute hospitals.

In current practice, more specific terminology is used to describe isolation precautions; these are included under the umbrella term “transmission-based precautions” (TBPs). This term refers to a set of practices undertaken when patients are suspected of having, or are known to be infected with, an infectious agent, for example, MRSA (Health Protection Scotland, 2014).

Transmission-based precautions

TBPs comprise specific precautions depending on the mode of spread, namely

by contact, droplet or airborne (HPS, 2014). Some diseases might have multiple routes of transmission, in which case all three sets of precautions may apply (Department of Health, Social Services and Public Safety, 2008). TBPs are not to be confused with standard precautions, which should be applied consistently for all patients at all times.

Contact precautions

Contact precautions aim to prevent the spread of an infectious agent by direct or indirect contact with patients or service users and healthcare workers who are providing care-related activities. An example of bacteria that might be spread by contact transmission is MRSA or a gastrointestinal infection such as *Salmonella* spp (HPS, 2014).

Droplet precautions

Droplet precautions relate to infectious agents that may be spread from the respiratory tract by coughing, sneezing or even talking. Their ability to spread is limited, as they only remain in the air for short periods of time and cannot travel further than a metre. This means the spread is limited to close contact (Health Protection Agency, 2012). Examples of infectious diseases that would require droplet precautions include influenza and bacterial meningitis (HPS, 2014).

Airborne precautions

Airborne precautions help to prevent the spread of infectious agents that have the ability to travel distances and remain infectious when suspended in the air (HPA, 2012). These include bacteria such as *Mycobacterium tuberculosis* and viruses such as measles (HPS, 2014). Negative-pressure rooms are required for patients who have, or are suspected of having, multidrug-resistant *Mycobacterium tuberculosis* (National Institute for Health and Care Excellence, 2011).

Protective isolation

Protective isolation may be necessary for patients who are severely immune compromised and need to be nursed in a protective environment (DHSSPS, 2008). This may include the use of a positive-pressure isolation room. Refer to local guidelines about protective isolation and positive/negative-pressure rooms.

Caring for patients in isolation

It is important that staff are aware of the known or suspected infectious agents involved when considering the care and management of patients nursed in isolation. Standard precautions (SICPs) should be applied, as well as the appropriate TBPs.

Single rooms should be en-suite, with a toilet and hand-wash sink as a minimum requirement. Cleaning should be undertaken at least daily, referring to local guidelines on the specific regime.

It is important that rooms are as clutter free as possible to allow thorough cleaning. Equipment should be single patient and cleaned after each use or single use, wherever possible, and disposed of. Any equipment that is not suitable for single-patient use should be left in the room, cleaned after each use and decontaminated before returning to general use (Royal College of Nursing, 2012).

Transmission of micro-organisms by the hands of healthcare workers is the most likely method of contributing to the spread of infections in hospitals (Loveday et al, 2014), and the World Health Organization (2009) has stated that “clean hands prevent patient suffering and save lives”. Hand hygiene refers to either hand washing or the use of alcohol-based hand gels. Read the WHO’s *Your Five Moments for Hand Hygiene* (WHO, 2014).

Personal protective equipment

Personal protective equipment (PPE) is needed to protect healthcare workers and their patients (RCN, 2012).

Nursing
Times
Learning

PATIENT ISOLATION LEARNING OBJECTIVES

This learning unit is free to subscribers and £10+VAT to non-subscribers at nursingtimes.net/isolation. After studying this unit you will be able to:

- 1 List common infectious conditions that may require the patient to be isolated in a single room
- 2 Explain the different reasons for isolating a patient
- 3 Describe the key principles of transmission-based precautions
- 4 Compare and contrast aspects of the different types of transmission-based precautions
- 5 Describe the psychosocial impact isolation may have on patients
- 6 Describe the key strategies needed to effectively manage patients with infections requiring isolation

HPS (2014) states:

“Before undertaking any procedure, staff should assess any likely exposure and ensure PPE is worn that provides adequate protection against the risks associated with the procedure or task being undertaken”.

PPE should be stored in a clean, dry area and protected from contamination. It should be:

- » Available at the point of use;
- » Single use;
- » Disposed of in the correct waste stream;
- » Applied and removed in the correct way to prevent cross-contamination (HPS, 2014).

The equipment that is used depends on the task and the type of precautions required. For contact precautions, if contact with the patient and/or the environment is anticipated, aprons should be worn. The use of gloves will depend on the nature of the task but, generally, non-sterile gloves should be worn when there is anticipated exposure to blood and body fluid, or when handling sharps or contaminated devices.

Sterile gloves should be worn when undertaking an invasive procedure, or there is any contact with sterile sites. However, gloves are not a substitute for good hand hygiene (Loveday et al, 2014). When taking droplet or airborne precautions, extra PPE is needed, such as surgical face masks, FFP3 respirator masks and facial protection.

FFP3 respirator masks

The FFP3 respirator masks are designed to fit closely to the face to prevent transmission of particulates via the airborne route. Before using FFP3 masks for the first time, each staff member should have the fit tested, and then undertake regular fit checks. Guidelines are available from Public Health England (2013).

Local guidelines should be followed for infections spread by the droplet and/or airborne route. HPS advises that FFP3 masks and facial protection must be considered for anyone admitted with, or suspected of having, an infectious agent that is airborne or spread by droplet, especially with any aerosol-generating procedures.

PPE for specific infectious agents

Certain infectious agents, including ebola, require specific PPE that may not fit into the usual guidance for contact, droplet or airborne precautions. Specific guidance is usually provided at the time by health organisations and government departments; for example, in the case of ebola.

Psychosocial concerns

Patients who are isolated in a single room may become anxious, withdrawn and/or depressed; good communication with both patient and relatives can minimise distress. If the door cannot be closed due to safeguarding issues, this will need careful consideration and discussion with the infection prevention and control team.

Availability of isolation rooms can also be limited (Kilpatrick et al, 2008); if too few are available, cohort nursing of patients in designated areas may be necessary. Again, liaison with the infection prevention and control team will be needed. **NT**

References

- Department of Health Social Services and Public Safety (2008) *The Northern Ireland Regional Infection Prevention and Control Manual: Infection Control Guidelines*. Belfast: DHSSPS. www.infectioncontrolmanual.co.ni
- Health Protection Agency (2012) *Infection Control Precautions to Minimise Transmission of Respiratory Tract Infections (RTIs) in the Healthcare Setting*. tinyurl.com/HPARTIPrecautions
- Health Protection Scotland (2014) *National Infection Prevention and Control Manual*. tinyurl.com/HPSIPManual
- Kilpatrick C et al (2008) Single room isolation to prevent the transmission of infection: development of a patient journey tool to support safe practice. *British Journal of Infection Control*; 9: 6, 19-25.
- Loveday HP et al (2014) epic3: national evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *Journal of Hospital Infection*; 86: Suppl 1, S1-S70.
- National Institute for Health and Care Excellence (2011) *Tuberculosis: Clinical Diagnosis and Management of Tuberculosis, and Measures for its Prevention and Control*. London: NICE.
- Public Health England (2013) *A Guide to the FFP3 Respirator*. tinyurl.com/PHEFFP3Guide
- Royal College of Nursing (2012) *Wipe it Out: One Chance to Get it Right. Essential Practice for Infection Prevention and Control – Guidance for Nursing Staff*. tinyurl.com/RCNOneChance
- World Health Organization (2014) *Your Five Moments for Hand Hygiene*. tinyurl.com/WHO5Moments
- World Health Organization (2009) *WHO Guidelines on Hand Hygiene in Health Care: A Summary*. tinyurl.com/WHOCleanerSafer

TEST YOUR KNOWLEDGE

Can you answer these questions? To check whether you are correct, go to our learning unit at: nursingtimes.net/isolation

1 What is the best way to describe isolation nursing?

- A. Staff wearing gloves and aprons when in contact with patients
- B. Preventing the spread of infection in clinical settings
- C. Wearing personal protective clothing at all times
- D. Preventing visitors from visiting patients being nursed in a side room

2 What type of gloves provide the greatest protection against blood-borne viruses?

- A. Vinyl
- B. Plastic
- C. Nitrile
- D. Cloth

3 What part of a patient's bedside table should be cleaned first?

- A. The top
- B. The side
- C. The wheels
- D. The handles

4 Who decides on the choice of personal protective equipment?

- A. The nurse specialist for infection prevention and control
- B. The ward manager
- C. The doctor looking after the patient
- D. The nurse caring for the patient, following a risk assessment

5 When should gloves be worn?

- A. When handling items contaminated with blood or other body fluids
- B. When recording patient observations of a patient in isolation
- C. When administering oral medications to a patient not in isolation
- D. When helping a patient with dressing when not in isolation



WHAT'S IN A NURSING TIMES LEARNING UNIT:

Learning objectives so you know what you will learn

Pre-study multiple choice questionnaire to find out what you already know

Evidence-based review with live links to key reading, national policy and guidelines

Case-based scenarios with questions and feedback, so you can apply your learning

Live links to further reading
Downloadable portfolio pages to undertake optional further

study and store in your portfolio
Post-study multiple choice

questionnaire to see how your learning has progressed
Personalised certificates as a record of your learning