



Infection Prevention and Control – Transmission Based Precautions

1. Purpose

One of the goals of Best Care is to provide safe clean care to all patients; that is safe for staff as well. During care provided for patients in the prehospital setting, blood and body fluids can be present. Standard precautions should be applied when caring for all patients, including good hand hygiene, respiratory hygiene and cough etiquette, aseptic non-touch technique during procedures as indicated, sharp disposal, linen management, equipment, and environment cleaning.

This CWI provides guidance on the use of *transmission-based precautions*, where suspected or known infectious agents may be present. This requires increased care and equipment, as these precautions are designed to interrupt infection transmission, keeping staff and patients safe. There are three types of transmission-based precautions: contact, droplet, and airborne precautions. Each requires increasing levels of care/equipment and should be applied in conjunction with standard precautions.

SCOPE OF PRACTICE			
MICA ☒	ALS ☒	BLS ☒	
Medical ☒	Nursing ☒	CERT/ACO ☒	Patient Transport ☒

Indications

Transmission based precautions are applied to all patient suspected or confirmed to be infective with agents transmitted by contact, droplet, or airborne routes. Indications for each level of protection will vary depending on the suspected or known infectious agent and the route of transmission. For infectious diseases with multiple routes of transmission more than one transmission-based precaution category will be required.

Whether applied singly or in combination, transmission-based precautions are always applied *in addition to standard precautions*.

The combination of measures to be used depends on the infectious agent’s route of transmission:

- **Contact precautions** are required where there is a risk of transmission via either a direct or indirect transmission route, this included conditions such as gastrointestinal illness (*C.difficile*, norovirus), multi-resistant organisms (VRE, MRSA) and scabies.
- **Droplet precautions** are required where there is a risk of transmission over short distances via respiratory secretions and close contact is required for patient care provision, this includes conditions such as influenza, whooping cough and meningococcus.
- **Airborne precautions** are required where there is a risk that infectious agents will be disseminated through the air, this includes conditions such as pulmonary tuberculosis (TB), rubella (measles), varicella-zoster virus (chicken pox), shingles and SARS-CoV2 (COVID-19). Airborne precautions should be considered where the types of interventions or patient behaviours may cause aerosol generation.



Contraindications

[Nil]

Clinical Precautions

- Staff must conduct a thorough and timely patient assessment to ensure early identification of infection transmission risk.

Equipment Required

*DURING AN OUTBREAK SCENARIO, PLEASE APPLY THE RELEVANT OUTBREAK'S INFECTION TRANSMISSION PRECAUTIONS.

The graphic is a vertical guide for infection transmission precautions. It features a dark blue header with the title 'INFECTION TRANSMISSION PRECAUTIONS' in white. Below this is a red bar with the text 'STANDARD PRECAUTIONS'. The main body is a light beige area containing two sections: 'AS REQUIRED' and 'ALWAYS'. The 'AS REQUIRED' section lists: 'GLOVES IF RISK OF BODILY FLUIDS EXPOSURE', 'PROTECTIVE EYEWEAR IF RISK OF BODILY FLUIDS EXPOSURE', 'SURGICAL MASK IF MILD RESPIRATORY SYMPTOMS AND PATIENT IS COMPLIANT', and 'P2/N95 MASK IF RISK OF AEROSOL PRODUCTION AND PATIENT IS NOT COMPLIANT'. The 'ALWAYS' section lists: 'PERFORM HAND HYGIENE AND ROUTINE CLEANING OF YOUR ENVIRONMENT (WHICH INCLUDES PATIENT ASSESSMENT EQUIPMENT) USING DISINFECTANT WIPES.' and 'SAFELY AND APPROPRIATELY USE AND DISPOSAL OF SHARPS, WASTE, AND USED LINEN.'. Below this is another red bar with the text 'PLUS'. Underneath are three columns: 'CONTACT PRECAUTIONS' (GASTROINTESTINAL SYMPTOMS, INFECTED WOUNDS), 'DROPLET PRECAUTIONS' (RESPIRATORY SYMPTOMS IF PATIENT IS COMPLIANT), and 'AIRBORNE PRECAUTIONS' (RESPIRATORY SYMPTOMS IF PATIENT IS NOT COMPLIANT). Each column has associated precaution items in light blue boxes: 'MASK IF REQUIRED FOR ANOTHER INDICATION' (under Contact), 'SURGICAL MASK' (under Droplet), 'P2/N95 MASK' (under Airborne), 'GOWN' (under Contact), and 'GOWN IF RISK OF BODILY FLUIDS EXPOSURE' (under Airborne). Below these columns are three shared items in light blue boxes: 'GLOVES', 'PROTECTIVE EYEWEAR', and 'FACE SHIELD IF RISK OF BODILY FLUIDS EXPOSURE'. At the bottom, a note states: '*IF IN ANY DOUBT, APPLY THE HIGHEST LEVEL OF PRECAUTIONS.'

INFECTION TRANSMISSION PRECAUTIONS

STANDARD PRECAUTIONS

AS REQUIRED

GLOVES IF RISK OF BODILY FLUIDS EXPOSURE

PROTECTIVE EYEWEAR IF RISK OF BODILY FLUIDS EXPOSURE

SURGICAL MASK IF MILD RESPIRATORY SYMPTOMS AND PATIENT IS COMPLIANT

P2/N95 MASK IF RISK OF AEROSOL PRODUCTION AND PATIENT IS NOT COMPLIANT

ALWAYS

PERFORM HAND HYGIENE AND ROUTINE CLEANING OF YOUR ENVIRONMENT (WHICH INCLUDES PATIENT ASSESSMENT EQUIPMENT) USING DISINFECTANT WIPES.

SAFELY AND APPROPRIATELY USE AND DISPOSAL OF SHARPS, WASTE, AND USED LINEN.

PLUS

CONTACT PRECAUTIONS	DROPLET PRECAUTIONS	AIRBORNE PRECAUTIONS
GASTROINTESTINAL SYMPTOMS INFECTED WOUNDS	RESPIRATORY SYMPTOMS IF PATIENT IS COMPLIANT	RESPIRATORY SYMPTOMS IF PATIENT IS NOT COMPLIANT
MASK IF REQUIRED FOR ANOTHER INDICATION	SURGICAL MASK	P2/N95 MASK
GOWN		GOWN IF RISK OF BODILY FLUIDS EXPOSURE
GLOVES		
PROTECTIVE EYEWEAR		
FACE SHIELD IF RISK OF BODILY FLUIDS EXPOSURE		

*IF IN ANY DOUBT, APPLY THE HIGHEST LEVEL OF PRECAUTIONS.

Figure 1 Transmission Based Precautions Guide

Health, Safety and Welfare

- Always apply standard precautions and include personal protective equipment (PPE) when required as described within the instructions below
- Use the dynamic risk assessment and patient assessment to determine/adjust infection prevention precautions as required based on the patient's presentation, care needs and environment.
- Eye protection and a disposable face shield shall be worn whenever there is a requirement to protect your eyes from droplets, aerosols, foreign objects, splashed and projectiles.

2. Instructions

2.1 Applying Standard and Transmission Based Precautions 'donning'


- Standard precautions should be applied in all instances of patient care
- Transmission based precautions are tailored to the infectious agent and route of transmission
- Donning of PPE should be completed as soon as any infection transmission risk is identified

KEY POINTS	EXPLANATORY NOTE
<p>Staff preparedness</p> <ol style="list-style-type: none"> 1. Ensure any cuts/abrasions are covered with occlusive dressings 2. Fingernails should be short, free of nail polish and any form of artificial nails or embellishments 3. Remove jewellery and watches 'bare below the elbows' 4. Ensure long hair is tied back 5. Be clean shaven 	<ul style="list-style-type: none"> • Covering cuts and abrasions reduces the risk of cross-transmission of infectious agents. • Artificial and false nails have been associated with higher levels of infectious agents than natural nails. It is good practice to refrain from wearing nail polish, particularly as chipped nail polish may support the growth of organisms on finger nails. • Wearing of watches, rings and jewellery during any patient care is discouraged and as a minimum must be removed during hand washing and when applying transmission based precautions. If you must wear any rings they should be plain bands and must be moved around the finger during hand hygiene. • Staff must be clean shaven to the extent that an adequate seal of an AV approved respirator can be achieved (validated by a fit check or fit test)
<p>Apply Standard Precautions</p> <ul style="list-style-type: none"> • Perform hand hygiene consistent with the 5 moments of hand hygiene principles • Use PPE when there is a risk of body fluid exposure • Use and dispose of sharps safely 	<ul style="list-style-type: none"> • Standard precautions are based on the principle that all blood and body fluid (except sweat) may pose an infection transmission risk and are in conjunction with transmission based precautions as required.

<ul style="list-style-type: none"> • Perform routine environmental cleaning including patient assessment equipment • Follow respiratory hygiene and cough etiquette • Use aseptic techniques • Handle and dispose of waste and used linen safely and appropriately 	<ul style="list-style-type: none"> • Consider the potential routes of transmission to determine the type of transmission based precautions required.
<p>Contact Precautions (apply the following in addition to Standard Precautions)</p> <ol style="list-style-type: none"> 1. Perform hand hygiene and allow hands to dry 2. Apply gown 3. Apply gloves, ensure cuffs are pulled over the sleeves of the gown 4. Ensure integrity of the PPE, perform a range of movements to ensure that all areas of the body remain covered 	<ul style="list-style-type: none"> • Remove/change gloves and perform hand hygiene between dirty or when visibly soiled, and clean tasks.
<p>Droplet Precautions (apply the following in addition to Standard Precautions)</p> <ol style="list-style-type: none"> 1. Perform hand hygiene and allow hands to dry 2. Apply a face mask <ul style="list-style-type: none"> – Surgical, where infectious agent is located within the sputum – P2/N95 respirator mask, respiratory illness (inc.COVID-19) 3. If required, perform a 'fit check' to ensure seal (as per instruction under Airborne Precautions) 4. Apply protective eyewear <ul style="list-style-type: none"> – If any risk of body fluid splash, apply disposable face shield <ul style="list-style-type: none"> • <u>Do not touch the front of the face shield</u> • Tilt the head slightly back • Holding on to the straps with both hands, expand the elastic with your thumbs, place elastic behind your head so that the foam rests on your forehead • Check that the shield covers the front and sides of the face 5. Apply gloves 	<ul style="list-style-type: none"> • A surgical mask may be placed on patients who are suspected or known to have a respiratory illness transmitted by droplet transmission. <i>P2/N95 masks should NOT be worn by patients, a surgical mask may be placed on patients who are suspected or known to have any infectious illness transmitted by droplet or airborne transmission.</i> • The forehead band should sit about 3cm above the eyebrows and the bottom of the shield below chin level. • The shield must always be down and not worn pushed to an "up" position.
<p>Airborne Precautions apply the following in addition to Standard Precautions)</p> <ul style="list-style-type: none"> • Gather PPE items and ensure intact and appropriate size • Perform hand hygiene and allow hands to dry • Apply 'contact precautions' if required • Apply P2/N95 mask, mould to nose and cheekbones • Perform a 'fit check' to ensure intact seal <ul style="list-style-type: none"> • Separate edges of the mask to fully open 	<ul style="list-style-type: none"> • Where infectious risk has been identified consideration for airborne precautions particularly in the setting of respiratory illness. Consideration should be given to the risk of aerosol generation either through patient care interventions inc. suction and airway manipulations or patient behaviours.

- Bend nose wire (top of mask) to form a curve
 - Hold mask upside down, expose the two headbands
 - Use index fingers and thumbs, separate the two headbands
 - Cup the mask under your chin
 - Pull headbands up and over your head
 - Position the lower headband at the base of neck (under your ears)
 - Place the upper headband on crown of your head. The band should run just above the top of your ears
 - Gently conform the nosepiece across the bridge of the nose until the fit is snug
 - Continue to adjust the mask until you feel you have a good fit
 - Gently inhale, the mask should draw in slightly toward the face
 - When exhaling the mask should fill with air, check there is no air leak around the edges
 - Adjust as necessary until a good seal is achieved
 - Apply protective eyewear and a disposable face shield (apply as per instructions under droplet precautions)
 - Confirm P2/N95 mask 'fit check'
 - Apply gloves,
 - If wearing a gown, ensure cuffs are pulled over the sleeves
 - Ensure integrity of the PPE, perform a range of movements to ensure that all areas of the body remain covered
- Gowns are routinely used when caring for patients requiring contact precautions and further recommended when:
 - Close contact with the patient, material or equipment may lead to contamination of skin or uniform with infectious agents e.g. interventions or patient behaviors which may generate aerosols.
 - There is a risk of contamination with blood, body substances, secretions, or excretions (except sweat).
 - A disposable face shield does not replace protective eyewear both items should be worn.

2.2 Removing Transmission Based Precautions 'doffing'

KEY POINTS	EXPLANATORY NOTE
<p>Doffing Personal Protective Equipment (where an item of PPE has not been applied omit this step and progress to the next)</p> <ol style="list-style-type: none"> For Tyvek only perform steps as listed <ul style="list-style-type: none"> • Clean gloves with hand sanitiser and allow to dry • Remove head cover, carefully fold back hood from your head, rolling inside out • Decontaminate the zipper with disinfectant wipes • Unzip suite, tilt head back to avoid contact with exposed skin Remove gloves carefully <ul style="list-style-type: none"> • Grasp outside of glove with opposite gloved hand, peel off • Hold removed glove in gloved hand • Slide fingers of un-gloved hand under remaining glove at wrist • Peel glove off over first glove • Discard gloves in waste container Perform hand hygiene and allow hands to dry Remove disposable face shield (if wearing); <ul style="list-style-type: none"> • <u>Do not touch the front of the face shield</u> • Tilt the head slightly forward 	 <p>Image source: https://www.globus.co.uk/how-to-safely-remove-disposable-gloves</p> <ul style="list-style-type: none"> • Face shields are single use disposable items and are not to be cleaned and/or reused.

<ul style="list-style-type: none">• Grasp the strap at the temple and pull forward over your head <ol style="list-style-type: none">5. Perform hand hygiene6. Remove protective eyewear by holding only the arms of the frame7. Remove gown<ul style="list-style-type: none">• Do not touch the front of the gown or sleeves• Turn the gown in on itself and fold or roll into a bundle <p>OR if wearing Tyvek suit</p> <ol style="list-style-type: none">8. Remove each arm from suit whilst turning suit arms inside out9. Push suit down to ankles whilst turning suit inside out10. If available, sit-down keeping legs inside the doffing area11. Remove suit from legs, step out of suit12. Discard into biohazard waste bag13. Perform hand hygiene and allow hands to dry14. Remove mask<ul style="list-style-type: none">• Avoid touching surface of the mask• Only touch the straps and remove in a downward direction and away from your face• Discard in a bio-hazard waste bag15. Perform hand hygiene and allow hands to dry	<ul style="list-style-type: none">• Protective eyewear should be cleaned using disinfectant wipes, these are not single use items under transmission based precautions.
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3. Definitions

Term	Acronym	Definition
Airborne Transmission		Airborne transmission may occur via particles that remain infective over time and distance, usually created during breathing, talking, coughing or sneezing. May be dispersed over long distances by air currents and inhaled by susceptible individuals who have not been in contact with the infectious person.
Direct Contact Transmission		Occurs when infectious agents are transferred from one person to another by physical contact, injections, or ingestion.
Droplet Transmission		Droplet transmission occurs when an infected person coughs, sneezes or talks, and during certain procedures. Droplets are infectious particles larger than 5 microns in size, generally transmitted over short distances. Droplet transmission is limited by force, expulsion and gravity and is usually limited to no more than 1 metre.
Standard Precautions		Work practices that are applied during all instances of patient care, regardless of a perceived or confirmed infectious status. Includes: hand hygiene, aseptic technique, safe sharp management, routine environmental cleaning, and respiratory hygiene and cough etiquette, waste management and appropriate handling of linen.
Transmission Based Precautions		Additional work practices applied in situations where standard precautions alone maybe insufficient to prevent transmission. Transmission based precautions are tailored to the particular infectious agent and its mode of transmission. Includes contact, droplet, and airborne precautions.
Contact Transmission		Involves transmission by touch or via contact with blood or body substances. Contact may be direct or indirect.
Indirect Contact Transmission		Indirect transmission occurs when there is no direct human-to-human contact and an infectious agent is contracted by touching inanimate objects such as dirty eating utensils or dirty equipment between patients.
Aerosol Generating Procedures	AGP	Any procedures or interventions which stimulate coughing and promote the generation of airborne particles including care where splashes/sprays are anticipated. AGP includes; nebuliser therapy, airway suctioning, high flow nasal oxygen and intubation.

Document name	INFECTION CONTROL – TRANSMISSION BASED PRECAUTIONS CLINICAL WORK INSTRUCTION	
Applies to	<input checked="" type="checkbox"/> MICA	<input checked="" type="checkbox"/> ALS
	<input checked="" type="checkbox"/> BLS	<input checked="" type="checkbox"/> CERT/ACO
		<input checked="" type="checkbox"/> Patient Transport
		<input checked="" type="checkbox"/> ARV
Document no.	CWI/OPS/184	Stored: Content Manager CWI/OPS/184
Version:	5.0	Review: <input type="checkbox"/> Annual <input checked="" type="checkbox"/> 3-Yearly
Division	Quality and Patient Experience	
Responsible Executive	Executive Director, Quality and Patient Experience	
Responsible Manager	National Standard Accreditation Lead	
Review date	By 27 March 2023 , or as required for accuracy.	
Relevant National Safety and Quality Health Service Standards	To be completed by the National Standards Accreditation Lead:	
	<input type="checkbox"/> 1. Clinical governance	<input type="checkbox"/> 5. Comprehensive care
	<input type="checkbox"/> 2. Partnering with consumers	<input type="checkbox"/> 6. Communicating for safety
	<input checked="" type="checkbox"/> 3. Healthcare-associated infection	<input type="checkbox"/> 7. Blood management
	<input type="checkbox"/> 4. Medication safety	<input type="checkbox"/> 8. Recognising and responding to acute deterioration
	<input type="checkbox"/> NSQHS standards are NOT applicable	
Material related documents	The following documents are material to this clinical work instruction:	
	<ul style="list-style-type: none"> Australian Commission on Safety and Quality in Healthcare, 2019. Australian Guidelines for the Prevention and Control of Infection in Healthcare National Critical Care and Trauma Response Centre, Safe Use of Personal Protective Equipment Donning and Doffing Information 	



Version control and change history

Version	Date approved	Date superseded	Amendment
1.0	27 March 2020	April 2020	New Clinical Work Instruction
2.0	17 April 2020	August 2020	Inclusion of environment as consideration in dynamic risk assessment. Addition of steps related to tyvek suit doffing.
3.0	6 August 2020	March 2020	Addition of face shield with inclusion of indications and donning/doffing instructions.
4.0	24 March 2021	18 January 2022	Inclusion of medical and nursing scopes of practice and addition of notes re: clean shaven.
5.0	18 January 2022	Current	Adjustment to equipment required table and associated sections of the CWI to align with the Australian Guidelines for the Prevention and Control of Infection in Healthcare. Removal of direct references to COVID-19 PPE requirements, aerosol generating behaviours and procedures.