Safer Spaces

Ligature Risk Zoning and Product Performance Requirements

Health New Zealand
Te Whatu Ora

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1. Introduction

1.1. Background

Aotearoa New Zealand's reformed health system, Health New Zealand – Te Whatu Ora, is beginning to action the significant infrastructure plans for mental health inpatient facilities. It is critical to recognise and understand the importance of environments that promote health, wellbeing and recovery, as well as being safe.

This guide focuses on improving and supporting environmental safety, through the built environment

1.1.1. Prevention is key

Suicide is a serious health concern for New Zealand and prevention is a top priority. Every Life matters – He Tapu te Oranga o ia tangata - Suicide Prevention Strategy 2019-2029[1], identifies 'access to means' as one of the factors which may increase the likelihood of suicide.

Environments that are safer, trauma informed and culturally appropriate may decrease risk.[2] however this must be accompanied by using environmental safeguards and reducing access to a means of self-harm.[3]

Increasingly, prevention efforts are focussed on increasing the time from having suicidal thoughts to acting on those thoughts. Using the approach of identifying the ligature points and removing as much as possible can influence the outcome and may reduce suicide.[4]

In inpatient mental health units, the removal of potential ligature[5] points, as a means, is highly desirable to reduce this risk. A ligature point is any fixture or fitting which is load bearing either entirely or partially that can be used to tie or secure a cord, sheet or other tethers that can then be used as a means of self-harm, self-strangulation and in extreme circumstances result in death by suicide.

Literature on inpatient suicide prevention indicates that the approach to the reduction of suicide must be multifaceted[6]. A safe care environment should consider the built environment, organisational culture and policies, patient evaluation and engagement, staff resources and training, emergency management, and error prevention.[7] Emphasis on risk assessment and therapeutic alliance on its own is not enough to prevent the risks of inpatient suicide.

Nationally and internationally, there is a focus on creating environmentally safer inpatient units through the installation of safety fixtures and fittings (also known as anti-ligature fittings). Anti-ligature fittings refer to any fitting that is designed in such a way as to either prevent a ligature from being attached to it, or to collapse or breakaway under load. This does not remove all risk but supports risk reduction. Fixtures and fittings describe items (built in or fixed) in the built environment.

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[1] Ministry of Health 2016,2019
[2] Changem Ltd - He Arotkae nga tuaruru 2022
[3] Fortune,S & Hetrick,S 2022
[4] Sabrinkas, Hamilton et al 2022
[5] An item that is used to tie or bind something tightly so as to obscure blood flow or breathing.
[6] De Leo & Sveticic, 2010; Jayaram; 2014
[7] Phoenix 2013

1.2. Ligature risk zoning

Ligature risk zoning is a clinically led process and ensures operational staff have visibility and awareness of risks in a unit and unit functioning. It is essential to understand how spaces are used and accessed, to support risk reduction in the highest risk spaces.

Risk zoning cannot eliminate or reduce ligature risk on its own. Instead, it enables designers, facilities management, and clinical staff to visually recognise those areas which, by nature of their use, present the highest risk of self-harm.

Inpatient suicides most commonly occur in areas where tāngata whai ora [8]are alone and unsupervised – bedrooms, bathrooms, ensuites and toilets. International studies have found that most suicide attempts occur in private areas of the unit/ward (e.g., bedrooms, bathrooms, toilet rooms), while fewer attempts take place in public areas. [9]

A nationally standardised definition of zoning for ligature risk will enable consistent application and a common understanding of the requirements in each zone.

Incorporating safety into the design at an early stage and implementing it efficiently is the most successful way to improve outcomes for tāngata whai ora, reduce costs in managing risks to a project and for the life of the facility.

Risk zoning must form part of the design process or response to identified ligatures.

It is important to apply the risk zoning overlay early in the design process to ensure that the focus and investment in safety fixtures and fittings is in those areas that pose the highest risk of ligature. Using risk zoning to identify high risk areas can help with both planning of new build projects and when remedial maintenance or capital improvements occur.

Risk zoning must remain a focus in design and decision-making phases to ensure that the space remains consistent with the risk zoning definition. Risk zoning should be reviewed and updated whilst design is still occurring, ideally being finalised by the end of the Developed Design phase.

[8] Tāngata whai ora means ‘a person seeking health’ – acknowledgements to Professor Mason Durie. This term can also be used to refer to a person receiving assessment and treatment in mental health, addiction and intellectual disability services.
[9] Bayramzadeh, Bowers, Dack, Gul, Thomas, & James, 2011 as cited in Taylor and Zborowsky 2019

1.3. Ligature risk zoning definition

UNZONED	WHITE ZONE
Staff only areas where tāngata whai ora do not access. • staff offices, staff facilities, plant rooms, medication rooms.	
LOWER RISK	**GREEN ZONE**
Low level of isolation. Areas where access is controlled by staff and where tāngata whai ora are highly supervised and not left alone. • Interview rooms where staff are in constant attendance. • Group rooms. • Consult rooms. • Whānau/Family rooms when whānau/family are present.	
MEDIUM RISK	**AMBER ZONE**
Medium level of isolation. Areas with open access where tāngata whai ora may spend time with minimal supervision or alone, but observation is possible. • Common Lounge Areas, Day Rooms, TV rooms, • Dining rooms/areas. • Activity, recreation, gym and spiritual spaces where staff are not in constant attendance.	
HIGH RISK	**RED ZONE**
High level of isolation. Areas where tāngata whai ora may spend a lot of time alone, often unobserved. This will always include: • Bedrooms. • Bathrooms/Showers. • Toilets. • Ensuites.	
DESIGNATED SECLUSION ROOM	**BLUE ZONE**
High level of isolation / Staff in constant attendance Areas when tāngata whai ora are isolated and unable to leave.	

1.4. Expected fixtures and fittings inclusion by zone

1.4.1. Lower risk

Low risk spaces do not require anti ligature products. Operational process should be in place around access, security, and management of these spaces.

1.4.2. Medium risk

In medium risk areas it is critical to have operational processes to support safety and important to identify ligature points.

Medium risk spaces are often areas where ligature risk is inherent by items in and the use of the space. Examples are washing machine in a laundry, a sink waste in an activity room, equipment in a gym. It may not be possible to meet the functional requirements of the space and remove ligature risk.

The use of specialised anti ligature products throughout a unit would be unlikely to remove all ligature points, and in some areas could have a negative impact on the therapeutic, functionality or comfort of the area and as such are not required as default.

Design considerations should always support reducing ligature risk such as removal of ligature points, if appropriate; improving visibility into the space – through glazing, vision panels; and placement of these rooms or spaces- near circulation areas.

1.4.3. High risk

All fixtures and fittings in high-risk spaces must be products which meet the anti-ligature product performance requirements. This is the minimum expected standard for new builds for these areas.

Reducing ligature risk in these spaces should also include other design elements such as ceiling height, wall type and build, and robustness.

Refurbishments are often complicated by original design, and it may not be possible to remove or replace products with a ligature risk in a high-risk zone. Any residual risk should be discussed with the clinical team and options considered which may include covering the risk. This should be documented and managed as part of risk management and operational processes.

It is acknowledged that for some specific cohorts of consumers e.g. older people or people with mobility issues, there may be some competing challenges of managing co-occurring risks. As an example, falls risk against items that release under load e.g. ensuite doors. These should be assessed and managed on a by exception basis and require robust clinical and operational review before decisions are made. The AusHFG, 2024, states “Where an anti-ligature product that satisfies both criteria cannot be sourced and the installation of an anti-ligature product is assessed as likely to increase the risk of resident falls and associated adverse outcomes, the project team may select a non-anti-ligature product but should note this as a ligature risk within their risk register and ensure that the potential risk is regularly communicated to staff and is routinely monitored and assessed.”

1.4.4. Designated seclusion room

In a seclusion room, designated by the local Director of Area Mental Health Services (DAMHS) under S71B (2) (b) Mental Health (Compulsory Assessment and Treatment) Act 1992 robust and less complex anti-ligature fixtures and fittings are recommended due to the risk of damage. Fixtures and fittings selected must enable the room to provide a safe environment, supporting a person's dignity and comfort, without posing a risk to the person or staff.[10]

Reducing ligature risk in these spaces should also include other design elements such as ceiling height, wall type and build, and robustness.

Careful consideration should be given to the inclusion and placement of any fixtures and fittings, so that these do not support access to climbing or jumping i.e. shelf inclusion and placed next to basin or pose additional risks.

1.4.5. Other low stimulus, high care and de-escalation spaces.

There is mixed usage of terminology across New Zealand around spaces, which support de-escalation or restraint minimisation but are not designated seclusion rooms under the Mental Health Act.

Local teams must apply either the high risk or designated seclusion ligature risk zone rating to these areas based on the Model of Care and apply the guidance for that level.

[10] Ministry of Health, 2023

2. Product Performance Requirements

The product performance requirements (PPR's) are designed to support Health New Zealand staff (operational, facilities and procurement), design teams, manufacturers, and suppliers to understand:

- the minimal accepted, requirements for the particular type of fixture or fitting
- and general notes to support project teams in their product selections and installation.

Providing a therapeutic environment for tāngata whai ora, staff and visitors is integral to the provision of clinical care. Anti- ligature products should, as much as possible, whilst ensuring safety, contribute to a therapeutic environment and experience for tāngata whai ora which supports autonomy and choice.

Risk reduction is paramount in product selection. Once acceptable products have been selected teams should also consider designs that support a therapeutic environment, sustainability, maintenance and replaceability.

The PPR's do not include the standards, technical or building code requirements for all general products. These requirements are identified through usual design, procurement and facilities management processes and policies.

The focus is on products for high ligature risk rated areas and does not capture more general products that may be used in other parts of a mental health facility. It does not cover other consumables or furniture.

There is significant, continuing innovation in the development of safer fixtures and fittings. The PPR's are not intended to stymy innovation but provide minimum safety guidelines.

The PPR's should be read in conjunction with the Australasian Health Facility Guidelines (AusHFG) - Mental Health – Overarching Guideline - Health Planning Unit (HPU) and any New Zealand specific guidance.

The document has been compiled through the review of safety fixtures and fittings used in existing Mental Health infrastructure projects, review of products currently on the market and learnings from project teams across New Zealand.

Throughout the reader will see content defined within text boxes as below.

CAUTION NOTE: *These notes contain important information pertinent to the item or section for the design and project team and are intended to raise awareness of a risk and contribute to decision making.*

GENERAL NOTES: *These notes are also offered as shared learnings to inform the design and project team*

2.1. Minimum agreed standards

2.1.1. Break-away weight

Some fixtures and fittings are designed to break-away (flex or detach) under load. In New Zealand health facilities, fittings and fixtures of this type are required to break-away under strain at a suspension (partial or whole) weight of 8kg or less.

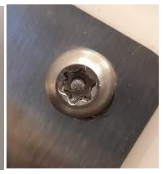
Standards vary internationally for items that break-away under load. The break-away weight noted in the AuSHFG is 15kgs. This weight is higher than other international approaches. The Office of Mental Health, New York has a documented break-away weight of 5.8 kg. Testing in the United Kingdom - Informed choices framework - tests the ligature categorisation down to a break-away weight of less than 3kg. From review of fixture and fitting lists, all propriety break-away products recently installed in New Zealand new mental health facilities, meet the 8kg or less weight.

2.1.2. Mesh

CAUTION NOTE: *Residual ligature risks exist with mesh and suitable risk management strategies should be in place.*

Where items are required to have a perforated or woven mesh (such as grilles, speaker plates, and bespoke items such as window screening), apertures no larger than 2.5mm should be used to reduce the risk of a ligature being able to be looped through the holes. In some studies perforation patterns with staggered centres of 3mm have been shown to reduce but not remove the risk. The specifier must carefully review these products to determine whether the inherent risk of perforated or woven products is appropriate for use prior to specification.

2.2. Definitions

Term	Definition	Image
Anti-pick sealant	Developed to be resistant to 'picking' and create a strong seal which is long lasting and durable. Unlike regular sealant, if removed the sealant does not come out in lengths, but small sections only. It can be substituted for regular sealant in mental health facilities to respond to both ligature and sealant needs. It should not be used as the first line for reducing gaps and ligature risks but as an adjunct to good installation.	
Anti-tamper fixings	Are fixings that have special heads; a hex lobular internal driving feature and often a pin which make them harder to remove.	 

Term	Definition	Image
Bevel	A slope from the vertical or horizontal often on the edge or surface.	
Flush	The item is installed hard up to the surface with not gaps between the product and the surface.	
Ligature entrapment	The ability to slide a ligature, often an item such as sheet, shoelace, wire behind a fixture or fitting thereby creating a ligature point.	
Ligature looping	The ability to tie or bind a ligature, often an item such as sheet, shoelace, wire around a fixture or fitting thereby creating a ligature point.	
Ligature wedging	The ability to jam or wedge a ligature, often an item such as a sheet knot, or shoelace into or between a fixture or fitting thereby creating a ligature point.	
Proprioceptive	The internal sense of body position, resulting from inputs through vision (eyes), and touch (skin and position of body parts).	
Vandal resistance	The ability of the product to withstand intentional damage such as hitting, kicking, punching, slamming, pulling or twisting	

2.3. Bathrooms and ensuites

2.3.1. Back rest–Accessible toilet

1. **TECHNICAL REQUIREMENTS – SAFETY**
   a. Must be able to be installed *flush* to the wall, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or have been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must be shaped to reduce the risk of *ligature looping*.
   d. Must ensure the fixing of any pad or protector does not in itself create a ligature point.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.

3. **IDEAL TO HAVE**
   a. Designed as a single unit with no removable parts.

GENERAL NOTES: *Careful placement to ensure there is not the ability to wedge between the accessible toilet pan and backrest. Products should meet both accessibility and anti-ligature requirements. Project teams need to demonstrate compliance with New Zealand Building Code (NZBC) accessibility clauses. Where NZBC Accessibility clause Acceptable Solutions do not meet anti-ligature requirements in a high ligature risk zone, safety requirements should be a priority. Where NZBC Accessibility clause Acceptable Solutions do not meet anti-ligature requirements, Alternative Solutions may be required to demonstrate compliance with NZBC. Examples from recent Health New Zealand mental health facilities that have successfully installed accessible facility fittings with anti-ligature features may be used as a precedent to support Alternative Solutions for Accessibility clause compliance with NZBC.*

2.3.2. Basins

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must have a *bevelled* edge to remove the ability to use the basin bottom, tops, or edge as a ligature point.
   d. Must be designed to prevent the sink waste from providing any ligature points.
   e. Must have the integrated controls installed *flush* to the basin if these are included.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of *vandal resistance* so damage does not lead to development of a ligature point.
   b. Must have the ability to support a wide range of mixer/spout requirements.
3. **IDEAL TO HAVE**
   a. Has controls that are tactile and visually distinguishable to support accessibility requirements.
   b. Has a homelike appearance.
   c. Has the ability for tāngata whai ora to control water temperature.

GENERAL NOTES: *Controls may be integrated or standalone. For standalone controls see mixers/spouts. Plugs should be managed through operational processes and must not be attached to the bath or spout/mixer.*

2.3.3. Bath

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall (if not centrally located) and floor, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   a. Must be designed to prevent the bath waste from providing any ligature points.
   b. Must be shaped to reduce the ability to use the bath top or edge as a ligature point.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. Has the ability to support a wide range of mixer/spouts.

GENERAL NOTES: *Controls may be integrated or standalone. For standalone controls see mixers / spouts. Plugs should be managed through operational processes and must not be attached to the bath or spout/mixer.*

2.3.4. Dispensers

2.3.4.1. Breakaway

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to install the bracket *flush* to the wall, reducing the risk of *ligature entrapment* leaving the plate *flush* when the dispenser is removed.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk, *anti-tamper fixings* if these are required.
   d. Must be constructed so that the breakaway mechanism releases upon the application of 8kg or less.
   e. Must have a *bevelled* top on the mounting plate to prevent *ligature looping*.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of *vandal resistance* so damage does not lead to development of a ligature point.
   b. Must be constructed so that the breakaway section does not have any sharp edges or corners, reducing the ability to weaponise and minimising the risk of injury.
   c. Must have the ability to fit a wide range of different dispenser types.

1. **IDEAL TO HAVE**
   a. Has a homelike appearance.

2.3.4.2. Fixed

CAUTION NOTE: *Fixed dispensers are not recommended as they present residual ligature risks due to the design and opening sections for refilling. Selection of these products requires careful consideration and management plans to address the residual risk.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to install *flush* to the wall reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of *vandal resistance* so damage does not lead to development of additional ligature points.

3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

2.3.5. Drain

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the floor, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must incorporate a cover design that eliminates the possibility to place items under or through the cover, thereby reducing the risk of *ligature looping*, whilst enabling water drainage.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of *vandal resistance* so damage does not lead to development of a ligature point.
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *Requires established maintenance programme for de-clogging as residue may build up due to design. A clamp-ring is recommended to hold the floor vinyl in place to reduce risk of damage.*

2.3.6. Ensuite doors

2.3.6.1. Breakaway

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   b. Must be designed to ensure that any remaining mechanism is installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   c. Must incorporate a mechanism that detaches the door leaf upon the application of excessive force (8kg or less) but remains attached for functional day-to-day use.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must be constructed of lightweight flexible yet robust material, reducing the ability to weaponise, and minimising the risk of injury.
   b. Must have the ability to be mounted on the left or right-hand side to suit the room layout.
3. **IDEAL TO HAVE**
   a. Has a design that provides user privacy and dignity whilst supporting safety.
   b. Has a homelike appearance.
   c. Has the ability to be height adjustable.

GENERAL NOTES: *Where magnets are used as part of the design these should be securely encased to reduce risk of self-injury or weaponising*

2.3.6.2. Fixed

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall frame, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must be constructed so that the interface between the door leaf to the hinge and/or frame does not provide any ligature points.
   d. Must be shaped at the top and bottom of the door leaf to reduce the risk of *ligature entrapment* or looping.
   e. Must incorporate the use of a continuous hinge at the fixing point to reduce the risk of *ligature looping*.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must be constructed of lightweight flexible yet robust material, reducing the ability to weaponise, and minimising the risk of injury.
   b. Must have the ability to be mounted on the left or right-hand side to suit the room layout.

3. **IDEAL TO HAVE**
   a. Has a design that provides user privacy and dignity whilst supporting safety.
   b. Has a homelike appearance.

2.3.7. Mirror

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use counter sunk *anti-tamper fixings* if not concealed.
   d. Must incorporate sloping edges to minimise the risk of *ligature looping*.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must be made of a material that prevents breakage and weaponisation.
   b. Must have a high degree of *vandal resistance* to prevent scratching and damage

3. **IDEAL TO HAVE**
   a. Provides a clear, distortion free reflection.
   b. Has a homelike appearance.

GENERAL NOTES: *When used in an accessible bathroom, additional consideration for the size and location is required.*

2.3.8. Mixer

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use counter sunk, *anti-tamper fixings* if these are required.
   d. Must incorporate *bevel*led edges to minimise the risk of *ligature looping*.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of *vandal resistance* so damage does not lead to development of a ligature point.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Consumer cohort and dexterity may mean consideration should be given to push or sensory activated mixers.*

2.3.9. Rodding (Cleaning) eye cover

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the floor, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if not concealed.
   d. Must incorporate a cover design that eliminates the possibility to place items under or through the cover, thereby reducing the risk of *ligature looping*.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of vandal resistance so damage does not lead to the developments of a ligature point,
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *A clamp-ring is recommended to hold the floor vinyl in place to reduce vandal damage opportunity.*

2.3.10. Shower rose

2.3.10.1. Standard

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk, *anti-tamper fixings* if these are required.
   d. Must be designed to reduce the risk of *ligature looping* around or entrapment within the shower rose
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of *vandal resistance* from twisting and pulling on fixture does not lead to development of a ligature point.
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *Where a plate fixing is not used, ensure installation is flush against the wall. Anti-pick sealant may also be required.*

2.3.10.2. Accessible

CAUTION NOTE: *Detachable handheld shower hoses can offer a ligature point. Selection of these products requires careful consideration and management plans to address the residual risk.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if not concealed.
   d. Must be designed so the shape reduces the risk of *ligature looping* around or entrapment within the shower head.
   e. Must have a detachable handheld shower rose which when detached, leaves no risk for *ligature entrapment* within the connection point.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEA TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *Where a plate fixing is not used, ensure installation is flush against the wall. Anti-pick sealant may also be required.*

2.3.11. Shower screen

1. **TECHNICAL REQUIREMENTS – SAFETY**
   a. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   b. Must use countersunk *anti-tamper fixings* if these are required.
   c. Must be designed with a *bevel*led top to reduce the risk of *ligature looping* from the top and around the screen.
   d. Must be able to be installed so that the fixing or channel on the wall is *flush* to the wall, reducing the risk of *ligature entrapment*.
   e. Must be designed to prevent *ligature entrapment* between the wall fixing and the screen material.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have no sharp edges to reduce the risk of harm.
3. **IDEAL TO HAVE**
   a. Has a design that supports privacy and dignity for the person showering, whilst ensuring safety.
   b. Has ability to allow some flex, in material or by removing, to support two-sided assist.

2.3.12. Spout

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must be shaped to reduce the risk of ligature around or up and over the spout.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *May be necessary to use a fixing plate which if installed, must meet fixing plate requirements. For integrated spouts in basins, see also basins.*

2.3.13. Toilet

2.3.13.1. Standard

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall and floor, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must be made as a one-piece unit with rimless *flush* without joins.
   d. Must use *anti-tamper fixings* if not concealed.
   e. Must have an integrated toilet seat without joins.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have options available to support proprioceptive needs such as seat shape or colour.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Cultural and gender needs may not be met by the lack of toilet lid. Design innovation is encouraged in this area. Due to the design and flushing systems, the flush may not be as effective - this may require monitoring and alterations.*

2.3.13.2. Accessible

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall and floor to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must be made as a one-piece unit, with rimless flush and integrated toilet seat without joins. Where a packer is required, this must meet point b.
   d. Must use *anti-tamper fixings* if these are required.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have options available to support proprioceptive needs such as shape or colour.
   b. Must have a pan that projects sufficiently from the wall to support safe transfer from a wheelchair.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Cultural and gender needs may not be met by the lack of toilet lid. Design innovation is encouraged in this area. Due to the design and flushing systems, the flush may not be as effective - this may require monitoring and alterations. Ensure any bariatric weight requirements are met in selecting particular products. Careful placement to ensure there is not the ability to wedge between the accessible toilet pan and backrest. Products should meet both accessibility and anti-ligature requirements. Project teams need to demonstrate compliance with New Zealand Building Code (NZBC) accessibility clauses. Where NZBC Accessibility clause Acceptable Solutions do not meet anti-ligature requirements in a high ligature risk zone, safety requirements should be a priority. Where NZBC Accessibility clause Acceptable Solutions do not meet anti-ligature requirements, Alternative Solutions may be required to demonstrate compliance with NZBC. Examples from recent Health New Zealand mental health facilities that have successfully installed accessible facility fittings with anti-ligature features may be used as a precedent to support Alternative Solutions for Accessibility clause compliance with NZBC.*

2.3.14. Toilet flush button

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall, reducing the risk of *ligature entrapment* behind the flush button. If a plate is required behind the flush button this must be installed *flush* to the wall.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use counter sunk *anti-tamper fixings* if these are required.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have an option to support accessibility requirements, such a sensor activated.
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *Consider moving to piezo or electronic controls due to issues with maintenance. When used in accessible bathrooms, a sensor activated flush is required.*

2.3.15. Toilet roll holder

2.3.15.1. Breakaway

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to install the wall bracket *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must enable release the break-away part at less than 8kg of weight.

2. **TECHNICAL REQUIREMENTS – OTHER**
    a. Must ensure that the hook is flexible, with smooth edges to reduce the risk of weaponisation and minimising the risk of injury.
    b. Must allow for easy reattachment of the hook.

3. **IDEAL TO HAVE**
    a. Has a homelike appearance.

2.3.15.2. Fixed

CAUTION NOTE: *Fixed dispensers are not recommended as they present residual ligature risks due to the design and opening sections for refilling. Selection of these products requires careful consideration and management plans to address the residual risk.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
    a. Must be able to install *flush* to the wall reducing the risk of *ligature entrapment*.
    b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
    c. Must use countersunk *anti-tamper fixings* if these are required.

2. **TECHNICAL REQUIREMENTS – OTHER**
    a. Must have a high degree of *vandal resistance* so damage does not lead to development of additional ligature points.

3. **IDEAL TO HAVE**
    a. Has a homelike appearance.

GENERAL NOTES: *There is wide variation in toilet roll sizes and teams should consider this during product selection.*

2.3.15.3. Recessed

1. **TECHNICAL REQUIREMENTS - SAFETY**
    a. Must be able to be installed *flush* into the wall, reducing the risk of *ligature entrapment*.
    b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
    c. Must have *anti-tamper fixings* countersunk if they are used.
    d. Must incorporate a mechanism for releasing the toilet roll.

2. **TECHNICAL REQUIREMENTS – OTHER**
    a. None identified at publication.

3. **IDEAL TO HAVE**
    a. Has the ability to be provided in a range of colours and appear homelike.

GENERAL NOTES: *There is wide variation in toilet roll sizes and teams should consider this during product selection.*

2.4. Door hardware

This section focuses on the anti-ligature aspects of door hardware and should be read in conjunction with AUSHFG door guidance note and the relevant AUSHFG Mental Health HPU to ensure a comprehensive approach to considering door robustness, functionality and specification is taken.

CONSIDERATIONS: *Integrated door sets may offer better and more consistent product co-ordination, potentially reducing operational and any inherent ligature risk.*

2.4.1. Door knobs and handles

CAUTION NOTE: *Downward facing handles may support looping of a ligature and provide a ligature point either over the door top or between the leaf and door jamb. Selection of these products requires careful consideration and management plans for addressing any residual risk.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed so the item and plate is installed *flush* to the door, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must have a shape that ensures the knob or handle cannot be used to loop a ligature around and form a ligature point.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *Cone-shaped handles may be difficult for people with dexterity issues to use, as they may be hard to grasp or turn.*

2.4.2. Doorstop

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall or floor, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use anti-tamper countersunk fixings if these are required.
   d. Must be shaped to reduce the ability to use the stop as a ligature point by looping a ligature around the stop.
   e. Must be designed as an all-in-one product or have secured non-removable parts.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. None identified at publication.

2.4.3. Hinges

CAUTION NOTE: *All hinges carry a risk due to movable parts and gaps.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed on the external section of the door, away from the high-risk area.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must have a *bevelled* top, reducing the risk of *ligature entrapment*.
   d. Must be a continuous hinge.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have an option to support dual swing, anti-barricade hinges.
3. **IDEAL TO HAVE**
   a. None identified at publication.

2.4.4. Pressure sensor

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* on the door leaf to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must have a range of configurable timing and alert settings which are triggered on application of force.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have the ability to integrate with a wide range of technology including nurse call, duress and/or security products and software.
   b. Must have the ability to be easily reset if activated in error.
3. **IDEAL TO HAVE**
   a. None identified at publication.

GENERAL NOTES: *New technology can provide 360-degree sensor alerts – other door requirements and use should be considered alongside this. There is the potential for conflict between seal requirements for fire doors and pressure sensors. Early engagement with fire planning should aim to mitigate this in door placement.*

2.4.5. Vision panel

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must have an integrated blind function (glass or blinds) which is installed *flush*, so the frame of the panel does not allow any *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use *anti-tamper fixings.*
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must be made of a material the is vandal resistant and ensures safety if broken
   b. Must have a capacity that ensures privacy when in the closed position.
   c. Must have tāngata whai ora operable control on the internal (bedroom) side of the panel, which meets requirements for handles/ knobs.
3. **IDEAL TO HAVE**
   a. Has a range of sizes ensuring options for different requirements.
   b. Has a staff control key that integrates with other door hardware and operational needs.

GENERAL NOTES: *Interstitial blinds are known to have maintenance issues where the blind fin may 'flip', requiring frequent maintenance. Consider alternatives where these are to be placed in doors. Bespoke vision panel sizes should be avoided. Proprietary sizes are preferred to support ongoing ease of maintenance and replacement. Vision panels should be installed on all doors which are part of a high ligature risk rated space.*

2.5. Electrical and lighting

2.5.1. Downlights, reading lights and emergency lighting

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the ceiling or wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must have a *bevel*led edge to reduce the ability to use the light fitting edge as a ligature point.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must be vandal resistant to ensure any damage does not cause additional risk i.e. unable to follow egress path or water ingress.

3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *May be beneficial to group lighting fixtures together to minimise fixture requirements. The programming of Emergency LED indicator lighting and how they indicate an issue, by flashing, can be problematic for tāngata whai ora- consideration is required.*

2.5.2. Electrical face plates – Nurse Call, Duress, Door access

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be able to be installed *flush* to the wall to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.

2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have no sharp edges to reduce the risk of harm.
   b. Must be able to meet relevant Ingress Protection ratings if installed in wet areas.
   c. Must be made of a robust and durable material to reduce vandal risk.
   d.

3. **IDEAL TO HAVE**
   a. Has a homelike appearance.
   b. Has a design that is clearly identifiable as a nurse call or duress button.

GENERAL NOTES: *Fixings at each corner (and midway on a long side) may be required to ensure the plate sits flush.*

2.5.3. Switches and sockets

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must be made of a robust and durable material to reduce tamper damage.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. Has the ability to be provided in a range of colours and appear homelike appearance.
   b. Has buttons with clearly distinguishable identification for use.

GENERAL NOTES: *Any requirements for body protection in high ligature risk areas must ensure the products also meet these safety requirements.*

2.6. Fire

Fixture selection is dependent on fire engineering brief and design for a unit and should be undertaken in consultation with a fire engineer.

2.6.1. Sampling point

CAUTION NOTE: *Residual ligature risks exist with sampling points and suitable risk management strategies should be in place.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the ceiling, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must have a maximum mesh hole diameter of 2.5 mm to reduce the risk of *ligature looping* through the holes.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a design that is tamper proof.
3. **IDEAL TO HAVE**
   a. None identified at publication.
4. **GENERAL NOTES**
   a. Do not minimise mesh area as this can be easily blocked.

2.6.2. Smoke detector cover

CAUTION NOTE: *Residual ligature risks exist with detector covers and suitable risk management strategies should be in place.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the ceiling, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk, *anti-tamper fixings* if these are required.
   d. Must have a maximum mesh hole diameter of 2.5 mm to reduce the risk of *ligature looping* through the holes.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. Has the ability to be powder coated to support a homelike appearance.

GENERAL NOTES: *Retrofitting of covers must be discussed with a fire engineer.*

2.6.3. Sprinkler head

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the ceiling, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must be designed to reduce the risk of ligature points through breakaway parts, whilst not hindering the sprinkler operational function.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a design that is tamper proof.
3. **IDEAL TO HAVE**
   a. Has an unobtrusive design.

2.7. Mechanical

2.7.1. Access hatches

CAUTION NOTE: *Should not be installed in high-risk areas due to issues in securing the hatch which may lead to ligature points and the possibility of access to services voids. When unavoidable they must meet the following requirements.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must have more than one fixing, rather than a central lock, to reduce twisting of the cover and reduce the risk of *ligature wedging* and *looping* on the cover.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. None identified at publication.

2.7.2. Ventilation grille – ceiling mounted

CAUTION NOTE: *Residual ligature risks exist with mesh and suitable risk management strategies should be in place.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the ceiling, to reduce the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must have *bevelled* edges.
   d. Must have a maximum mesh hole diameter of 2.5 mm to reduce the risk of *ligature looping* through the holes.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. Has the ability to be powder coated to support a homelike appearance.

GENERAL NOTES: *As the design can affect air displacement, careful positioning of the grille is required to reduce drafts.*

2.7.3. Ventilation grille – other

CAUTION NOTE: *Residual ligature risks exist with mesh and suitable risk management strategies should be in place.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall or joinery, to reduce the risk of *ligature entrapment*.

b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
c. Must have *bevelled* edges.
d. Must have a maximum mesh hole diameter of 2.5 mm to reduce the risk of *ligature looping* through the holes.

2. TECHNICAL REQUIREMENTS – OTHER

a. None identified at publication.

3. IDEAL TO HAVE

a. Has the ability to be powder coated to support a homelike appearance.

GENERAL NOTES: *As the design can affect air displacement, careful positioning of the grille is required to reduce drafts. Given the ease of access to lower grilles a more visible placement should be considered.*

2.8. Other

2.8.1. Grab Rails

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must be designed to reduce the risk of *ligature looping and wedging.*
   c. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   d. Must use countersunk *anti-tamper fixings* if these are required.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Cultural and gender needs may not be met by the lack of toilet lid. Design innovation is encouraged in this area. Due to the design and flushing systems, the flush may not be as effective - this may require monitoring and alterations. Ensure any bariatric weight requirements are met in selecting particular products. Careful placement to ensure there is not the ability to wedge between the accessible toilet pan and backrest. Products should meet both accessibility and anti-ligature requirements. Project teams need to demonstrate compliance with New Zealand Building Code (NZBC) accessibility clauses. Where NZBC Accessibility clause Acceptable Solutions do not meet anti-ligature requirements in a high ligature risk zone, safety requirements should be a priority. Where NZBC Accessibility clause Acceptable Solutions do not meet anti-ligature requirements, Alternative Solutions may be required to demonstrate compliance with NZBC. Examples from recent Health New Zealand mental health facilities that have successfully installed accessible facility fittings with anti-ligature features may be used as a precedent to support Alternative Solutions for Accessibility clause compliance with NZBC.*

2.8.2. Hooks

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must release at a load of 8kg or more to allow a ligature to slide off.
   e. Must return to its original shape once the load is removed.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of vandal resistance so damage does not lead to development of a ligature point.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Careful planning is required to ensure that hooks are placed at manufacturer recommended distances to ensure the breakaway weight does not increase.*

2.8.3. Joinery

CAUTION NOTE: *Residual ligature risks may exist with proprietary or bespoke joinery and suitable risk management strategies should be in place.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must ensure all shelves are fixed and installed *flush* to the joinery unit.
   e. Must ensure cupboard doors are able to close *flush* to the joinery unit, containing suitable locking points.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of vandal resistance so damage does not lead to development of a ligature point.
   b. Must be made of a durable material which reduces the ability to pick or peel points of the finish.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Joinery is typically a designed item rather than proprietary one purchased from a supplier. Consultants will need to be conscious during design and consideration as to how joinery will be 'approved' should be made early. Installation of joinery and achieving a flush to the wall installation can be difficult to achieve. Anti-pick sealant is a requirement to reduce ligature entrapment risk. Window and door frames should be considered as part of joinery review in high-risk spaces.*

2.8.4. Storage shelves

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* to the wall, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must be designed to reduce the risk of *ligature looping*.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. Must have a high degree of vandal resistance so damage does not lead to development of a ligature point.
   b. Must have the ability to be front or rear-fixed, dependent on design requirements.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

2.9. Window furnishings

2.9.1. Curtain track

2.9.1.1.Breakaway

CAUTION NOTE: *Breakaway tracks can we used as a weapon and are not recommended - suitable risk management strategies should be in place if these are selected.*

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must install the wall bracket *flush* to the wall or ceiling, reducing the risk of *ligature entrapment*.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must release the track at a weight of 8kg even when curtain is gathered.
   e. Must be designed to ensure that any remaining mechanism is installed *flush* to the wall, reducing the risk of *ligature entrapment*.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES*: Curtain design must align to the manufacturer specification of hooks per linear metre to ensure anti-ligature and breakaway expectations are met. More hooks can increase the breakaway weight. Where magnets are used as part of the design these should be securely encased to reduce risk of self-injury or weaponising.*

2.9.1.2. Fixed

1. **TECHNICAL REQUIREMENTS - SAFETY**
   a. Must be installed *flush* into the wall (or ceiling), reducing the risk of *ligature entrapment* behind the track.
   b. Must have undergone independent demonstrable assessment against an anti-ligature testing standard or has been assessed through Health New Zealand agreed methodology or is in established use in New Zealand Mental Health facilities and there are no known issues.
   c. Must use countersunk *anti-tamper fixings* if these are required.
   d. Must release the curtain at a weight of 8kg even when curtain is gathered.
   e. Must be designed to ensure that any remaining track or mechanism does not allow, *ligature entrapment*.
   f. Must ensure that the end cap fits securely to minimise the risk of entrapment between track and cap.
2. **TECHNICAL REQUIREMENTS – OTHER**
   a. None identified at publication.
3. **IDEAL TO HAVE**
   a. Has a homelike appearance.

GENERAL NOTES: *Curtain design must align to the manufacturer specification of hooks per linear metre to ensure anti-ligature and breakaway expectations are met. More hooks can increase the breakaway weight. Velcro should not be used as a load release option as when bound can significantly increase breakaway weight.*

3. Assurance processes - fixtures and fittings

3.1. Installation assurance processes

Test installation in a sample room is recommended prior to installation across the facility. This provides the opportunity for members of the project and operational teams to assess the products against any potential risks and remedy issues prior to handover. Teams should assess.

- Is the product installed in line with the manufacturer's recommendation?
- Is the product installed in line with any project specific requirements?
- Is there any movement in the product install that would allow the development of a ligature point?
- Is there any ability to develop a ligature point by entrapment behind or within the product, wedging within or between products, looping around the product?
- Does the product operate as expected, and in line with PPR for the product type?

3.2. Handover to operational team

Handover to the clinical and operational team is best undertaken by ensuring the Charge Nurse manager or equivalent has undertaken the relevant ligature point audit. This ensures all spaces have undergone a clearly defined ligature point assessment prior to occupation and is the final stage in assessing safety.

Ensure operational protocols have been established for ongoing support and maintenance and relevant team members receive appropriate training in any new installed fixtures and fittings.

3.3. Escalating product issues or failures

At times, despite all required process products may not perform as expected, or an adverse event may occur.

It is critical to ensure this information is shared.

- If a *Health New Zealand staff member* becomes aware of an issue related to a product, ensure this is documented through the relevant incident management processes. Ensure the local quality and patient safety team is aware - share information about the affected product to facility.design@tewhatuora.govt.nz. A response will be sent on receipt of the notification.

- If a *design or project team* become aware of an issue related to a product, share information about the affected product to facility.design@tewhatuora.govt.nz. A response will be sent on receipt of the notification.

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4.1. Further reading

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