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Environmental Ligature Point Audit and Assessment Procedure for Inpatient Mental Health Services

Introduction and Aim

This procedure aims to ensure that an appropriate level of operational management of ligature risk is maintained for the safety of inpatients and the prevention of suicide. The procedure provides guidance for identifying potential ligature points and ligature risks and recording the findings.

Objectives

- To identify and assess ligature points in inpatient and day hospital settings

Scope

This procedure applies to staff working in mental health inpatient and day hospital units

Equality and Health Impact Assessment	An Equality and Health Impact Assessment (EHIA) has completed and this found there to be a positive impact.
Documents to read alongside this Procedure	UHB Health and Safety Policy Mental Health Therapeutic Observation & Engagement Policy
Approved by	Mental Health Clinical Board

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Disclaimer

If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate.

Summary of reviews/amendments			
Version Number	**Date of Review Approved**	**Date Published**	**Summary of Amendments**
1	14/06/2017	19/01/2018	New document

CONTENTS

1. Background

Hanging is a significant method of suicide for mental health service users, whether as an inpatient or in the community. Hanging may involve suspension from a high ligature point but many deaths also occur through asphyxiation without suspension using a ligature point below head height.

A significant proportion of suicides are believed to occur through impulsive acts using the first means to hand and without time for reflection. The Department of Health *Preventing Suicide in England Strategy (DoH 2012)* states that regular assessments of inpatient wards/clinical areas to identify and remove potential risks, i.e. ligatures and ligature points, should be undertaken. The National Patient Safety Agency *Preventing Suicide – a toolkit for mental health services (NRLS 2009)* details eight standards, with audit procedures, looking at the process of admission through to discharge of a working age adult from the ward environment. Standard 2 requires that wards are audited at least annually to identify and minimise opportunities for hanging or other means by which service users can harm themselves. The Health and Safety Executive (2004) also directs Health Services responsible for caring for patients and service users who may exhibit self-harm behaviour in reducing possible risks associated with potential ligatures and anchor points.

The most common ligature points are doors and windows; the most common ligatures are belts, shoelaces, sheets and towels. Inpatient suicide using non-collapsible rails is a 'Never Event'. Never events are serious, largely preventable patient safety incidents that should not occur if the available preventative resources have been implemented. New kinds of ligatures and ligature points are always being found, so ward staff need to be constantly vigilant to potential risk.

2. Introduction

This procedure has been developed to help staff to address ligature risk in a balanced, objective and systematic way using an audit tool developed by Greater Manchester West Mental Health NHS Foundation Trust. It should be seen as an integral part of other measures to reduce the risk of suicide. Clinical risk assessment, observation and engagement form part of the overall strategy for managing ligature risk and patient safety.
This procedure intends to address the environmental and clinical risks which could assist an inpatient attempting suicide using a ligature. It does not cover other risk factors in suicide prevention. The Service places great importance on individual risk assessment of service users from the risk of self-harm and this procedure helps support managing patients within the context of that risk assessment.

3. Definitions

3.1 Ligature

A ligature can be defined as anything a person can use to hang or strangle themselves. It can be made from anything that can be used to form a noose that may be used for self-strangulation and not necessarily obviously able to support body weight.

Examples:

Clothing accessories - Belts, braces, laces, stockings, tights, bras, hoodie cord.

Plastic bags – carrier bags, rubbish bags, clinical waste bags.

Cords – Lighting pull cords, curtain pull cords, cord from curtain header tape, draw cord on bags, venetian blind pull cords or chains.

Clothing – shirts, blouses, t-shirts, ties, trousers (all which can also be torn up into strips).

Chains, ropes, hoses, string.

Curtains – shower curtains, window curtains, cubicle curtains.

Bedding

Electrical leads, flex, telephone flex, mobile phone charger leads, head phone leads.

Rubber strips – from fire doors, double glazing, dust strips on cubicle curtain tracking.

This list is not exhaustive.

3.2 Ligature anchor point

An anchor point is a solid point that would support body weight using anything from the list above that can be formed into a noose or a knot and can be attached to it.

It is often commonly thought that there is a requirement that an anchor point requires height, but the actual height needed could be as small as a few inches with the patient being able to slump sideways from an almost seated or even prone position.

4. Ligature point audit

It is a requirement of the Health and Safety at Work etc Act 1974 to maintain a safe environment and the Management of Health and Safety at Work Regulations 1992 (amended 1998) to carry out risk assessments.

An environmental ligature point audit should be carried out in all mental health inpatient wards and facilities accessible to mental health inpatients (i.e. therapies areas and day patients). The audit must be reviewed annually or where there has been significant change (i.e. change of use, modification of the building or after a serious incident involving suicide or attempted suicide using a ligature). The audit should be recorded using the form found in Appendix 1.

In Community Mental Health Premises a generic assessment of ligature risk should be undertaken (using a generic Part 2 risk assessment form available on the intranet). If the risk is assessed as high then an environmental ligature audit should be undertaken, following the process detailed in this procedure, and actions taken to eliminate or control high risk ligature points.

The audit tool is used to identify and assess each ligature point and is not a risk assessment. A risk assessment must be completed for all significant risks identified using a Part 2 generic risk assessment form.

All risk assessments produced as a result of the ligature audits must be reviewed at least annually or when a change occurs to the environment, the service provided or as the needs of individual service users dictate.

It is not always possible for all potential ligature points to be eliminated, and a judgment therefore has to be made about the likelihood of something being used as a ligature anchor point. It is almost impossible to eliminate all potential ligatures, since articles of clothing as well as material from everyday items can be used. Where it is not possible to remove ligature points, other risk controls must be adopted including changes to buildings, fittings, operational management and clinical management of the patient. Equally, there may be some potential ligature anchor points that need to remain, as removing them will create a greater risk to the patient group, e.g. grab rails in elderly units or disability accessible rooms. In such cases a balance has to be sought between the relative risks involved. The Service recognises that in Mental Health Services for Older Peoples wards a balance needs to be struck between reducing the risk from ligature anchor points and maintaining some fixtures and fittings as aids to daily living for the patient group. Patients admitted to older people wards may present with risks including self-harm / suicide, e.g. by ligature, in addition to high risk of falls and other risks. The need to provide a safer environment for these patients must be balanced with the need to meet their other care needs, such as mobility, visual impairment, limited dexterity and orientation to a familiar environment. The ward environment must be balanced between the need to reduce ligature points without compromising other aspects of patient safety, most notably the risk of falls. The approach to managing these risks will be through the use of detailed clinical risk assessment and the use of the Therapeutic Observation and Engagement Policy.

Managing risk is neither, a discrete activity or precise science. It is also unlikely that risk can be entirely removed. The most effective approach entails a whole system approach and the audit aims to capture the salient points and therefore provide local managers with a tool kit that makes clinical environments as safe as possible.

Furthermore, it must be remembered that risk is dynamic, environments change, service users and staff change and the way in which the environment is used changes through each and every day.

The audit should be undertaken by a team consisting of the ward/area manager, a member of clinical staff from another area (to reduce the effects of over familiarity with the environment) and a health and safety representative. It is the ward/area manager's responsibility to arrange and coordinate the audit. It is also the ward/area manager's responsibility to action all identified uncontrolled risk and where this is not immediately possible to ensure that the area is made as safe as is reasonably practicable and report this to their senior nurse manager/directorate manager.

All internal areas and the immediate areas outside the ward/clinical area, and communication routes to and from the area should be audited. This should include those areas where a local search would occur if an 'at risk service user' was found to be missing.
In addition to the rooms being assessed, the audit also requires the area staff to consider the use of the internal and external environment, the quality of the fixtures and fittings and how it is managed.

The audit tool focuses upon five dimensions:

1. Room Designation Rating (Score from 1 to 3);

2. Patient Profile Rating (Score from 1 to 3);

3. Ligature Point Rating (Score from 1 to 3);

4. Type of Ligature Point and

5. Compensating Factors (Score from 1 to 3).

4.1 Room Designation Rating

The audit process entails a review of each room, corridor, stairwell, garden, etc across all the dimensions. Each room in the clinical area will have its own priority. This is rated according to the amount of time most patients will spend in the room without direct supervision from staff or those with unobserved opportunity e.g. toilets.
For example: most patients will spend periods of time unsupervised in their bedroom, en-suite, bathroom or shower. This rating is an assessment of the opportunity a patient could have to use a ligature point.
Auditing teams are expected to score the room designation according to usual staff supervision practices in the clinical area being audited.

The ratings are to be in three groups as follows:

Room Designation Rating:3	Room Designation Rating: 2	Room Designation Rating: 1
Most patients spend periods of time, in private, without direct supervision of staff:	Most patients spend long periods of time with minimum direct supervision of staff and are usually in company of peers:	Areas where there is traffic from staff and patients moving through or rooms are inaccessible:
All bedrooms	Lounge Areas	General circulation spaces
Toilet areas	Dining rooms	Corridors
Shower / Bathroom areas	Unlocked therapy rooms	Locked store rooms
Single Sex sitting rooms	Unlocked offices	Locked offices
Any other isolated areas adjacent to or off the ward	Unlocked Utility rooms	Locked therapy rooms
	Unlocked Kitchens	
	Gardens / Courtyards	

4.2 Patient Profile Rating

While mental health service users are at greater risk of suicide than the general population, some patient groups are more vulnerable and susceptible to suicide risk than others.

Clinical areas cater for different functional groups of patients who can, therefore, be profiled into groups who could have a significant, moderate or low potential to use ligature points. Where a clinical area cannot be defined in terms of patient group, then the rating must be based on the most vulnerable patient within the group.

It is not possible to individualise a room to a patient due to movement of patients within services. The following table suggests a risk rating with associated scale:

High Risk Patient Group: 3	Medium Risk Patient Group: 2	Low Risk Patient Group: 1
Patients with acute severe mental illness	Patients in rehabilitation	Patients in self-care groups
Patients who are unpredictable	Patients with chronic or enduring mental health problems	Patients who have never been assessed as being at risk of suicide
Patients in initial recovery stage following suicide risk or on 1 to 1 observations	Patients who are susceptible to periodic relapses or sub-acute episodes	
Patients who are, or have been, of high risk of suicide or	Patients who are not symptom free (e.g.	

severe self-harm	delusions / hallucinations)	
Patients who are depressed	Patients who have been assessed as NOT being an immediate risk of suicide	
Young people		
Patients with challenging behaviour		
Patients with chaotic behaviour		
Patients with concurrent substance misuse issues		
Patients with concurrent severe social need e.g. (marital / family breakup, financial concerns etc.		

4.3 Ligature Anchor Point Rating

This rating scale requires the audit team to identify potential ligature anchor point in relation to its position in the room. As the audit team stands in a room, they will be able to visualise the room as comprising of three levels of potential risks, 1, 2 and 3:

Room height

TOP AREA OF ROOM ↕ **LOW RISK: 1** 4 Metres and above

MIDDLE AREA OF ROOM ↕ **HIGH RISK: 3** Between 1.7 Metres and 4.0 Metres

↕ **MEDIUM RISK: 2** Between 0.7 Metres and 1.7 Metres

LOWEST AREA OF ROOM ↕ **LOW RISK: 1** Below 0.7 Metres

Any ligature anchor point identified in the area between 1.7 metres and 4.0 metres of the room must be scored at 3**,** given that it is the most obvious area in which a patient could hang himself or herself.

However above 4.0 metres, access to the very top of the room is greatly restricted, unless ladders or equipment are available and is to be scored as level 1.

Anything in the middle section of the room (0.7 metres to 1.7 metres) is rated at 2, and anything in the bottom area (below 0.7 metres) of the room, at 1.

4.4 Types of Ligature Anchor Point

The following list is intended to assist auditing teams in the identification of likely ligature anchor points. It must be noted that these lists are NOT EXHAUSTIVE.

- Doors – trapping a ligature between door and frame, particularly at the top; or from the top edge of an open door; door self-closing mechanism.
- Door hinges – either from the hinges themselves from the part of the hinge that is sticking out from the door; or by trapping a ligature in the door above the hinge; or tying a ligature around the hinge.
- Handles –door handles, wardrobe door handles; chest of drawers and cabinets in patients rooms; toilets, shower rooms and bathrooms
- Ceiling fittings – suspended ceiling, lights, air vents and diffusers, smoke detectors, extractor grills.
- Curtain tracks – shower curtains, bed cubical tracking, window curtains.
- Windows – trapping a ligature between window and frames; window handles; window opening restrictors, window locks.
- Pipes – radiator pipes, hot and cold water pipes, tumble drier ducting.
- Wall fittings – fire alarm bells, soap dispensers, paper towel dispensers, shelves, fire alarm call points, coat hooks, pictures and paintings, mirrors, cabinets, fire door electric or magnetic 'hold-back' / 'hold-open' devices, alarm panels, key cabinets, wall mounted TV's, wall lights, patient alarm / call points, disability rails / grab bars, stair rails.
- Beds - bed head / headboard, beds upended or propped up on their end / against the wall, profiling beds from frame or actuating mechanism.
- Cupboards - shelving, coat hooks, wire coat hangers, clothes racks, cupboard doors and handles.
- Building structure – false ceilings, loft hatch, maintenance access hatch / panel.
- Outside space - trees, fencing, gazebos', covered walkways, guttering, and rain-water down pipes.

4.5 Compensating Factors

Compensating Factors - positive aspects of a situation that offsets equally negative aspects, and vice versa. Compensating Factors are things which would reduce the risk.

For example, the use of continuous observation at the time of the audit will not count as a compensating factor because this is a temporary clinical management strategy and not a permanent feature.
However, if use of a ligature anchor point would require a degree of ingenuity, this makes it less likely that it would be used impulsively, so the score would be reduced.

The following table of examples is NOT EXHAUSTIVE and local variations may also apply:

High Risk Remains: 3	**Medium Risk Remains: 2**	**Medium Risk Remains: 2**	**Medium to Low Risk: 1**
Limited observation through poor design	Good observation through good design	Limited observation through poor design	Good observation through good design
Little ingenuity required	Little ingenuity required	Little ingenuity required	Some ingenuity required
Limited Staff	Limited Staff	Good staffing Levels / skill mix	Good staffing levels / skill mix

4.6 Calculating the Risk

In order to determine the level of risk a prioritisation score is given to each location.

How to score the risk:
Multiply the Room Designation Score x Patient Population Profile x Ligature Anchor Point Rating x Compensation factor.

Example 1
Bedroom (room designation), acute inpatient (patient population profile), and weight-bearing coat hooks at head height (ligature anchor point), and no permanent staff supervision (no compensatory factors):
3 x 3 x 3x 3 = 81.
The maximum score for any ligature point is 81.

Example 2
Exposed pipes at just above floor level (below 700 mm) rather than coat hooks in such a room would mean a score of:
3 x 3 x 1 x 3 = 27.

The primary aim is to eliminate all high risk ligature anchor points that are scored at 81 using the tool.

The secondary aim will be to eliminate or reduce the significant risk from all anchor points scoring 54. The exception to this being in dementia services where the physical needs of the patient group may out-weight the need to remove a possible 54 anchor point or to fit an anti-ligature alternative.

4.7 Action Following the Audit

The audit should be recorded using the form found in appendix 1. The audit tool is used to identify each ligature point and is not a risk assessment. A risk assessment must be completed for all significant risks identified using a Part 2 generic risk assessment form that can be found on the intranet.

Following the ligature audit an action plan should be compiled using the ligature audit action plan report form found in appendix 2.

The aim is to reduce the 'obvious', 'attractive' or 'opportunistic' ligature anchor points and ligature items that might enable or provide a service users in distress an opportunity to act upon their thoughts and feelings.

It is recognised that the design of Hafan y Coed considered ligature points and engineered these out where possible and that other areas have already done a lot of work around these issues. It is important that ward management and staff monitor the environment to ensure that any measures in place are still effective. Once a risk has been identified, the local management team must take appropriate and timely action to manage any uncontrolled risks and make sure all staff are aware of it.

It is important that all risks that cannot be controlled effectively are recorded and brought to the immediate attention of the senior nurse/directorate manager.
These risks will have to be controlled through therapeutic engagement and observation of service users until such point that funding can be identified to reduce or eliminate them.

The ward/area manager should consider seeking competent advice from the estates team and/or the health and safety department for any risks that are not considered to be adequately controlled.

Where a ligature anchor point can be removed easily by in-house Estates Maintenance staff, the ward/area manager should contact the Estates help-desk to have this done, stating that it is a safety priority.

Where reduction or removal of a ligature anchor point requires significant investment by the directorate/clinical board, the ward/area manager is required to report this to the senior/lead nurse and directorate manager and the risk assessment should be escalated to be included on the directorate risk register.

The hierarchy of control for ligature points is detailed in the table below:

Remedial Action	Description Definition
Eliminate	The risk is deemed to be of such a nature that to leave it would put the patients at risk. The ligature point is removed and the surface finishes made good, as it is either no longer needed or that there is no suitable alternative.
Eliminate or Substitute	The risk is deemed to be of such a nature that to leave it would put the patients at risk. The ligature point is removed and replaced with anti-ligature equipment or materials.
Substitute and Renew	The risk is deemed to be of such a nature that to leave it would put the patients at risk. The ligature point is engineered out and alternative innovative equipment or materials are installed.
Protect	Provide materials that hide or encapsulate the potential ligature point.
Operational management	The ligature is of a nature that the manager believes it is unnecessary to remove **OR** there is no technical solution to the problem i.e. doors, **OR t**he need to keep the risk because of potential injury is greater than the potential of an attempted suicide, i.e. grab rails within an older patient's toilet
Clinical Management	The patient is managed in accordance with assessment need and risk assessment documented in their care plan.

5. Development Projects, New Build or Refurbishments

At an early stage of project planning it is important for consultation to include relevant clinicians and advisors to reduce ligature points. Late assessments will inevitably lead to additional problems and costs for rectification. Consideration should be given to such items and areas as building layout, building fabric, choice of furnishings, fixtures and fittings, equipment, hardware and ironmongery.

With refurbishment projects, the opportunity should be taken to carry out a ligature point survey to ensure new risks are not introduced by those planned changes and identified risks can be reduced or eliminated as part of the project.

Appendix 1

MENTAL HEALTH LIGATURE POINT AUDIT SHEET

Hospital: **Ward/Area:** **Name of Assessors:** **Date:**

Room or Area (include where appropriate room number)	Ligature Anchor Point	Room Designation Rating	Patient Group Profile Rating	Ligature Anchor Point Rating	Compensatory Factors Rating	Total Score	Immediate action taken by ward manager to protect patients

(continue as necessary)

Ward/Area Manager Ligature Audit Action Plan Report

Directorate ……

Ward/Area ……

Audit completed by ……

Date ……

Please record below specific service / service users issues identified through the ligature audit action plan that are not felt to be adequately controlled

ENVIRONMENTAL ISSUES:

Reasons why it is felt they are not controlled:

MANAGEMENT ISSUES:

Reasons why it is felt they are not controlled:

Please send copies to Lead/Senior Nurse and Directorate Manager