

New Zealand Vancomycin resistant Enterococci (VRE) infection prevention and control guidelines

Updates 24/4/24

- Update to ARC section with greater information.
- Link to national MDRO screening tool added to screening section.

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About this document

This guidance document has been developed by the VRE Infection Prevention and Control Technical Advisory Group using international guidance and resources to enable healthcare facilities develop their own policies and procedures based on their environment when providing patient care.

This is a living document and as such updates and changes may occur as new information becomes available.

1. Introduction

1.1 Vancomycin resistant Enterococci (VRE)

Enterococci are bacteria that usually live harmlessly in the gastrointestinal tract and female genital tract. Some strains may acquire genes that cause resistance to vancomycin, an antibiotic used in serious infections due to Enterococci. Most people with VRE are colonised and infections only develop in around 10% of people with VRE. Infections are more likely in people with immune compromise (critically ill patients or cancer patients), those receiving broad-spectrum antibiotics, those with indwelling catheters or central lines and those on haemodialysis. VRE may be shed into

the environment from the gastrointestinal tract. It is able to survive for weeks or months in the environment.

1.2 Current situation

Vancomycin resistant Enterococci are non-endemic in New Zealand hospitals but there are sporadic cases and clusters reported each year. Outbreaks have occurred in NZ hospitals over the past several decades, but all have been contained so far.

These guidelines have been developed as part of a response to a recent localised rise in cases. The VRE Technical Advisory Group recommends all hospitals in NZ to be alert and have measures ready to be implemented if cases are detected.

1.3 Core principles of VRE containment

- VRE is non-endemic in our hospitals. Detection of one case of VRE should result in appropriate and timely containment response.
- Rapid detection and isolation of VRE patients and contacts is an essential strategy in successful containment.
- Detection of a VRE case should trigger screening of all contact patients according to a strategy of concentric circles.
- Core measures should be in place in all healthcare facilities.
- In those healthcare facilities with VRE clusters or outbreak, variable measures may be introduced depending on the local risk assessment and resources.
- A person's VRE status should never interfere with the provision of appropriate, high quality care. No one should be refused admission or access to care in a community or hospital setting solely due to being colonised or infected with VRE.

1.4 Two level approach:

- Core measures should be employed across all healthcare facilities. These core measures aim to minimise the transmission of MDRO.
- Extended measures/variable measures: those that are employed in response to a specific event.

1.5 Target groups for these recommendations

- Infection prevention teams, clinical staff, operational leadership of acute healthcare facilities.
- Clinical staff and managers of Aged and Residential care facilities.
- For clinicians and staff working in other community-based health care settings we recommend reinforcement of standard precautions for all patient care interactions.

1.6 Related standards:

- NZS 8134.3:2021– Ngā Paerewa Health and disability service standard.
- NZS 4304:2002 – Management of Healthcare Waste
- AS/NZS 4146:2000 – Laundry practice

2. Modes of transmission

Transmission from patient to patient usually occurs by:

- Direct contact with contaminated hands of health care personnel or colonised patients

- Indirect contact with contaminated surfaces around the patient (especially bed surfaces, door handles, call bells and patient toilet) or contaminated medical and patient care equipment.

Both modes of transmission can be interrupted by effective hand hygiene and environmental cleaning.

2.1 Risk factors for carriage of VRE

- Severe co-morbidities (e.g. renal patients on haemodialysis, solid organ or bone marrow transplant patients)
- Recent hospitalisation
- Prolonged hospital stay.
- Admission to ICU
- Indwelling medical devices
- Treatment with broad spectrum antibiotics or vancomycin

2.2 Patient factors increasing risk of transmission of VRE

- Presence of discharging wounds that cannot be contained by a dressing.
- Presence of a stoma
- Diarrhoea or uncontained faecal incontinence.
- Poor compliance with, or inability to manage own personal hygiene.

2.3 Risk factors for VRE infection in healthcare settings

- Transplant patients
- Severely neutropenic patients
- Patients on ICU, PICU or NICU
- Patients with indwelling medical devices

3. Definitions

- **Vancomycin resistant Enterococci:** Usually strains of *E. faecalis* or *E. faecium* which have acquired genes that cause resistance to vancomycin, an antibiotic used to treat serious enterococcal infections. This is a form of transmissible resistance. It is not yet endemic in NZ.
- **VRE colonisation:** VRE identified on screening sample in the absence of symptoms or signs of infection. Colonisation is usually around 10-fold more common than infection.
- **VRE infection:** VRE identified in a culture from a clinical sample taken from patient with signs or symptoms of infection.
- **VRE confirmed case:** Patient with positive VRE culture (clinical or screening sample). A VRE case may have colonisation or infection. A VRE case will remain a case (“active”) until requirements for de-classification have been met, after at least one year from initial identification.
- **Possible case:** molecular detection of Van gene pending culture confirmation.
- **VRE contact:** Patient who has shared room/toilet facilities for ≥ 24 hours.
- **Possible VRE contact:** a patient admitted to a hospital in New Zealand with a known VRE outbreak or patient who has been in an overseas hospital or received treatment in a renal or oncology unit within the last year (other MDRO screening will apply also).
- **Outbreak:** A single case with no known clinical or molecular epidemiological link to a transmission area (within NZ or overseas). The response may be further refined at a facility level based when further clinical information or molecular typing information available.

4. All healthcare facilities (irrespective of recent VRE cases/clusters/outbreaks): Core measures

4.1 Clinical governance and quality improvement systems

- Ensure healthcare facility policies and procedures on multidrug resistant organism (MDRO) screening, transmission based precautions, environmental cleaning and surveillance are reviewed regularly and are fit for purpose.
- Ensure there is timely access to expert advice and escalation pathways are clear.
- Ensure there is appropriate facility level monitoring of MDRO including VRE to be able to detect VRE clusters in timely manner.
- Ensure all relevant clinical staff have education on their role in risk assessment, screening, and communication of VRE (and other MDRO) status to ensure appropriate care is facilitated.
- Ensure processes operating to place national alert on patients identified as colonised/infected with VRE, or who are VRE contacts requiring further screening.

4.2 Standard precautions

[Standard precautions](#), including hand hygiene, are essential measures to prevent transmission of infections in healthcare facilities. Standard precautions include hand hygiene, patient placement, use of personal protective equipment based on risk assessment, environmental cleaning, aseptic technique, handling and disposal of sharps, cleaning/reprocessing of reusable equipment, waste management and linen management. Of these, hand hygiene and environment cleaning (including of equipment) are critical in preventing VRE transmission.

- Ensure standard precautions, particularly hand hygiene and environmental cleaning, are practiced well and consistently.
- Monitor quality of cleaning and of hand hygiene regularly with feedback to staff and appropriate governance group(s).

Transmission based precautions should be used in addition to Standard precautions for patients who may be infected or colonised with infectious pathogens, specifically to prevent transmission of infections. In cases of VRE;

- Gloves and plastic aprons should be worn when in direct contact with patients or patient's immediate environment.
- Ensure adequate supplies of PPE are available outside of patient room and good adherence to donning and doffing including waste management and adherence to hand hygiene.

4.3 Antimicrobial stewardship

Antibiotic overuse and misuse is a driver for antimicrobial resistance and high use of broadspectrum antibiotics including vancomycin, carbapenems, cephalosporins and ciprofloxacin have been implicated as impediments to controlling VRE outbreaks.

- Ensure antimicrobial stewardship processes in place proportionate to the needs of the healthcare facility.

5. Healthcare facilities with no recent VRE cases or admitting a known VRE case:

5.1 Screening

As a minimum, perform VRE screening on any patient transferred from a healthcare facility with recent/current outbreak/cluster or who have been admitted there within preceding 12 months (as well as screening for other MDRO as appropriate).

Some facilities may prefer to screen all patients with admission in the preceding 12 months to any hospital out of district (e.g. another NZ district or an overseas hospital). This includes patients receiving haemodialysis in another district or overseas.

Further information available in Appendix 1.

5.2 VRE case management

If VRE identified from screening or from a clinical sample, or if admitting patient with known colonisation or infection with VRE, the following measures are recommended:

- **Patient alert:** national alert linked to NHI should be placed on electronic medical record/patient management system for all patients colonised/infected with VRE. Communication between transferring/receiving teams should occur at admission/discharge/transfer.
- **Room placement:** single room with own toilet facilities is recommended.
 - A dedicated commode can be used for the duration of the patients hospital stay if no en-suite toilet. Commode to be kept in patients room.
 - Toilet facilities must not be shared with any patient who does not have VRE.
 - if no single rooms available cohort with another patient with VRE is acceptable.
 - Cohorting with patients with other MDROs (especially MRSA) is not acceptable.
 - If single rooms are limited prioritise those patients who have risk factors for transmission e.g. diarrhoea or uncontained faecal continence, urinary incontinence, discharging wounds that cannot be contained by a dressing.
- **Contact precautions:**
 - Use of gloves and apron/gown on entry to room.
 - Contact precautions to be used during the duration of the admission in patients with VRE colonisation or infection.
- **Patient movement:** Limit patient movement/transfers between rooms/services to only those which are clinically necessary.
- **Patient hand hygiene:** Patients to be reminded and or supported to perform hand hygiene (use of alcohol impregnated towelettes on dinner tray, provision of alcohol hand gel for patients assessed as low risk/cognitively competent) at key times including; after using toilet, before eating and before leaving room.
- **Patient care equipment:**
 - Use disposable or patient dedicated equipment.
 - Dispose of single use items as clinical waste.
 - In situations where equipment must be shared a process should be in place to ensure appropriate cleaning and disinfection has occurred before use on another patient.

- remove non-essential items from the room.
- **Enhanced environmental cleaning for patient room:**
 - Increase frequency of cleaning especially high touch areas (call bell, bed rails, door handles, light switches and commodes) and bathrooms. Cleaning order should be top to bottom, and clean to dirty.
 - Products used for cleaning and disinfection should be approved for use against VRE and be a hospital grade product. Processes should ensure adequate dwell/contact time.
 - Detergent physical cleans should always occur before chemical disinfection (2-step process); use of a 2 in 1 detergent/disinfectant product may be used provided physical/mechanical cleaning is still performed.
 - At transfer/discharge from room, terminal clean of room should be undertaken before use by another patient.
- **Waste management:** manage according to local processes for infectious waste.
- **Linen management:** manage according to local processes for infectious linen.
- **Contact tracing:** If VRE identified in patient during admission, screening of room contacts should be performed. This requires
 - two rectal swabs/faeces samples taken at day 0 and 7. Where possible, contacts should be placed in pre-emptive contact precautions while waiting for results of all samples.
 - For patient's discharged before day 7, ensure processes operating to place national alert on patients identified as colonised/infected with VRE, or who are VRE contacts requiring further screening.

6. Healthcare facilities with recent or ongoing VRE outbreak/cluster

In addition to core measures (outlined in sections 4 and 5), healthcare facilities managing VRE cluster/outbreak may implement the following measures depending on local situation.

6.1 Additional Core measures

- **Formation of an Outbreak Management Team:** Where available, this should include infection specialists (Infection preventionist, clinical microbiologist and/or infectious diseases physician) hospital executive representative, nurse leadership, communications lead, housekeeping/cleaning and may also include data analyst/expert, laboratory representative, logistics/procurement representative. Aim is to assess situation and enable timely, appropriate decision making on interventions and resource allocation for containment of outbreak.
- **Communication/ information sharing:**
 - Inform clinical staff and management according to local outbreak and communication protocols.
 - Inform involved patients and their whanau (patient information leaflets).
- **Promote standard precautions:** enhance further actions to maintain high adherence with Standard Precautions (especially hand hygiene, environmental cleaning) in all parts of the hospital.
- **Implementation of transmission based precautions/room placement:** Place VRE cases under contact precautions. Implement cohorting if needed.
 - Place VRE contacts under pre-emptive contact precautions. Do not cohort with confirmed VRE cases while contact undergoing screening. May be cohorted with other VRE contacts.
 - Avoid sharing of toilet facilities with any other patients.

- If not already, consider using disposable antimicrobial curtains.
- **Systematic screening:** consider implementation of systematic screening in high risk areas or more broadly during outbreak e.g. screen all patients on same hospital ward at the beginning of an outbreak or on wards with ongoing VRE transmissions (weekly or at admission and discharge).
- **Enhanced environmental cleaning:** arrange educational meeting with cleaning staff and supervisors. Consider use of observational audit and review of quality measures for cleaning. Review resourcing for cleaning team. Consider use of cleaning champions.
- **Patient skin contamination**
 - Consideration of use of Chlorhexidine-saturated (CHG) wipes to reduce VRE contamination of patients skin¹ (who have no known allergies for CHG) in high risk wards and units such as ICU.

6.2 Variable measures

Implement enhanced measures depending on size of outbreak and available resources:

- **Patient placement/cohorting:** if larger numbers of patients affected or cases concentrated to one area, organise outbreak response zones. Arrange 3 dedicated zones ([Traffic light system](#)), preferably with dedicated staff ('cohorting') for each zone, if resources allow:
 - VRE/Red zone: accommodate VRE cases.
 - Contact/Orange zone: accommodate contact patients without a complete set of negative screening results.
 - Clear/Green zone: patients who were not contacts or who have tested negative.
- Allied health and visiting clinical teams are asked to group their patient activities to avoid multiple entries in to the VRE/Red zone.
- **AMS interventions:** restriction of vancomycin, cephalosporins, ciprofloxacin.
- **Environmental cleaning:**
 - Perform review/audit of patient furniture and room equipment including; chairs, mattresses, room furniture, call bell. Remove/replace furniture or equipment which is cracked/damaged. Remove fabric chairs and replace with chairs with vinyl or other wipeable surface.
 - Perform deep cleaning of staff zones and shared patient zones in affected wards/units, including clean utility, dirty utility, storage rooms, staff stations, patient lounge/whanau rooms, staff break rooms.
 - In addition to manual cleaning, consider implementation of non-touch technologies such as hydrogen peroxide vapour or UV-C light for terminal/deep cleaning. Note, these technologies can only be used in rooms without people present in room and must be used by trained staff.
- **Enhanced systematic screening:**
 - Enhanced screening of at risk populations may be required. Consider regular screening at admission and discharge from high risk units: cancer ward, ICU, NICU, dialysis unit. This should be determined by the Outbreak Management Team or equivalent eg IPC team.
 - Consider one off or regular screening of whole wards or whole hospital to determine unit/facility-level prevalence. This is particularly helpful if VRE identified in clinical

specimen(s) from a patient outside of affected area because this indicates high likelihood of undetected cases.

- Prevalence or surveillance screening may be indicated when VRE cases are genomically, but not epidemiologically linked, and contact tracing alone is not controlling the outbreak.
- **Staff screening:** is not recommended as part of outbreak response. Adherence to standard precautions is sufficient for safe staff practice.
- **Transferring patients to other healthcare facility:** introduce pre-transfer screening of patients discharging from healthcare facility with VRE outbreak to another hospital or to an ARC facility. Ensure communication of VRE (or screening) status to receiving facility.

7. Visitor policy

Visiting patients with VRE should be in accordance with local policy, and at a minimum should include:

- All visitors should inform staff prior to entering room
- Where able, limit visitor numbers in room.
- Visitors should be advised not to visit multiple other hospital patients
- Visitors should perform hand hygiene with alcohol-based hand rub on room entry and exit
- Visitors should not use patient bathrooms
- Visitors should not eat and drink in patient room
- There is no requirement to screen visitors for VRE.

8. VRE clearance/removal of alert

People may remain colonised with VRE for long periods, in many cases months or years. There is no decolonisation treatment available. It is essential that the Infection prevention staff are involved in decisions regarding clearance and removal of a VRE alert. Healthcare facilities should follow local policies. In the absence of these, the following procedure is a reasonable approach to clearance and discontinuation of contact precautions:

- Any infection caused by VRE must have resolved
- More than 12 months have elapsed since the last positive specimen
- Three consecutive VRE negative rectal swabs/faecal samples taken at least one week apart

9. Management of VRE patients within healthcare settings:

9.1 Haemodialysis unit

- Follow local processes for managing patient with MDRO.
- Ideally dialyse in separate room/area; if not possible, dialyse in station at end of unit away from others
- Staff to follow standard precautions.
 - PPE should be used, (gloves, apron) for tasks as per standard precautions (e.g. close physical contact, exposure to blood/body fluids)
- Wipe all surfaces contacted by patient including patient care equipment with suitable detergent/disinfectant product prior to use by another patient or staff member.

9.2 Diagnostic imaging/procedures

- Procedures/imaging should be performed as necessary for patient care but minimise to those procedures necessary for clinical decision making and care provision.

- Standard precautions including hand hygiene must be practiced by all staff in attendance.
 - PPE should be used (gloves, apron) for tasks as per standard precautions (e.g. close physical contact)
- Patients may sit in waiting area provided all discharging wounds are covered and patient is continent. Minimise wait times where possible.
- No need to book patients last on list.
- Wipe all surfaces contacted by patient including patient care equipment with suitable detergent/disinfectant product prior to use by another patient or staff member.

9.3 Theatre

- No need to book patients last on list due to high standard of cleaning between patients.
- Bed linen should be changed as close as practical to scheduled procedure time.
- Patient should bathe and change into theatre gown as close as practical to scheduled procedure time.
- Usual practices within theatre environment will prevent spread of VRE provided they are followed well.
- Ideal to minimise number of staff in theatre and to reduce number of staff in direct contact with patient and surroundings
- Decontaminate electronic equipment with large alcohol wipe or disinfect according to manufacturer's instructions. Change bacterial/viral filter on single use anaesthetic circuits between each patient
- No special requirements for management of waste, linen and instruments used in theatre environment. Follow usual protocols.
- Usual cleaning processes for cleaning theatres between procedures are sufficient to prevent transmission
- When patient discharged from perioperative area, all surfaces and patient care equipment in the patient zone should be cleaned with an appropriate detergent/disinfectant product.

9.4 Outpatient clinics

- Standard precautions including hand hygiene must be practiced by all staff in attendance
 - PPE should be added (gloves, apron) for tasks as per standard precautions (e.g. complex wound care, assistance with enterostomies, assistance with toileting)
- There is no need to book patients last in clinic
- Patients may sit in the waiting area providing all discharging wounds are covered with clean dressing and patient is continent and able to perform hand hygiene before entry to clinic room
- Wipe all surfaces contacted by patient including patient care equipment with suitable detergent/disinfectant product, prior to use by another patient or staff member

9.5 Hospital Therapy rooms

- Follow local processes for managing patient with MDRO
- No requirement for patient to be last on list
- Standard precautions including hand hygiene must be practiced by all staff in attendance
 - PPE should be added (gloves, apron) for tasks as per standard precautions (e.g. close physical contact)
- Patients may sit in waiting area provided all discharging wounds are covered and patient is continent.
- Patients to be provided means to sanitise hands before entry into therapy room.

- Wipe all surfaces contacted by patient including patient care equipment with suitable detergent/disinfectant product prior to use by another patient or staff member.

9.6 Patient transfer services (ambulance/aeromedical transfers)

- Where possible dedicated transport should be provided; where not possible, shared transport is acceptable provided all discharging wounds are covered and patient is not incontinent.
- Standard precautions including hand hygiene should be practiced by all staff.
 - PPE only required if close physical contact with exposure to body fluids is anticipated during patient transfer.
- Frequently touched surfaces in the transport vehicle should be thoroughly cleaned with an appropriate detergent/disinfectant product after transporting patient and before vehicle is used for any other transfers.

10. Patient discharge information

- Patients with VRE colonisation or infection should be provided with information on what this means for them and their family. Key principles include:
 - No change to their usual activities required (including visiting others, going out of their residence, or having visitors)
 - Maintain good personal hygiene – wash and dry hands after using the toilet or touching a wound or urinary catheter or stoma bag (if applicable) and before preparing food.
 - Advise other healthcare providers that you were positive for VRE (notifications can sometimes take time to advise other healthcare providers such as primary care)
 - Contact healthcare provider if any wounds become red, swollen or inflamed
- Information should be in an easy to read format and available in different languages.

11. Management of deceased patients

Standard precautions should be followed including the appropriate PPE. A body bag is not indicated.

Appendix 1: Interim screening recommendations

All acute healthcare facilities should have a policy for screening for MDROs including VRE that is appropriate to their environment and the situation. This could include the need to set up a local or regional IMT. This policy should reference the minimum screening guidance for MDROs linked [here](#).

As a minimum, present recommendations include focus on higher risk situations and areas:

- If VRE has not been identified at your facility, recommend admission screening on patients who have been hospitalised or received haemodialysis in a centre within a transmission risk area within the preceding 12 months (within NZ or overseas).
- Risk assessment and contact tracing should be initiated if a patient is identified with VRE who has not been isolated, and the patient has shared a room or bathroom with others.
- A local or regional outbreak committee should be set up to manage VRE clusters. Additional strategies including regular screening of patients in high risk units may be instituted.
- Admission screening on patients being admitted to ARC, ICU, transplant, haematology or renal unit or any other higher risk units as identified by local IPC service may also be indicated when transmission links are unknown.
- Regular screening of patients receiving on-going medical treatments or interventions or who remain in wards or units identified as a high risk area or patient.

Screening and testing enable early possible identification of cases and decreases the risk of cross transmission to other susceptible patients.

Routine screening of healthcare staff is not recommended.

People who have had an infection or are colonised with VRE are considered to be colonised indefinitely at this time and must always remain in contact precautions for all hospital admissions.

Appendix 2: Detailed recommendations on cleaning

VRE can persist in the environment on surfaces for several months. Increasing daily regular cleaning schedules within the healthcare environment and for patient shared equipment is critical to prevent on-going transmission.

- Increase frequency of cleaning and ensure daily cleaning occurs focusing on High touch / used areas and items such as toilets, commodes and items within the patient space.
- Physical cleaning is the first most important step that needs to be undertaken in the cleaning process. Disinfecting before cleaning is not recommended.
- Dedicated cleaning staff/crews with nominated supervisors to ensure that cleaning is done to a high standard and use of audits targeting high risk areas, wards and units is of benefit.
- Staff education to inform on the persistence of VRE within healthcare environments including the importance of hand hygiene, PPE requirements and recommended cleaning and disinfection products.
- Cleaning schedules and audits of areas should be readily available focussing on high touch surfaces such as light switches, patient call bell, toilet flusher, faucets (taps), bedside table and locker. Rooms should be cleaned last in ward settings.
- Floor cleaning- mop heads should be changed and bucket cleaned after floor cleaning in patient's room/cohort bay completed.

Process for cleaning

Cleaning with detergent and water needs to be done before disinfection chemicals are applied to remove any gross soiling. Cleaning should progress from high surfaces to low surfaces and from least soiled to most soiled.

For ease and efficiency, a one -step approach using products that contain both a detergent and disinfection component (2 in 1)) and is certified as effective against VRE can be used.

Chemicals effective against VRE

Hydrogen peroxide (impregnated wipes) can be used for effective decontamination of VRE from patient contact surfaces.

Sodium Hypochlorite (1000ppm) available chlorine is suitable for use but care and caution must be taken to ensure manufacturer's instructions for cleaning and compatibility. For ease and safety ready diluted products could be sought to ensure the correct dilution is achieved. All products containing hypochlorite should be used within 24 hours due to deterioration of chemical and efficacy.

The CDC have a comprehensive [list](#) of registered chemicals and products against selected EPA-Registered Disinfectants including [VRE](#).

Note: this list is not New Zealand based however may provide some guidance for suitable products available in New Zealand through IPC services and procurement. As with all cleaning products adherence to the manufacturer's guidance on use, dwell time and personal protective equipment must be adhered to.

Safety – Staff undertaking all levels of cleaning (daily, enhanced and terminal cleans) should understand all safety aspects of use and storage of the chemicals they are using and ensure that any additional PPE is worn to that of contact precautions, as recommended by the manufacturer.

Discharge cleaning

On discharge of patient, a terminal clean should be undertaken as per local hospital IPC guidelines including;

- all horizontal surfaces
- all patient care equipment
- all items that may have come into contact with the patient or staff hands
- the walls.

Privacy curtains should be changed and laundered if they are not disposable. Consideration should be given to discarding less expensive items that are difficult to decontaminate.

Non-touch technologies

Facilities that use non-touch disinfecting equipment (electro-static, hydrogen peroxide vaporisation or UV) can be used after the initial cleaning with a detergent solution has been performed.

Dispose of any unused items (eg wound dressing packs, boxes of tissues, unopened non-perishable food items).

Ambulance/patient transport vehicles

Key points

- Perform hand hygiene and don disposable gloves and any other appropriate PPE.
- Place any used linens/blankets as per policy.
- Clean all vertical and horizontal surfaces working from the top to bottom and clean to dirty.
- Wipe all external surfaces.
- Dispose of all used PPE cleaning materials safely and appropriately and as per waste policy.
- Perform hand hygiene.

Refer to own cleaning policy for full instruction for after every patient and contact precautions cleaning.

Waste management

- Infectious clinical and controlled waste should be disposed as per NZS 4304:2002 or alternative acceptable standard (ISO,145001)
- Ensure regular emptying of waste to avoid over-filled bins.

Linen and laundry

Linen should be handled as per local hospital IPC guidance and in accordance with AS/NZS 4146:2000

Privacy curtains should be changed and laundered if they are not disposable. Consideration should be given to discarding less expensive items that are difficult to decontaminate.

Appendix 3: Management of a resident with VRE in Aged and Residential Care Facilities

Introduction

Aged and residential care facilities (ARCs) are understood to be the home of their residents. This is different than the role of acute care hospitals.

The implementation of Infection Prevention and Control (IPC) precautions at a level required in the hospital setting may have adverse psychological consequences for the aged and residential care resident. When a patient with VRE is in an acute care hospital they are managed in single rooms and or co-horted; however, in an ARC there is a need to balance the health and wellbeing needs of individuals and their community when considering IPC measures.

A resident with VRE colonisation or infection should have the risk of transmission to others regularly reviewed by IPC, and the least restrictive approaches applied to mitigate any ongoing risk.

General measures to prevent the transmission of VRE

The spread of VRE primarily occurs through the faecal oral route from contaminated hands, medical and patient care equipment and the facility environment. The measures to prevent and control transmission should be focused on these transmission pathways, therefore environmental cleaning and hand hygiene are an important focus. Hand hygiene of the resident is also critical to break the chain of transmission.

Education should be provided to staff, residents and whanau of the importance of IPC and the prevention of VRE transmission.

Standard Precautions

To help prevent the spread of VRE there are basic IPC precautions that staff should be used for all residents, called Standard Precautions. Refer Te Whatu Ora IPC website for all elements of [Standard Precautions](#) not mentioned below.

Hand hygiene

Emphasis should be placed on the importance of hand hygiene for staff, residents and visitors.

- **Staff** should perform hand hygiene before and after providing care for residents, particularly after toileting residents, contact with colonised/infected wounds/sites or contact with devices (for example, urinary catheter). The use of gloves does not remove the need for appropriate hand hygiene. Continuous glove use is not recommended.
- **Residents** should perform hand hygiene after toileting, before eating, prior to communal activities and when leaving their room. Staff should assist residents who are unable to perform hand hygiene by themselves due to physical, cognitive or other impairments. Hand hygiene with alcohol-based hand sanitiser is sufficient, although hand washing with soap and water is preferred after toileting or if hands are soiled.
- **Visitors** should perform hand hygiene before and after visiting any resident.
- Placement and type of hand hygiene products is important to support the above safe practices.

Personal Protective Equipment (PPE)

PPE is required when performing tasks that involve exposure to body fluids.

- Wear gloves and apron or gown when assisting with toileting, managing complex wounds, managing enterostomies or other high contact resident care activities when exposure to body fluids is likely. Remove the PPE immediately after the activity has finished and perform hand hygiene, so as not to contaminate the environment with soiled gloves.
- Consider monitoring glove use as it can often be the case when they are overused and inhibit effective hand hygiene.

Cleaning of the Environment and Resident Care Equipment

Ensuring adequate environmental cleaning is essential to prevent the spread of VRE.

- Use a detergent/disinfectant product appropriate for use against VRE.
- All staff should be trained and understand their role and responsibilities for cleaning the environment, equipment and furniture. During outbreaks ensure refresher education is provided for hand hygiene, PPE and cleaning.
- In addition to normal daily cleaning, clean high touch areas frequently especially in a shared room and bathroom (including commode and or toilet), in communal areas and after group activities. Ensure these cleans are evaluated.
- Shared bathrooms should be cleaned after use, (ie. wipe the toilet seat, handrail if used, hand basin taps with a detergent/disinfectant product).
- If a commode, hoist sling or other equipment and furniture is required, this should be dedicated to the resident. If this is not possible then it must be thoroughly cleaned before being used on a different resident. Where possible steps should be taken to obtain dedicated equipment.
- Shared equipment and furniture should not be cracked or broken and have a cleanable surface.
- Emptying and cleaning of commodes promotes risk of environmental contamination. The facility should have a procedure to reduce this risk which includes staff education.
- Checklists could be used for cleaning both of areas and equipment to help promote the rigour approach necessary to contain VRE, including allocation of duties.

Resident Room Placement

Residents with VRE should be placed in a single room with an ensuite.

When a single room with an ensuite is not available or sharing a room is unavoidable following a risk assessment consider alternative ways to reduce the risk of transmission, for example,

- Highest priority given to residents who have conditions that may increase the risk of transmission of VRE, for example, faecal incontinence.
- Single room with dedicated bathroom facilities in shared bathroom area, if this is not possible then the bathroom must be cleaned immediately after its use.
- If single room is not possible cohort residents with the same strain of VRE in the same room.
- If cohorting is not possible place in room with resident considered to be low risk (ie. not immunocompromised, without open wounds, drains or indwelling medical devices)
- When sharing a room is required consider the resident with VRE has dedicated bathroom. The bathroom should be cleaned after use or a dedicated commode can be used, with controls in place for emptying and cleaning that avoids environmental contamination.
- If environmental cleaning wipes are used these must not be disposed of in the toilet as this causes blocked drains.

Participation in group activities and attending communal areas when colonised with VRE

It is important to maintain a resident's ability to socialise and have access to rehabilitation opportunities. Residents with VRE can continue to participate in group activities unless they are unwell (for example, diarrhoea).

- Any oozing wounds should be covered with a dressing that contains the wound ooze.
- Residents with faecal incontinence can participate in group activities provided they have appropriate continence products in situ.
- The resident should perform hand hygiene prior to participation in a group session. Staff may need to assist residents with their hand hygiene.
- If using equipment as part of a group session, clean and disinfect equipment after use.
- Avoid use of toilets outside of their room or their dedicated bathroom. Residents should be toileted in their own toilet to minimise potential contamination outside their room. If the toileting of a resident does need to occur outside their own room the toilet or commode must be cleaned after its use.
- Residents can attend a shared dining area and use regular dishes and cutlery. Dishes and cutlery used by residents with VRE do not need to be separated but should be cleaned in the dishwasher.

Contact Precautions

Residents that are colonised can be cared for with Standard precautions and are not restricted to their rooms or limited from participation in group activities.

However, residents with VRE may require Contact Precautions:

- while an infection with VRE is being managed,
- if uncontained faecal incontinence, enterostomies or diarrhoea,
- large draining wounds which are unable to be contained within dressings,
- during an outbreak as directed by IPC team.

The decision to isolate a resident should take into account the infection risks to other residents, the presence of risk factors that increase the likelihood of transmission and the psychological effects of isolation on the resident. Contact precautions are intended to be time limited and when implemented include a plan for discontinuation.

Refer to Te Whatu Ora IPC website [Contact Precautions](#) for further information

VRE Screening

VRE screening at admission is not routinely required into ARC. It may be required when receiving a resident from a healthcare facility with a VRE cluster or outbreak that has not been completed prior to transfer. Contact the IPC team at the transferring facility.

Screening of contacts within an ARC facility is not required unless it is part of an outbreak response.

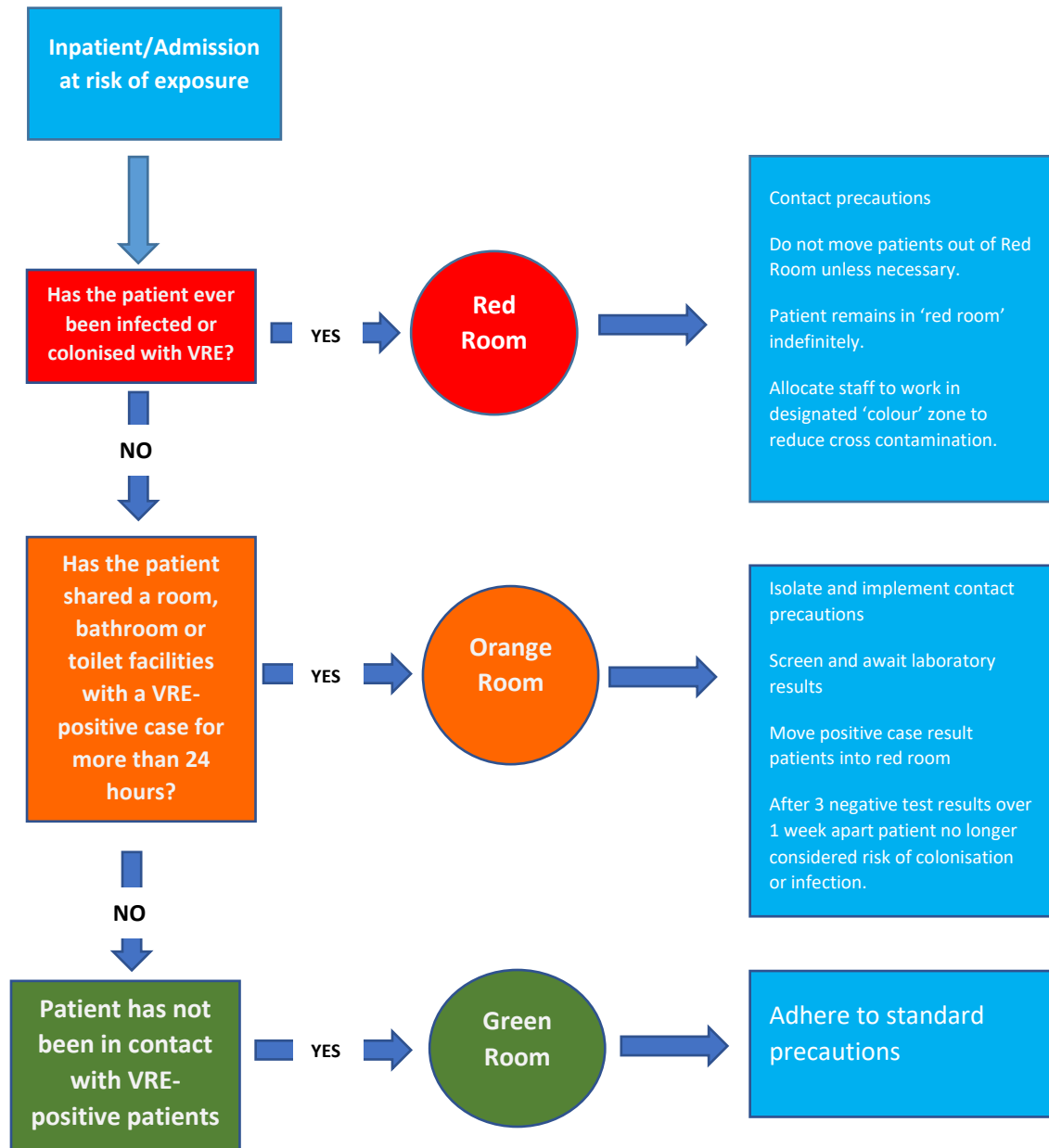
Screening of staff is not required.

Further advice about the management of residents with VRE can be sought from your local district hospital IPC team, who have an understanding of ARC placement.



Appendix 4 Traffic Light System

The following information for staff shows an example of how to operate a “traffic light system” for cohorting patients



Appendix 5

Example of flow diagram for outbreak response

