



# A GUIDE TO ANTI LIGATURE

Everything you need to know about Anti-Ligature, from specialist products to official guidance.

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## ANTI-LIGATURE RADIATOR AND RADIATOR COVER SPECIALISTS

Contour Heating explore the options and considerations when specifying anti-ligature products for care and mental health environments.

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# INTRODUCTION

When planning the construction or refurbishment of a space within a mental health environment-or anywhere that occupies vulnerable individuals-it is essential that measures are put in place within the design process to reduce ligature risks.

It's a sad fact that many suicides in mental health settings are directly attributed to hanging; a key statistic that we'll cover later in this eBook.



## ABOUT US

Contour produces a range of innovative, safe surface temperature systems for healthcare, education, mental health, commercial and secure sectors, working in close partnership and collaborating with architects, M&E engineers, NHS Trusts, local authorities and contractors to deliver outstanding safe heating solutions.

Our work within the mental health sector has led us to produce a new range of anti-ligature products with the core aim of creating a safe environment for those most vulnerable.



## Who's This Guide For?

This document is aimed to educate anyone involved in the design and specification of a mental health setting, or any place that is occupied by vulnerable individuals at risk of suicide or self-harm.

Individuals who are most involved in this process are clinicians, estates professionals and specifiers.



## KEY DEFINITIONS

It's important to understand the distinction between ligatures and ligature points.

- **Ligature:** Anything that binds or ties. Examples include chains, linen, clothing, cords, tubing, etc.
- **Ligature point:** Anything that could be used to attach or secure a ligature. Examples include shower rails, coat hooks, water pipes, curtain rails, etc.

## THE STATISTICS

There's a reason why anti-ligature products have become a key consideration amongst clinicians, estates professionals and specifiers: the statistics speak for themselves.

[A national study](#) - carried out in 2012 found that of the 448 suicides that occurred on psychiatric wards, 77% were by hanging, which suggests why there has been a rise in anti-ligature solutions in recent years.

[The same study](#) highlighted that the common ligature points and ligatures were doors, hooks/handles and belts or sheets/towels.

[The Care Quality Commission](#) found that suicide accounted for 55% of male suicides and 42% of female suicides.

**The report went on to advise providers to be aware of the ligature risks in their premises, as hanging was the most common suicide method.**



## SUICIDE RATES ARE FALLING

In 2006, the [National Confidential Inquiry into Suicide and Safety in Mental Health \(NCISH\)](#) identified over 1,300 patient suicides a year.

Over the four years since the 2006 inquiry, in-patient suicides dropped from 166-155 (31%).

However, in the nine years since 2010, the reduction has become much more modest and has only fallen by 8%.

These statistics have led to local authorities setting out **guidance relating to the use of anti-ligature products, which we shall now explore.**

## OFFICIAL GUIDANCE

[The Care Quality Commission \(2015\)](#) produced a guide for their inspection teams that sets out how they should gather evidence and report their findings when assessing ligature risks. They highlight that a risk posed by a ligature point is greater if:

**1**

It's in a private room that service users spend time in without direct supervision by staff.

**2**

It's in an area/ward used by high-risk patients.

**3**

The ligature point is between 0.7 metres and 4 metres from the ground.

**4**

The ward is designed poorly, with too few nurses on duty.

Policies from NHS trusts differ from area to area; however, the key elements are the same. In managing the risk of suicide and self-harm, many trusts suggest:

A bi-annual risk assessment of ligature points within mental health settings to identify:

- Structures or fittings which could be used in suicide or strangulation
- Obstructions to observing high-risk patients
- Identifying potential ligatures
- Identifying other risks for self-harm or suicide in the environment

This particular guidance has been taken from [Northamptonshire Healthcare NHS Trust](#).



# RISK CONTROL

It's extremely difficult, and in some cases impossible, to completely remove ligature risks. Doing so may serve as a hindrance for employees carrying out necessary tasks, and for service users by taking away their rights of independence.

In managing risks, it's recommended that you take a 'remove, replace, protect, or manage' approach, as highlighted by [The Nottinghamshire Healthcare NHS Ligature Risk Reduction Policy \(2019\)](#).

Action	Description/Definition
<b>Remove</b>	If the risk would leave the patients at risk, the ligature should be removed and there is no suitable alternative.
<b>Replace</b>	The ligature is removed and replaced with a purposely designed similar anti-ligature piece of equipment.
<b>Protect</b>	Provide materials that hide the potential ligature.
<b>Manage</b>	There is a need to keep the risk because the potential injury is greater than the potential of an attempted suicide, for example, grab rails within an elderly in-patient/dementia unit.

Potential Ligatures & Ligature Points	Potential Risk Control
<b>Bedsteads</b>	Should be appropriate to the environment
<b>Brackets, picture rails, ventilation grilles, ducts</b>	Brackets: remove, box in or chase into wall Grilles: perforations should be a maximum of 3mm in diameter.
<b>Coat Hook</b>	Remove all hooks behind doors, in wardrobes, etc.
<b>Curtain Rails</b>	Collapsible rails and safety track
<b>Curtain Tracking</b>	Avoid gaps in fixed tracking
<b>Curtain Wires</b>	Avoid use of curtain wires
<b>Doors (frames, handles)</b>	Careful consideration of design
<b>Electrical Wiring</b>	Should be 'chased' into wall or fitted flush to wall
<b>Exposed Pipework</b>	Consider height and accessibility
<b>Hinges</b>	Consider types of hinges and gaps between doors and frames
<b>Light Switch Cords</b>	Should not be nylon. Consider solid pull cords or infrared automatic switches. Consider anti-ligature switch covers
<b>Patient's lockers/wardrobes</b>	Remove hanging rails
<b>Radiators</b>	Consider boxing in with appropriate covers
<b>Wardrobes</b>	Consider design (handles, internal hooks, door closing etc.)
<b>Window &amp; Window Opening</b>	Consider handles, trickle vents, hinges
<b>Window &amp; Door Weatherproof Seals</b>	Consider ligature points
<b>Sink Taps, Plugs</b>	Consider ligature points

\*Table from [Nottinghamshire Healthcare NHS Ligature Risk Reduction Policy](#)

# WHY CHOSE ANTI-LIGATURE

Anti-ligature products follow certain characteristics:

- Smaller perforation holes for products that require ventilation.
- Minimal gaps on joints
- (If wall-secured) minimal gaps between product and wall
- Bullnose, rounded corners
- Full casing

Below are some further reasons why you should choose anti-ligature products.

## 1

### They Could Minimise Self-Harm And Suicide

We'll start with the most obvious one. To repeat my previous statistic, approximately three-quarters of patients who die by suicide on psychiatric wards do so by hanging or strangulation.

A national study carried out by the University of Manchester suggested increased awareness of the methods used by these patients may benefit from prevention strategies in mental health services.

## 2

### More Likely To Be Stronger

When patients are seeking to self-harm, they don't just look for the obvious ligature points. Quite often, furniture in mental health settings is subject to vandalism. Once vandalised, Service Users could use the damaged furniture as a weapon or ligature point.

When designing anti-ligature products, manufacturers recognise that furniture in mental health settings is vulnerable to damage, urging them to create products that are stronger and more robust than their standard counterparts.

## 3

### They Can Improve A Room's Aesthetics

When designing a mental health setting, creating a calming atmosphere where Service Users feel comfortable and relaxed is of great importance.

When specifying products, the design and look of a room can impact on a patient's well-being.

Anti-ligature products can modernise any space, and they come in a range of colours to complement the room design.



## 4 Anchor Points Below Head

Many assume that the risk of suicide comes from ligature points above head-height. However, studies have found that many suicides have taken place where the ligature anchor point has been below head or even waist height. At Contour we identify ligature points at floorlevel to be a risk.

When we hear the term 'hanging' we often look to the ceiling to identify the potential hazards, but this certainly isn't the case.

Anti-ligature products such as radiators, TV cabinets, and light switch covers may all be located below head-height, so the radiator you choose is just as important as the curtain rail.

## 5 Saves Cost In The Long Term

Each year, mental health settings spend thousands of pounds on replacing damaged items due to the frequent vandalism that occurs.

Consider the longevity you'll gain from opting for an anti-ligature product that is both robust and damage-limiting.

The money saved through not having to frequently replace damaged furniture could be used to improve the facility in ways that enhance the experience of the Service User, positively impacting on their recovery process.

## 6 Anti-Ligature Products Aren't Linked To Mental Health

Whilst the features of anti-ligature products are closely aligned to the needs of a mental health setting, we supply anti-ligature products to a range of different establishments.

There's a need for anti-ligature products in SEN schools, elderly care homes, hospitals and police units, to name a few. This is due to the vulnerable nature of the individuals requiring a level of care.

It's important to note, too, that many individuals who've attempted suicide are frequently taken to a general hospital first for immediate care, prompting all healthcare facilities to consider their ligature prevention strategies.

## ANTI-LIGATURE PRODUCT RANGE

Contour has developed a specialist range of solutions for use in secure environments such as NHS or private mental health facilities, prisons and other secure custody services. Reducing the risk of potential ligature and tamper opportunities is of paramount importance in reducing the risk of harm to vulnerable individuals in these environments and Contour pride ourselves on our ability to provide suitable products.

## ANTI-LIGATURE RADIATOR COVERS

Our anti-ligature radiator covers come in three models:

- Sloping Top Wall Mounted With IP3x Grille-DeepClean Extra
- Sloping Top Floor Mounted With IP3x Grille-DeepClean Extra
- Flat Top Floor Mounted - where sloping top isn't possible

The DeepClean Extra IP3x overcomes the safety issues that can be raised by installation on uneven walls, whilst still allowing easy, full internal access for cleaning and maintenance.

We offer a professional and extensive service to support your anti-ligature radiator project, comprising of technical site consultations and surveys, short lead times, dedicated delivery and technical departments, bespoke design and an accredited nationwide radiator guard installer network.



# ANTI-LIGATURE RADIATORS

Our anti-ligature radiators come in three models:

- Sloping Top Floor Standing With IP3x Grille-DeepClean Extra
- Sloping Top Wall Mounted With IP3x Grille-DeepClean Extra
- Flat Top Floor Mounted With IP3x Grille-DeepClean Extra - Where sloping top isn't possible

In order to minimize the risk of self-harm, Contour's anti-ligature radiators make use of a grille design incorporating 2mm holes at 4mm centres, punched directly into the radiator guard. This has been tested to IP3x standards (BS EN 60529) by a UKAS accredited laboratory and is certified to protect against the ingress of objects greater than 2.5mm in diameter.

The new design means that Contour is well placed to meet the needs of UK prisons and secure custodial facilities. The Home Office Police Buildings Design Guide – Custody, July 2009, section PD3.02.14, details that grilles unless otherwise specified, should be perforated with 2mm diameter holes at 4mm centres, in a triangular pitch formation.

Our anti-ligature radiators provide a tapered, precision engineered, thermostatic radiator valve shroud which reduces the opportunity for the TRV to be used as an anchor point.

All wall and floor fixing points are located internally to protect against non-permitted access, removal or manipulation.

An array of security fastenings which include Pin Hex and key locks can be used to ensure fast and simple access for staff but prevent unwanted opening by service users

For wall mounted anti-ligature radiators, anti-ligature base plates can be securely fixed to the base of a unit. The radiators are made from 1.5mm Mild Steel. The construction ensures robust performance in the most demanding of environments.



# ANTI - LIGATURE HVAC & PERIMETER CASINGS

Transform your workspace with modern HVAC systems. We provide three different models:

- Flat Top Floor Standing
- Sloping Top Floor Standing
- Sloping Top Wall Mounted

HVAC and Perimeter Casing enhance your environment with an aesthetic design and provides continuous, efficient heating throughout your environment.

HVAC and Perimeter Casing can be made to order in any colour of your choice from our RAL chart. Each section of HVAC and Perimeter Casing is easily accessible for cleaning and re-decorating.

Designing and manufacturing casings for heating, ventilating & air conditioning (HVAC) systems requires more than simply producing a boxed housing for air treatment equipment.

It requires careful designing to ensure that the efficient functioning of an air movement system will not be impeded by a casing form that suits the aesthetic of the interior environment.

Contour design and manufacture completely **made to measure** HVAC and perimeter casing to house all manner of heating and ventilation systems, whether for new air movement systems or as part of a repair or refurbishment project.

In addition, casings can be designed and manufactured on a modular basis to slot into an existing arrangement.



## ANTI - LIGATURE PERIMETER HEATING

Our perimeter heating offer allows the architect and mechanical consultants to design a heating system that can run the full length/perimeter of the wall to create an aesthetically pleasing solution for heating a building.

Having multiple radiators across a wall with small sections of pipe boxing in between them, allows for areas to gather dust and grime, making them hard to keep clean and can introduce weak spots in the material used to cover the pipe work.

Thanks to the modular design of the Deepclean Anti-Ligature radiator, we are able to manufacture a perimeter heating system to fit within an existing building design with multiple radiators installed underneath to achieve the heat output required for that particular space.

Areas where this solution is typically used would be dining rooms and TV Lounges where the larger rooms normally require multiple radiators to heat them, as seen in the picture below.



# ANTI-LIGATURE VENTILATION GRILLE

Contour's new anti-ligature ventilation grille has been developed with the safety and care of its users in mind. Designed to be placed over the top of the standard ventilation grille, the anti-ligature ventilation grille incorporates the IP3x rated grille pattern. This can be seen on the DeepClean radiator covers in Contour's range.

The perforated holes allow the air to pass through and minimises the risk of a service user being able to secure a ligature point on the grille.

Manufactured from either 1.5mm Zintec steel or 1.5mm Magnelis steel (for wet environments), Contour's anti-ligature ventilation grilles are built with durability in mind.

The robust, full frame design enables quick access for cleaning and maintenance to ensure the grille stays clean, allowing the air to pass through and helping with infection control targets.

As with most of Contour's products, the anti-ligature ventilation grille is coated with BioCote® technology.

Ventilation Grilles are often positioned on ceilings or on high walls and their openings can be used to create a ligature point. With its robust, metal structure, Contour's anti-ligature ventilation grille can be fitted over the existing grille or opening to provide an anti-ligature solution whilst giving easy access for cleaning and maintenance.



## ANTI-LIGATURE TV CABINET

We have found that televisions are an important factor in the well-being of patients in mental health facilities, offering a soothing and calming effect. This is of importance when stress and anxiety levels of patients are at their highest.

Whether the aim is to keep up to date with current affairs or to engage in entertaining and enjoyable content, access to screen media provides patients with a positive experience, aiding happiness and contentment.

The anti-ligature TV cabinet is designed to be fitted neatly onto the wall, complimenting your current environment's aesthetics.

We recognise the importance of utilising the space that you have available, whilst adding to the calming and soothing environment that you're trying to achieve.

The TV cabinet protects televisions by fully encapsulating them in a stylish, wooden cabinet. The sloping sides minimise the risk of someone attaching a ligature to it.

The cabinet has a strip-hinged front door that can only be opened with the keys provided, ensuring authorised access only. It is locked as standard with either key lock or star key quarter turn locks.

3mm holes are punched into the powder coated ventilation grilles that allow air to circulate through the cover, as well as allowing sound to transmit into the room.

The frame of the cabinet is made from 25mm melamine faced MDF in a white finish. The TV is protected via an 8mm polycarbonate vision panel.

Standard sizes are available to suit 32", 42" and 50" TVs. Should you require a different size then please contact us to discuss.



# ANTI-LIGATURE LIGHT SWITCH COVER

Damage limitation is at the forefront of Contour's newest items and the anti-ligature light switch cover is no exception.

We recognise that the temptation to vandalise may become more attractive when there is potential to 'self-harm,' too. In this instance, a damaged light switch could cause electrocution.

The misuse of light switches can also lead to arguments and confrontations, where you have patients or pupils playing with the switches repetitively.

One NHS trust also had the problem of staff using the emergency lights as night-time lighting by mistake and draining the batteries, which is not ideal when in an emergency situation.

Limiting these issues and risks is the main concept behind the anti-ligature light switch.

Authorised personnel will be in charge of accessing the cover opening to turn the lights on at the start and end of the day.





## HYGIENE MADE SIMPLE

Providing a covering or casing over a radiator or light switch may prompt you to wonder, **how can I access the appliance in order to clean it?**

Our casings are accessed via a simple, quarter-turn lock system that can only be accessed via authorised personnel.

For a comprehensive guide on how to clean our radiator covers, [click here.](#)

## BIOCOTE

With the exception of the TV cabinets, all of our anti-ligature products are coated in [BioCote®](#), providing antimicrobial protection.

**Contour Heating Products Ltd are the only company to incorporate BioCote® anti-microbial protection into our LST and anti-ligature radiators and guards. This unique, patented additive provides an effective, safe and long-lasting solution to combatting a wide range of dangerous bacteria, including MRSA and E.coli.**

The active agents in BioCote® have been used extensively in Hospitals as excellent antimicrobials with low toxicity against non-target organisms. They don't function in the same way as antibiotics and there is no evidence to date to demonstrate that bacteria have become resistant to BioCote® as they have to some antibiotics.

[BioCote®](#) is tested to be effective against the following bacterium:

- Staphylococcus Aureus (including MRSA)
- Escherichia Coli (E-Coli)
- Listeria Monocytogenes
- Streptococcus faecalis
- Salmonella enteritidis
- Black Mold

## ABOUT CONTOUR HEATING

Contour Heating are specialist experts in the design, production and installation of a range of safe heating solutions for healthcare, education and commercial sectors across the United Kingdom.

Working in close partnership with architects, M & E consultants, contractors and the end clients, we can bring their visions to life when it comes to creating safer heating in particular environments. Our portfolio includes hospitals, mental health facilities and SEN schools.

The company was founded in 2003 by Leigh Simpson, who saw the life-saving potential of the anti-microbial properties in silver.

Through extensive research, Leigh designed a series of low surface temperature radiator guards containing the silver properties in the surface with the view of bringing revolutionary hygiene benefits to the healthcare sector with the potential to relieve the growing problems with antibiotic resistance.

With the incorporation of colour psychology into this solution, Contour Heating was created; bringing safe surface, colour coordinated solutions to the market that would generate more harmonious environments for staff, service users, patients and students alike.

These developments quickly redefined the marketplace and have positioned Contour as a design and innovation leader within the sector.

## ACKNOWLEDGEMENTS

Contour Heating are specialist experts in the design, production and installation of a range of safe heating solutions for healthcare, education and commercial sectors across the United Kingdom.

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