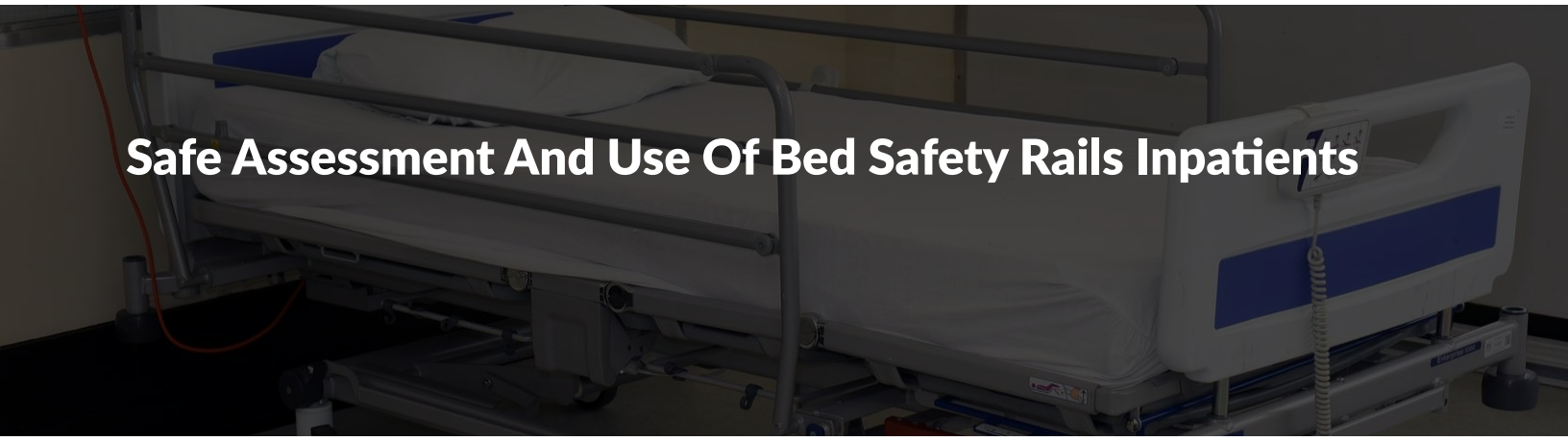


Safe Assessment And Use Of Bed Safety Rails Inpatients

NHS Greater Glasgow and Clyde

Description:

This module is for staff involved in assessing and prescribing Bed Safety Rails. This includes:

- All inpatient registered nursing staff – mental health, LD, ARDS, Forensics, acute and paediatric

Copyright Statement:

Please select the first lesson below, or the 'Start Course' button, to begin your learning experience.

INTRODUCTION

- Introduction
- Purpose Of The Module

BED SAFETY RAILS

- What Are Bed Safety Rails?

Introduction

Learning Outcomes

Aim: By completing this module, the learner will be able to...

1. Identify what bed safety rails are and the different types.
2. Identify when bed safety rails are safe to use and when they shouldn't be used.
3. Recognise why people fall out of bed and measures we can put in place.
4. Apply relevant risk and risk assessment procedures for the best practice of safe prescription as per the latest MHRA guidance.
5. Show how to check that equipment is in safe working order.
6. Recognise incident reporting responsibilities.

You can exit the module at any time, and your current progress will be saved.

PROCEED TO MODULE CONTENT

Purpose Of The Module

The Medicines and Healthcare Products Regulatory Agency (MHRA) issued a national patient safety alert regarding medical beds, trolleys, bed safety rails, bed grab rails and lateral turning devices in relation to the risk of death from entrapment or falls.

From 1 January 2018 to 31 December 2022, there were 18 reports of deaths related to bed safety rails, bed grab handles and associated equipment, and 54 reports of serious injuries.

The MHRA report highlighted that the above incidents were caused by the following:

- Inadequate risk assessment and/or failure to update a risk assessment following a change of any kind.
- Maintenance/Servicing issues.
- Prescription of equipment for children and/or people of small stature/atypical anatomy.
- Inappropriate use or incompatibility with other equipment.

CONTINUE

What are the reasons people fall out of bed?

Demonstration of a patient climbing over bed rails and at risk of a fall.

People primarily fall out of bed whilst turning and transferring.

Also, they are at higher risk when getting up to use the toilet during the night.

Falls might be due to:

- Impaired or restricted mobility.
- Repetitive or involuntary movements.
- Confusion/disorientation.

- Stress/distress/delirium.
- Medications/variable levels of consciousness.
- Unpredictable behaviours and movements linked to a medical condition or developmental delay.

CONTINUE

What Are Bed Safety Rails?

Use the arrows to cycle through the three images, showing the different bed rail types.

Bed with integral full length bed safety rails

Third party bed safety rails fitted to a bed

Bed with integral split side safety rails

Bed safety rails are attached to the side of beds and are used to reduce the risk of people rolling, slipping, sliding and falling from bed.

2 types of bed safety rails are in use:

Select the flashcards to flip and reveal further information.

Integral

They are incorporated into the bed design and supplied with/or offered as an optional accessory by the bed manufacturer, to be fitted later.

Third Party	These are not specific to any particular bed model. They are attachable and detachable and intended to fit a wide variety of bed frames from different suppliers.

The majority of bed safety rails in use are of the integral type.

CONTINUE

Why Do We Use Bed Safety Rails?

- Bed safety rails are designed to reduce people's risk of accidentally slipping, sliding, falling or rolling out of bed.
- To safely transfer people on beds or trolleys.
- In areas where a person is under the influence of/recovering from anaesthetic or sedation and is under constant supervision.

What would not be an appropriate use of bed safety rails?

- Bed safety rails will not prevent a person from leaving their bed and falling elsewhere, and should not be used for this purpose, i.e. they are not for restraint.

- They are not intended for the person to use as an aid to manoeuvre themselves (unless specified in the bed manufacturer's user guide).

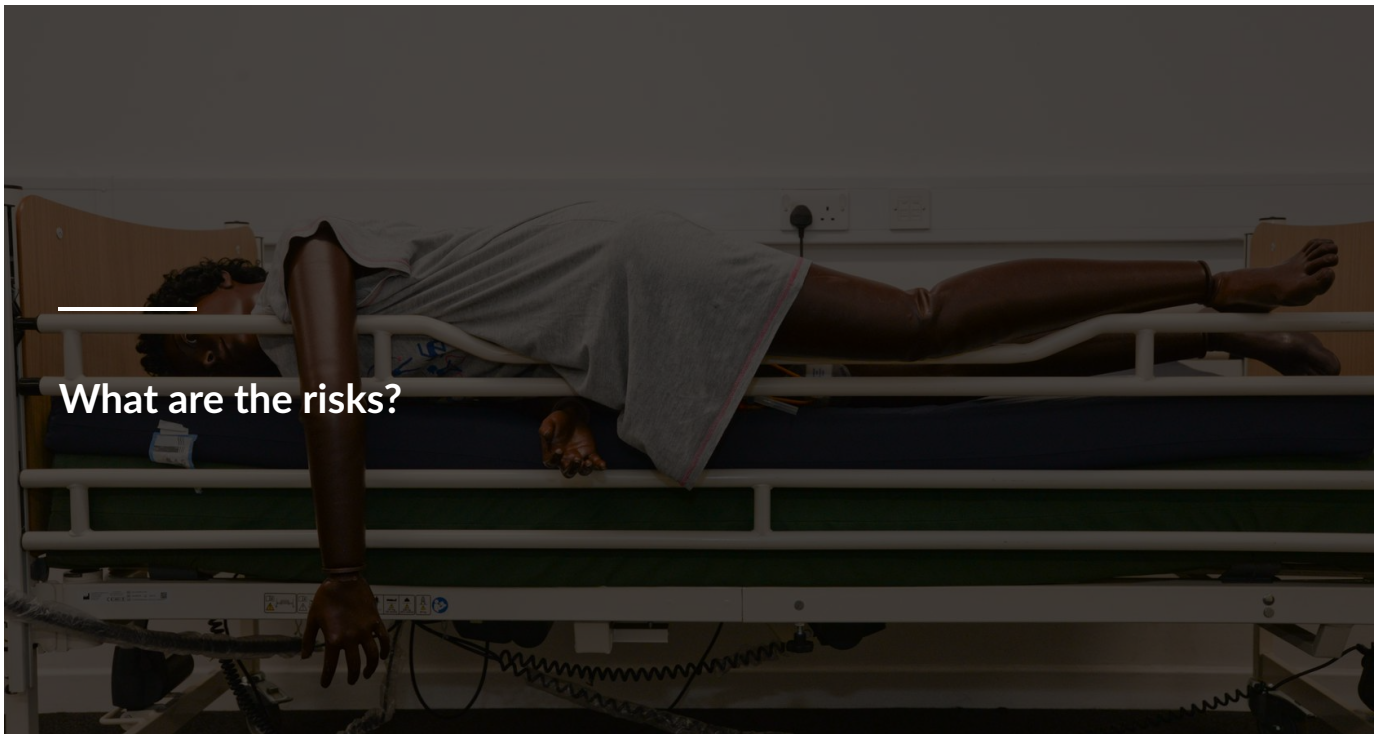
SELECT FOR FURTHER INFORMATION

Bed safety rails should not be used...

- Where there is no assessed/identified need for the bed safety rail.
- To restrain or limit the freedom of people by preventing them from leaving their beds.
- Where the rail restricts otherwise independent transfers.
- When there is no bed safety rail risk assessment in place.

CONTINUE

Risks When Using Bed Safety Rails



We have now covered the benefits of using bed safety rails, but as with all equipment, there are also risks to be aware of. These include...

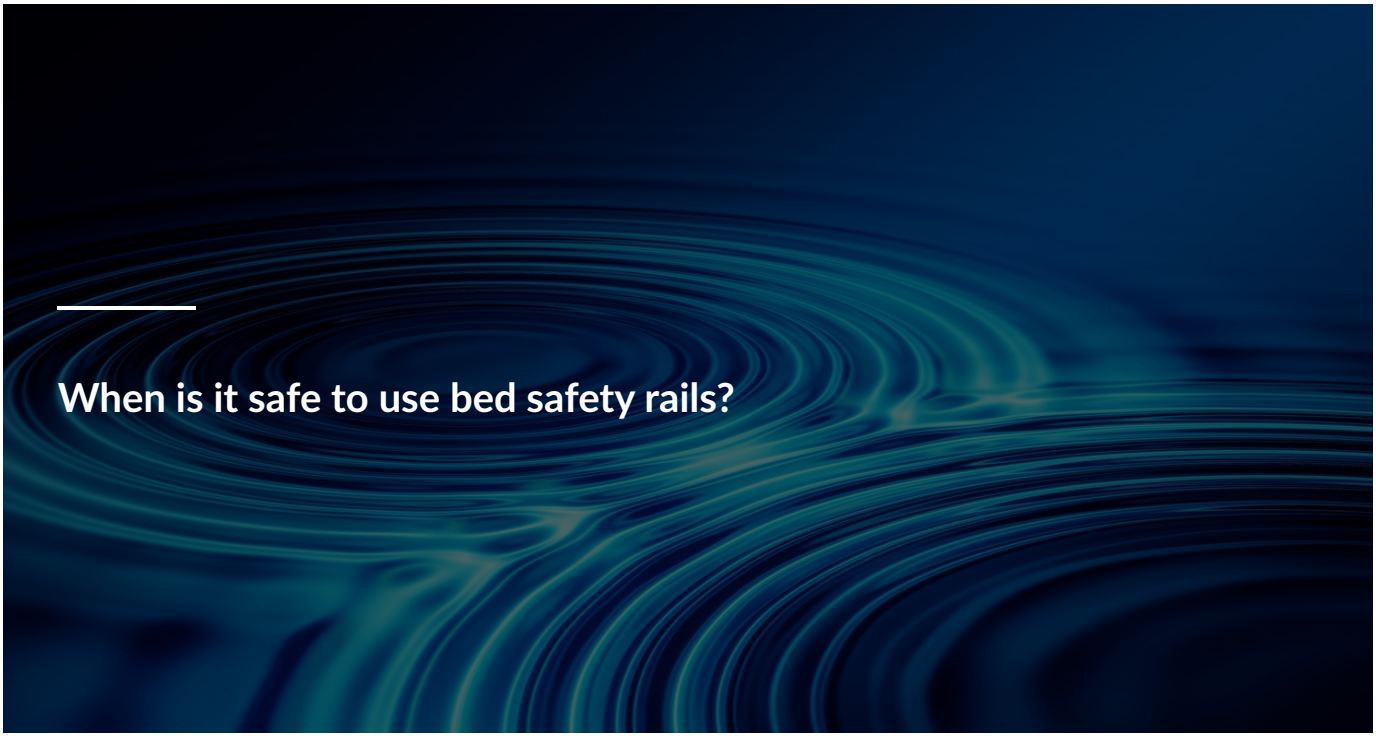
- **Risk of injury** - From climbing or rolling over bedrails.
- **Risk of injury** - Due to inappropriate configurations of bed, mattress and rail system in

place.

- **Risk of injury** - Due to non-compatible accessories added to bed.
- **Risk of entrapment of body or body parts** - A person's height, weight and body mass change the entrapment risk.
- **Risk of suffocation or asphyxiation** - Where the head, neck or chest becomes entrapped against the mattress or within rail gaps.
- **Risk of deconditioning by reducing independence** – Use of a bed safety rail may limit a patient from reaching the optimum level of independence or may result in over-dependency on the rail.
- **Risk of misuse**. For example, using bed rails to restrain a patient.

Select the play button to start the short YouTube video by Kirklees Council Moving & Handling Team (Kirklees Council Moving & Handling Team, 2023). The video covers some of the risks associated with inappropriate bed side rails and bed grab handles.

Risk Management - Bed Side Rails and ...



It is important that we balance the risks of using the bed safety rail with the possible benefits.

A bed safety rail risk assessment helps with this decision-making and records any identified risks and mitigations.

CONTINUE

Trolleys

What are the risks?

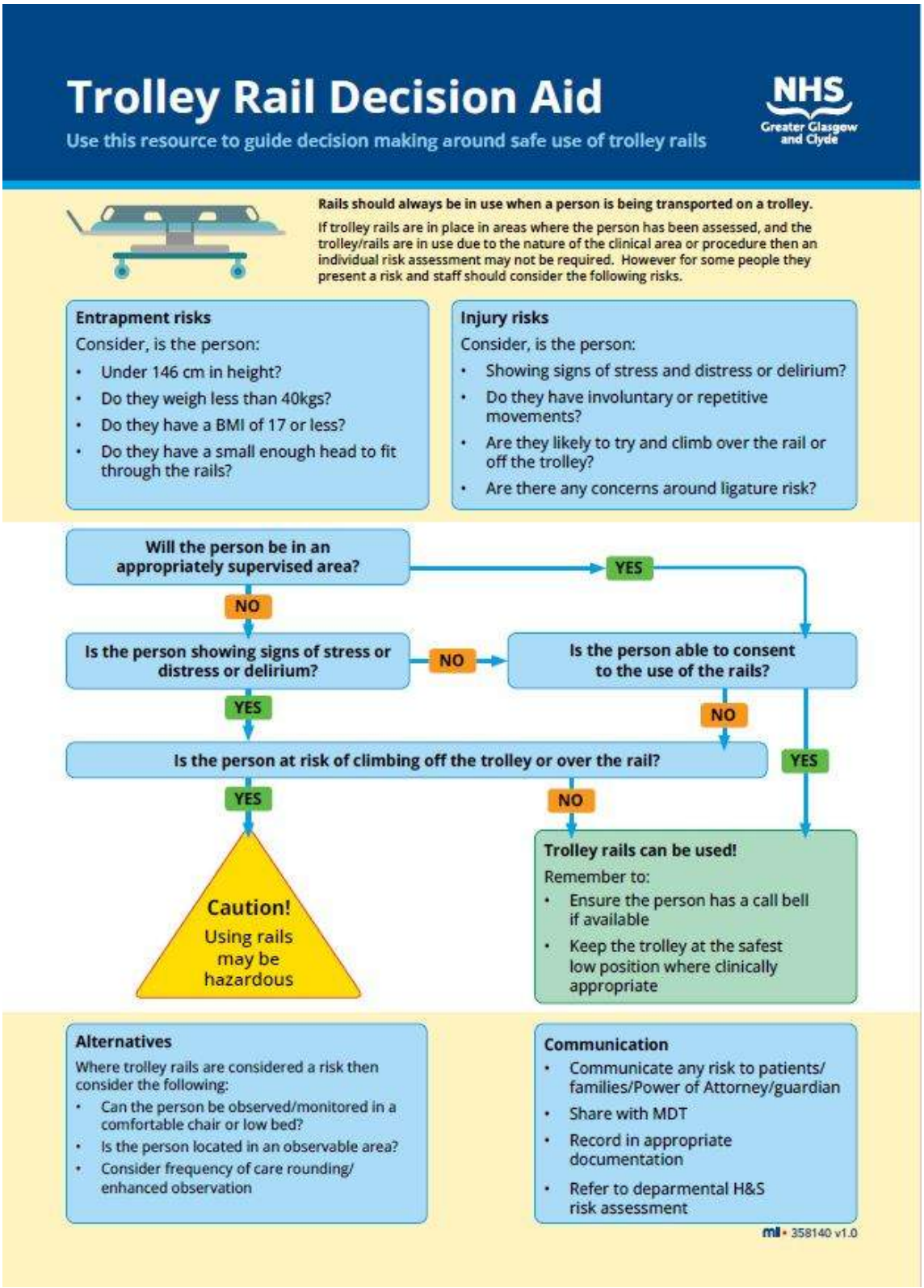
In general, trolley rails should be used whilst a person is on the trolley, as there is an increased risk of falls due to:

- Trolleys being thinner and higher than beds.
- Trolleys are being used in areas, e.g. acute admission or A&E, where the person is likely to be

acutely unwell and is undergoing assessment of needs.

However, where appropriate, staff should consider the risks by using the trolley rail decision tool below to identify the risks and document rationale and any alternatives in use where the use of rails is contraindicated.

The image below shows the Trolley Rail Decision Aid flowchart. A text transcript is available; select the heading below the image to expand and access it.



NHS Trolley Rail Decision Aid flowchart

NHS Trolley Rail Decision Aid - Transcript

Use this resource to guide decision-making around safe use of trolley rails

Rails should always be in use when a person is being transported on a trolley.

If trolley rails are in place in areas where the person has been assessed, and the trolley rails are in use due to the nature of the clinical area or procedure, then an individual risk assessment may not be required. However, for some people, they present a risk, and staff should consider the following risks.

Entrapment risks

- Consider, is the person:
- Under 146 cm in height?
- Do they weigh less than 40 kgs?
- Do they have a BMI of 17 or less?
- Do they have a small enough head to fit through the rails?

Injury risks

- Consider, is the person:
- Showing signs of stress and distress or delirium?
- Do they have involuntary or repetitive movements?
- Are they likely to try and climb over the rail or off the trolley?
- Are there any concerns around ligature risk?

Flowchart

Step 1:

Will the person be in an appropriately supervised area?

If YES → Trolley rails can be used (see reminders below).
If NO → go to Step 2.

Step 2:

Is the person showing signs of stress, distress, or delirium?
If YES → Caution! Using rails may be hazardous.
If NO → go to Step 3.

Step 3:

Is the person able to consent to the use of the rails?
If YES → Trolley rails can be used (see reminders below).
If NO → go to Step 4.

Step 4:

Is the person at risk of climbing off the trolley or over the rail?
If YES → Caution! Using rails may be hazardous.
If NO → Trolley rails can be used (see reminders below).

When Trolley Rails Can Be Used

- Ensure the person has a call bell if available.
- Keep the trolley at the safest low position where clinically appropriate.

Alternatives

- Where trolley rails are considered a risk then consider the following:
- Can the person be observed/monitored in a comfortable chair or low bed?
- Is the person located in an observable area?
- Consider frequency of care rounding/enhanced observation

Communication

- Communicate any risk to patients/families/Power of Attorney/guardian
- Share with MDT
- Record in appropriate documentation
- Refer to departmental H&S risk assessment

You can access and download a copy of the Trolley Rail Decision Aid flowchart by selecting the document below.

PDF

NHS Trolley Rail Decision Aid.pdf
127 KB

CONTINUE

What Is Your Role?

1. Complete Bed Safety Rail Risk Assessment or review existing assessment and equipment, identifying any risks that may be present.

2. Ensure that the person, guardian, or carers are aware of the risk assessment and that a patient information leaflet has been issued.

3. If you notice any new risks or changes in a person's condition or environment, then carry out a new Bed Safety Rail Risk Assessment.

4. Complete basic checks of equipment when operating the bed safety rail.

5. Ensure that the person has a risk assessment in place and that they have been deemed appropriate for a bed safety rail.

CONTINUE

Maintenance Checklist

To ensure that the bed safety rails are in usable condition, all staff should conduct a visual inspection before use or supply. This inspection should include checking:

- [ ] **For deterioration of the metal**. For example rust.
- [ ] **The joints are sound**. Not showing signs of cracks, failure or free movement.

- [ ] **For cracking of paint or coating**. This can point to deeper structural failure.
- [ ] **For flaking or peeling chrome plating**. This can cause lacerations.
- [ ] **For missing locking catches, clamps and other components**.
- [ ] **For loose fixings**.
- [ ] **Where components can't be tightened securely**.
- [ ] **For bent, distorted or damaged metal or plastic components**.
- [ ] **For intact labelling and if there are up-to-date instructions for use**. Updated versions can be requested from the manufacturer or on the manufacturer's website.

Bed Safety Rail Checks

How To Check A Bed Safety Rail

Please cycle through the process for checking a bed safety rail. Review the information provided for each step.

Step 2

Step 1

Check for signs of wear and tear.

Step 3

Step 2

Check that the bed safety rail moves up and down appropriately.

Step 4

Step 3

Check the bed safety rail doesn’t move significantly when in place.

Step 5

Step 4

Check that there are no obvious gaps between the bed and the bed safety rail.

Any faults to the equipment should be reported immediately

Following your organisation's incident reporting policies, any relevant clinical or safety incidents must be reported utilising the appropriate risk management reporting systems.

Checks When Raising The Rails

Please cycle through the process for checking a bed safety rail to ensure it doesn't lower unexpectedly. Review the information provided for each step.

Step 2

Step 1: Listen

Listen for and hear a ‘click’ when the rail is raised.

Step 3

Step 2: Visual Check

Visually check the locking mechanism has been engaged.

Step 4

Step 3: Physical Check

Physically check the rail is locked in position by attempting to lower the rail without disengaging the locking mechanism.

Summary

Following these three steps, each time you raise or lower a rail will ensure the rail is properly locked and will prevent the rail from lowering unexpectedly.

I HAVE READ OVER THE PROCESSES

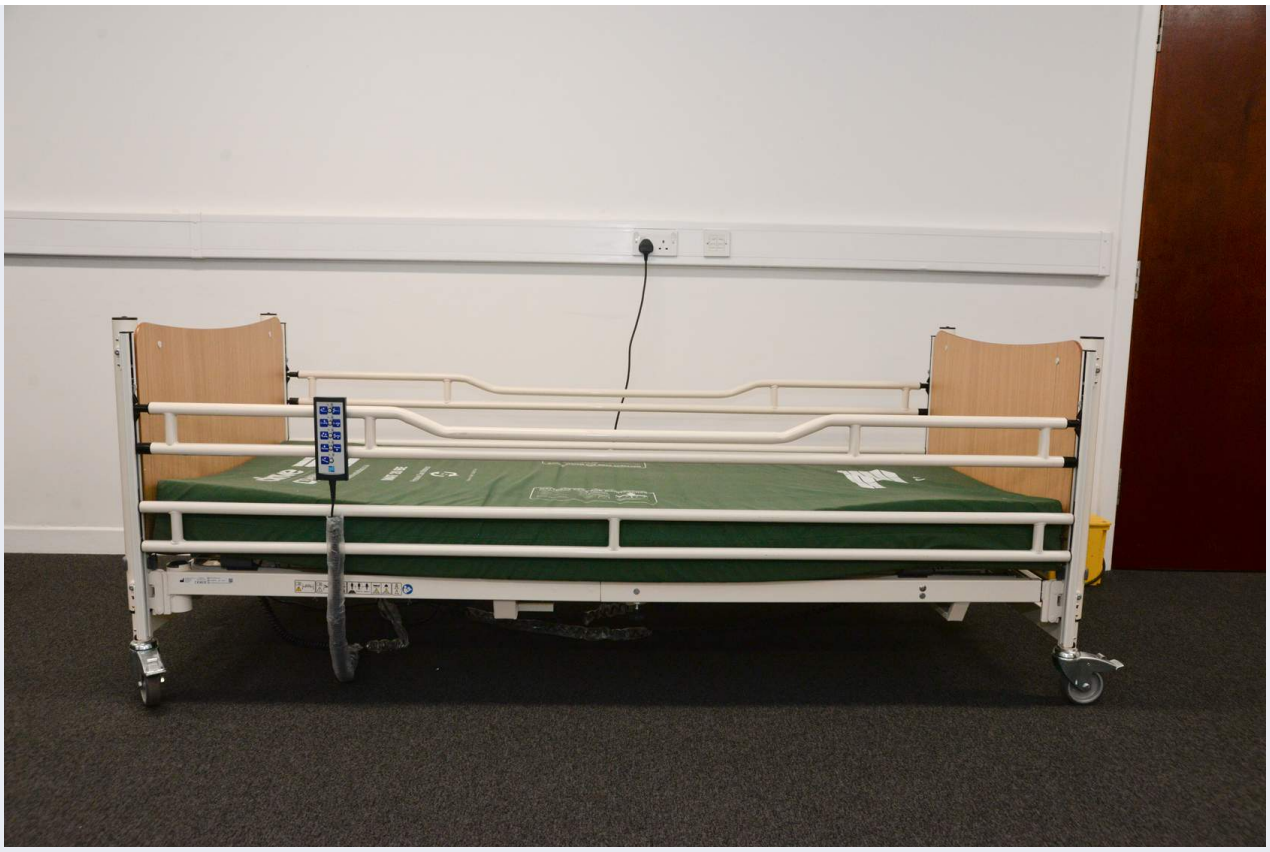
The processes above should be followed to minimise the risk to patients when using bed safety rails. There are other factors to consider, though, including...

Bed Height

Following assisting or working with a person in bed, always return the bed to the lowest height, as this can reduce the risk of significant injury should the person fall out of bed.

Use the arrows to cycle between the images. The images show the bed raised and lowered to the optimal height.

Bed raised



Bed lowered to optimum lowest height

Other Measures That May Be In Use

Floor Bed

Safety Mat

In order to reduce the risk of entrapment, injury and falls, the assessor may consider the following items as either alternatives to rails or in combination with the bed rails:

- **Floor beds and ultra-low beds**.
- **Crash mats**.
- **Bed safety rail bumpers**.
- **Bed safety rail mesh bumpers**.
- **Alarm systems**.
- **Positional wedges**.
- **Different width sizes of mattresses**. Bariatric beds allow the mattress base to be widened; however, when the bed is widened, the correct mattress for the bed size must be used. Using the incorrect mattress size could increase the risk of entrapment.
- **Mattress infill**. Extendable beds in the extended position will require an appropriate mattress infill to be used.
- **Firm edged mattress**. Where compression causes gap.

- **Different types of beds**. Note that if this is a child or adult with atypical anatomy, there may be conversion kits that address larger gaps for certain beds.

These should be approved by the bed manufacturer as compatible for use.

Now that you understand your role, in the next lesson, we will look at the risk of entrapment.

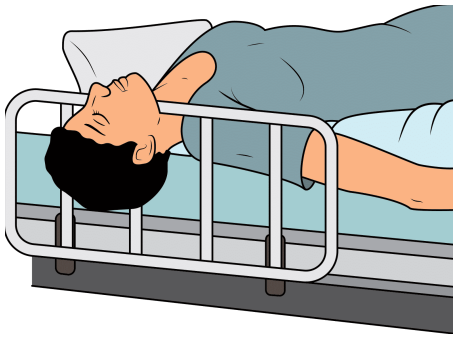
CONTINUE

Entrapment

Entrapment Zones

The images below show all the possible entrapment zones.

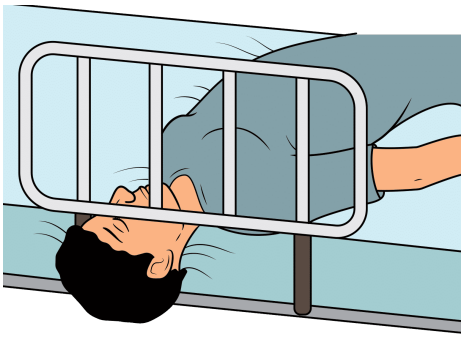
Cycle through and select each of the seven flashcards to flip and reveal further information.



Entrapment Zone 1:

The gap within the rails.

1 of 7



Entrapment Zone 2:

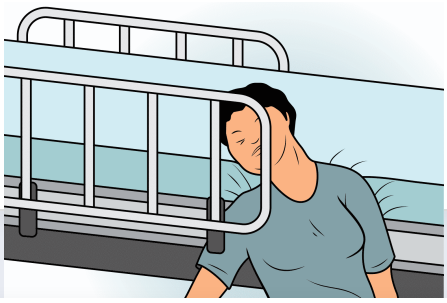
The gap between the top of the compressed mattress and the bottom of the rail.

Entrapment Zone 3:

The gap between the rail and the mattress.

Entrapment Zone 4:

The gap between the rail and the foot of the bed.



Entrapment Zone 5:

The gap between the separate split-side rails.

Entrapment Zone 6:

The gap between the rail and headboard.

Entrapment Zone 7:

The gap between the mattress and the headboard or footboard.

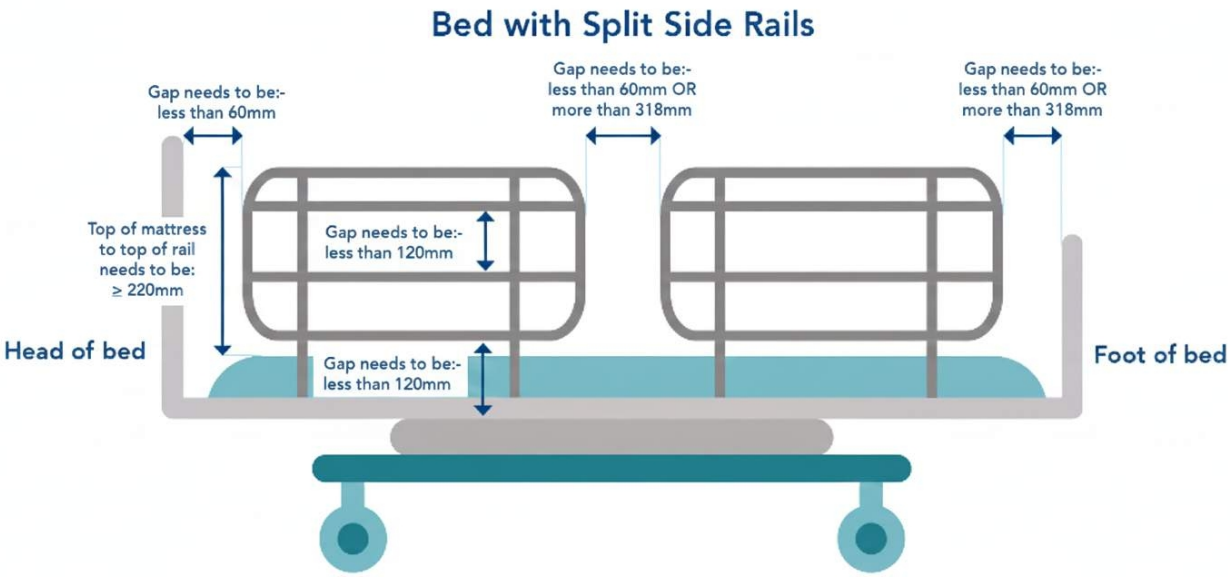
Tables Of Entrapment

The images below demonstrate the gap measurements recommended by the MHRA guidance. These must be adhered to to prevent entrapment. The tables are split into differing sizes for typical adults and children, or adults/persons with atypical anatomy.

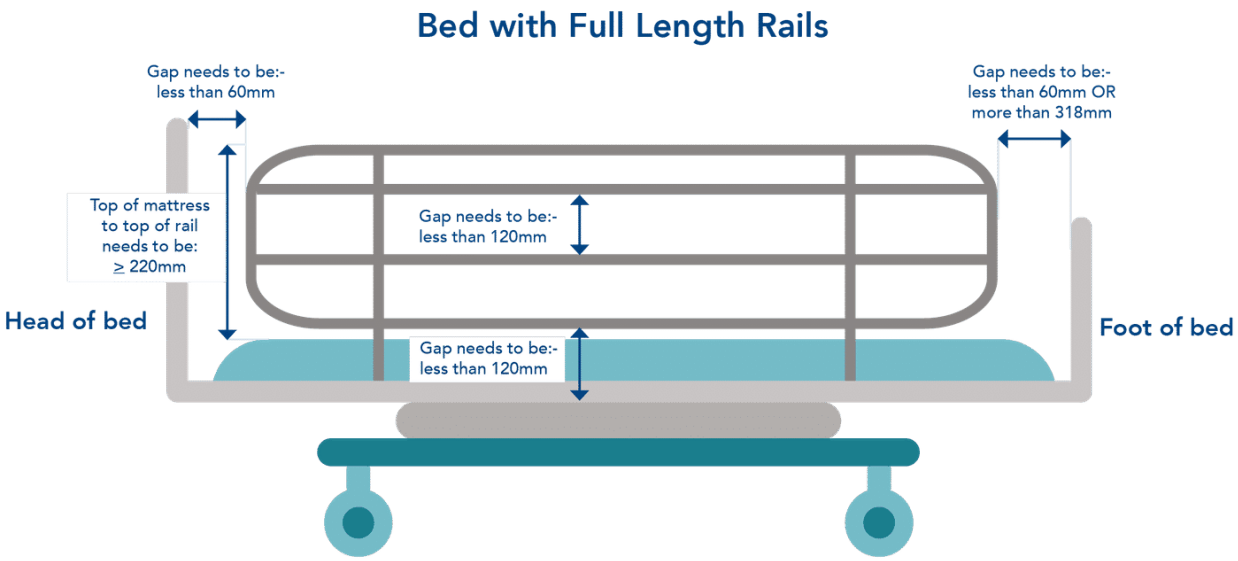
Adults:

Select the headings below to reveal a text summary of the information from each table of entrapment. You can select each of the images to zoom in.

- The gap between the top of the mattress and the top of the rail needs to be less than or equal to 220mm.
- The gap between the head of the bed and the rail needs to be less than 60mm.
- The gap between the rails needs to be less than 120mm.
- The gap between the base of the bed and the bottom of the rail needs to be less than 120mm.
- The gap between the separate split side rails needs to be less than 60mm or more than 318mm.
- The gap between the foot of the bed and the rail needs to be less than 60mm or more than 318mm.

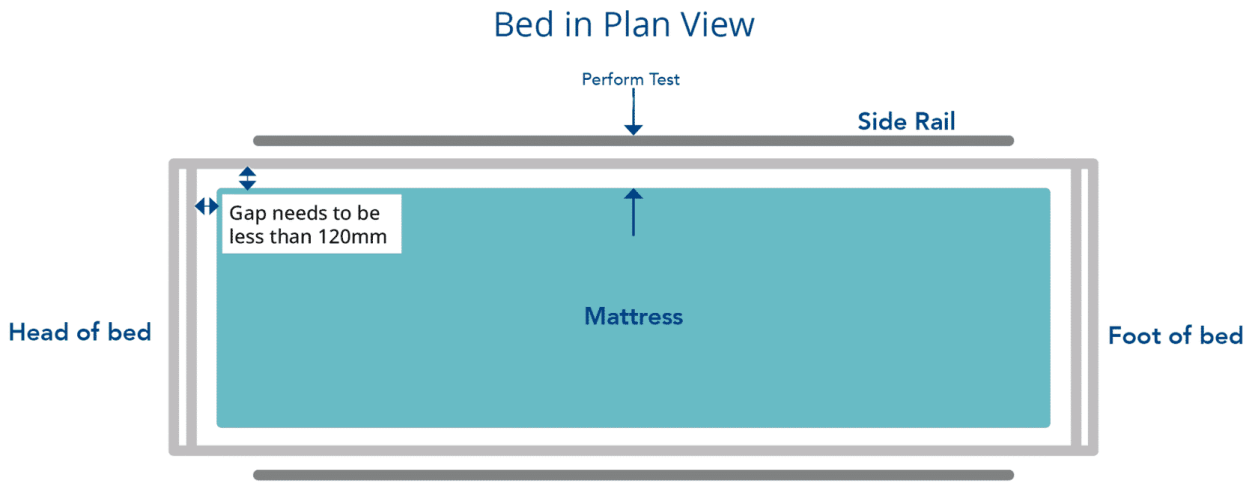


- The gap between the top of the mattress and the top of the rail needs to be less than or equal to 220mm.
- The gap between the head of the bed and the rail needs to be less than 60mm.
- The gap between the rails needs to be less than 120mm.
- The gap between the base of the bed and the bottom of the rail needs to be less than 120mm.
- The gap between the foot of the bed and the rail needs to be less than 60mm or more than 318mm.



BED WITH SPLIT SIDE RAILS | BED WITH FULL LENGTH RAILS | BED IN PLAN VIEW

- The gap between the mattress and the side of the bed needs to be less than 120mm.



Children Or Person With Atypical Anatomy:

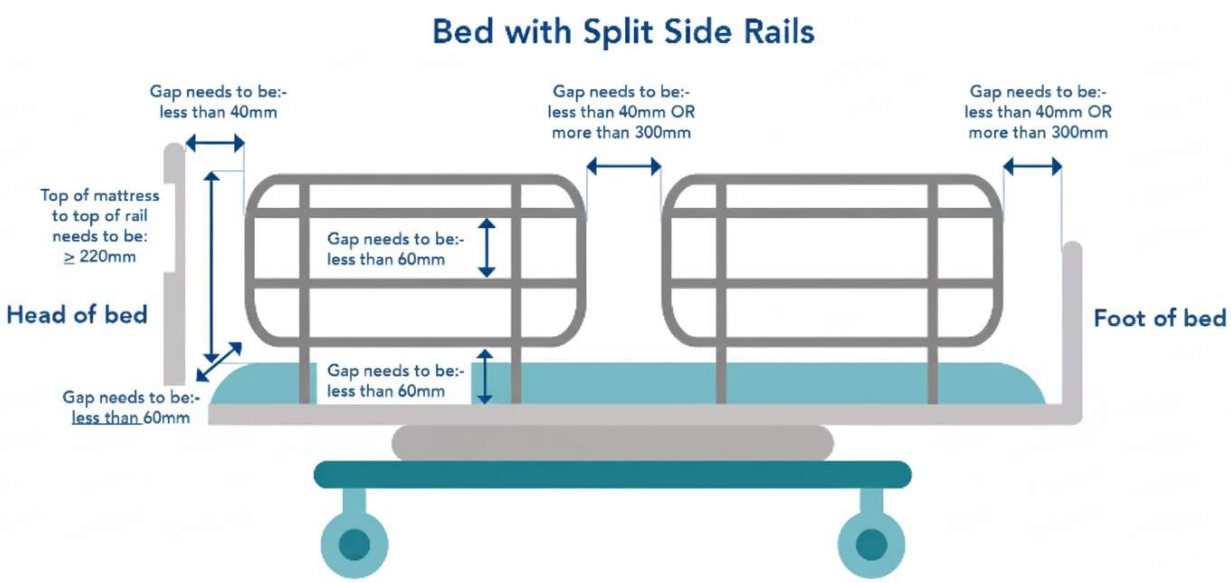
Where the adult or child satisfies **any** of the following criteria, the expected gaps are smaller:

- They are smaller than 1.46m (4 foot 11 inches).
- They are lighter than 40kg.
- They have a BMI under 17.

Select the headings below to reveal a text summary of the information from each table of entrapment. You can select each of the images to zoom in.

BED WITH SPLIT SIDE RAILS | BED WITH FULL LENGTH RAILS | BED IN PLAN VIEW

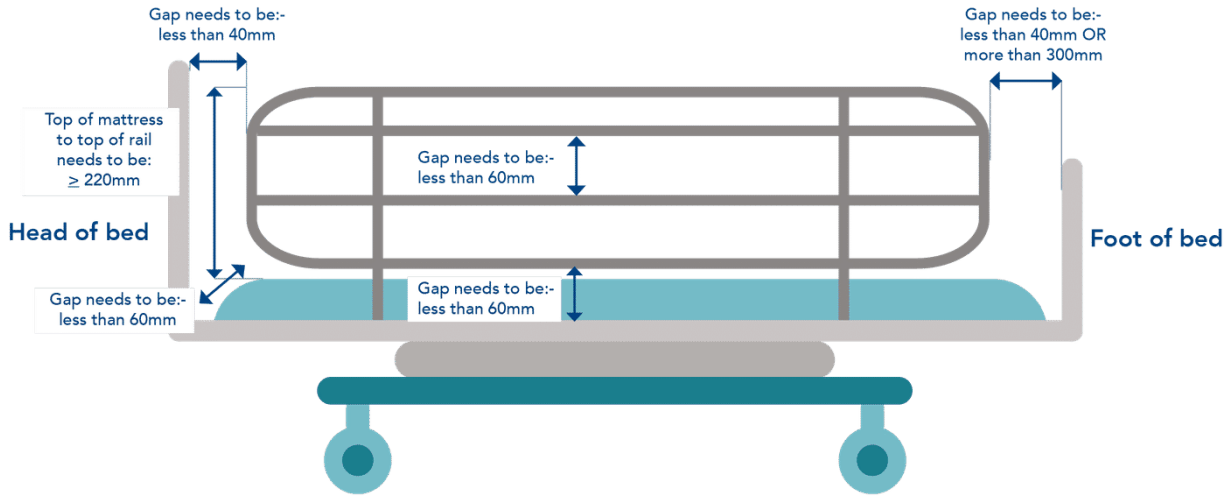
- The gap between the top of the mattress and the top of the rail needs to be less than or equal to 220mm.
- The gap between the head of the bed and the rail needs to be less than 40mm.
- The gap between the rails needs to be less than 60mm.
- The gap between the separate split side rails needs to be less than 40mm or more than 300mm.
- The gap between the foot of the bed and the rail needs to be less than 40mm or more than 300mm.
- The gap between the bottom of the rail and the base of the bed, either at the side or in the corners, needs to be less than 60mm.



BED WITH SPLIT SIDE RAILS | BED WITH FULL LENGTH RAILS | BED IN PLAN VIEW

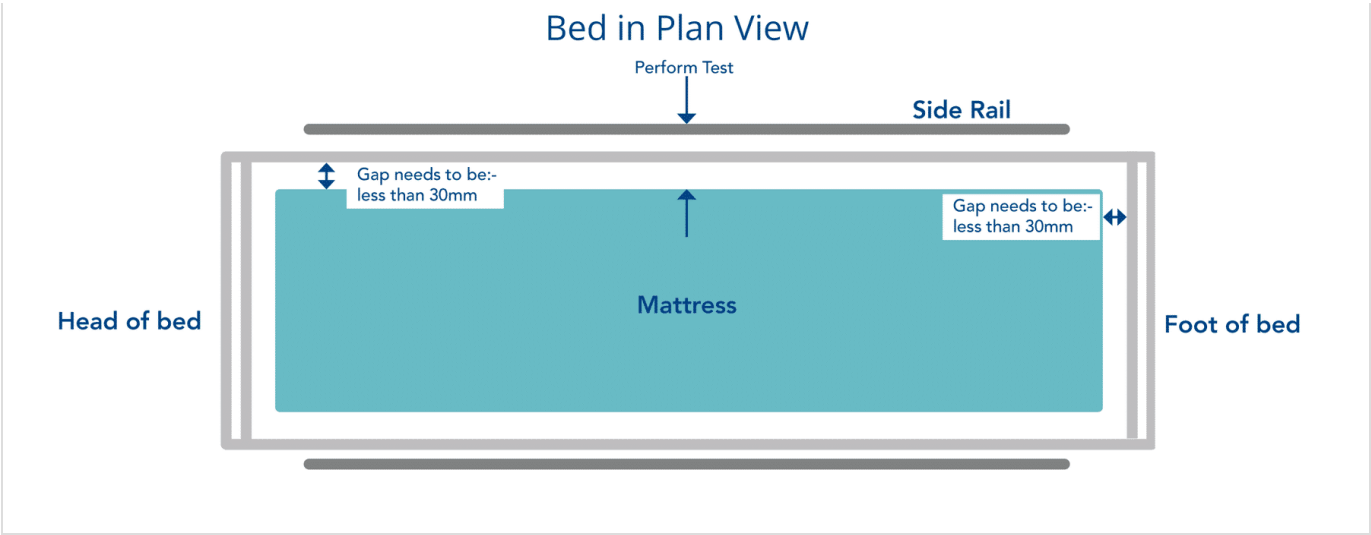
- The gap between the top of the mattress and the top of the rail needs to be less than or equal to 220mm.
- The gap between the head of the bed and the rail needs to be less than 40mm.
- The gap between the rails needs to be less than 60mm.
- The gap between the foot of the bed and the rail needs to be less than 40mm or more than 300mm.
- The gap between the bottom of the rail and the base of the bed, either at the side or in the corners, needs to be less than 60mm.

Bed with Full Length Rails



BED WITH SPLIT SIDE RAILS | BED WITH FULL LENGTH RAILS | BED IN PLAN VIEW

- The gap between the mattress and the side of the bed needs to be less than 30mm.
- The gap between the mattress and the foot of the bed needs to be less than 30mm.



Entrapment Risks Due To Gaps

- Entrapment can happen between the end of the bed safety rail and the headboard if the gap is too large.
- Entrapment can also occur in the space between a poorly fitting mattress and the side of the bed safety rail if it does not fit the bed base snugly enough. The compressible nature of the edge of most mattresses can contribute towards the entrapment risk.
- Entrapment due to the size of gaps between rails being too large – **Minimum of 120mm for adults, 60mm for children (or atypical anatomy)**.

How Can You Minimise These Risks?

- Ensuring compatible equipment is used.
- Ensuring that gaps are within acceptable limits.
- Ensuring that mattresses are in good working order and firm enough to not present a gap when compressed.

Select the play button to start the short YouTube video by Glasgow City HSCP. The video is designed to assist you when measuring for safe gaps in bed safety rails. A text transcript is available; select the heading below the video to expand and access it.

Bed Rail Measurements - Transcript

This video is designed to assist you when measuring for safe bed gaps in bed rails and bed grab handles. This information is based on the MHRA's August 2023 guidance.

There are various tools that you may be able to use in your practice to assist with this. There are bed rail gauges supplied by manufacturers which outline these measurements. You can also use a standard measuring tape to assist with this process.

Bed safety rails, as the one you can see here, are also known as cot sides and integral rails. These are used to prevent users falling out of bed. They are not designed to stop someone getting out of bed who has the will or the ability to do so. So firstly, you need to identify the height and the weight of your service user. The MHRA has different guidance for people who are over 1.46 meters, over 40 kg and have a BMI over 17.

First measurement that you would be looking at, which applies to all users, no matter your height, is the height of the mattress to the height of the bed safety rail. This is known as the 220-millimetre rule. So you would be ensuring that the height of the mattress platform to the height of this rail is 220 mm. So, for clients who are over 1.46 metres, above 40 kg and have a BMI over 17, these measurements would apply.

These bed rails you see here are full-length bed rails, however, there are some on the market that aren't full-length. You would need to ensure that if there was a gap here it was less than 60 mm or over 318 mm. We also need to ensure the gaps between the side rails are less than 120 mm. There is also a gap between the bed bottom of the bed rail and the bed base which needs to be less than 60 mm.

For clients who are under 1.46 m in height, have a BMI less than 17 and are less than 40 kg. The measurements are reduced between headboard and rail, they would need to be 40 mm or 300, so it needs to be under 40 mm or over 300 mm. The gaps between the bed rails are significantly less as well. They are 60 mm, which you can see here, so this bed would probably be unsuitable for somebody under 1.46 m in height and you also have the same rule, the same 60 mm rule at the bottom here for between the bed base and the bottom of the bed rail.

And we're going to move on to bed grab handles now. I am now going to demonstrate how to measure safe gaps in bed grab handles. Bed grab handles like the one you see here are designed to assist clients transferring safely and independently out of bed. As you can see here, they are not used to prevent a client falling out of bed.

The first measurement you need to be aware of when assessing is 318 mm. Grab handles should be at least 318 mm away from the wall, as it is in this situation, or the headboard of the bed. They can be moved further up the bed. However, you would need to be ensuring that it is less than 60 mm from the top of the bed headboard or the wall.

In terms of gaps, these need to be less than 120 mm and you also need to be ensuring there is less than 120 mm from the bed grab handle to the start of the mattress. The 318 mm rule also applies to any adjacent furniture or other adaptive equipment you may be using. All of these measurements are recommendations to reduce the risk of injury and entrapment for your service users. Please consider all of these when producing your clinical risk assessment.

CONTINUE TO KNOWLEDGE CHECK

Knowledge Check

To test what you have learned in this section, please complete the knowledge check question below. Once you correctly answer the question, select '**CONTINUE**' to proceed to the next lesson.

You have an elderly lady, Uma, on the ward and notice the gaps on the bed safety rails look too large for her size. What should you do?

Select your answer and then select 'SUBMIT'.

- ◯ Complete a full bed safety rails risk assessment.
- ◯ Leave the fitted rails. Uma is an adult so the rails should be fine.
- ◯ Put the bed safety rails down.

SUBMIT

COMPLETE LESSON

Now that you understand your role and how to minimise the risk of entrapment, we will explore the bed safety rails risk assessment in the next lesson.

CONTINUE

Risk Assessment

It is important that staff have taken a structured approach to making decisions about providing the recommended solution.

The risk assessment is to ensure all persons with responsibility for the provision, prescription, use, and maintenance of Bed Safety Rails are aware of the associated risks so that appropriate equipment can be prescribed and the risk of harm to an adult, child, or young person can be prevented.

MHRA Bed Rail Guidance specifies that an appropriate risk assessment is completed on the provision of Bed Safety Rails.

You will need to consider this when completing the falls risk assessment bundle. Additionally, within acute services, please keep this in mind while filling out the My Admission Record (MAR).

Risk assessments should be reviewed and recorded after each significant change in the bed occupant's condition or needs, such as:

- Upon transfer to another area
- After a fall or change in the patient's condition – e.g. change to their physical condition, behaviour changes (stress and distress/attempts to climb over the rail)
- At least weekly (or monthly in long-term care wards, where the patient's behaviours are known to staff).

Are there any circumstances where a risk assessment is not required?

The use of formal risk assessment is not required in the following circumstances:

1. In the immediate pre- and post-operative period, when sedative or anaesthetic medication has been administered.
2. When the patient is sedated/anaesthetised within an intensive care setting (Level 3), and one-to-one nursing care is provided.
3. When bed safety rails are used for the transportation of patients between areas.

For patients pre- and post-surgery/procedure/transportation who are known or suspected to have ongoing personal safety needs (e.g., patients with mobility or cognitive

health issues), a risk assessment must be completed and reviewed as per the bed rail policy.

Now that you know why and when a risk assessment is required, in the following lessons, we will look at the assessment process.

CONTINUE

Assessment Process

This lesson will cover the questions in the risk assessment and provide relevant guidance.

Please review each question and then select the 'REVEAL GUIDANCE' buttons to reveal the guidance related to each risk assessment question.

Section 1

Questions

- Is the person likely to fall, roll, slip, or slide from the bed?
- Has the patient requested the use of bedrails?

REVEAL GUIDANCE

If answering no to both questions, then bed safety rails should not be prescribed. The assessor should complete section 4 to record the outcome – bed safety rails not in use.

If answering yes, continue to the next questions.

Section 2

Entrapment/Injury Risks – The Person

Questions

- Is the person at risk of climbing out of bed or over the rail?
- Is the person showing signs of stress and distress or delirium?
- Is the person small in stature? – less than 1.46m/4'4"/40KG/BMI under 17
- Is the patient deemed independent?

- Does the person have any medical conditions that may increase the risk of injury or entrapment – e.g. epilepsy, repetitive or involuntary movement etc.
- Does the person have an unusually large or small head that might present an entrapment risk?
- Does the person have restricted bed mobility?
- In your opinion, does using bed safety rails present a higher risk to the patient than falling out of bed?

REVEAL GUIDANCE

- If it is unlikely that the person will climb over the bed safety rail, then proceed with the next step.
- Consider the person's behaviour, involuntary movement, confusion, agitation, substance misuse, stage of development, and cognition and understanding.

If it is likely that they will climb over the bed safety

rail, alternatives to rails should be considered.

Bed safety rails should not be used if the patient:

- Is too disorientated to recognise risk but is agile enough to climb over the bed.
- Would be independent if the bedrails were not in use.

Climbing over bed safety rails increases the risk of severe injuries, such as brain injury, fractures, and

even death.

Consider

If a person is at risk of falling out of bed and may attempt to climb over the rails, consider using a floor bed or a low bed option. Additionally, using a crash mat can help reduce the risk of injury without the need for bed rails. However, this may introduce a trip hazard for patients and staff.

Think about the following points and risks associated with injury from movement or climbing over the rails.

- Is the patient showing signs of trying to climb out of bed?

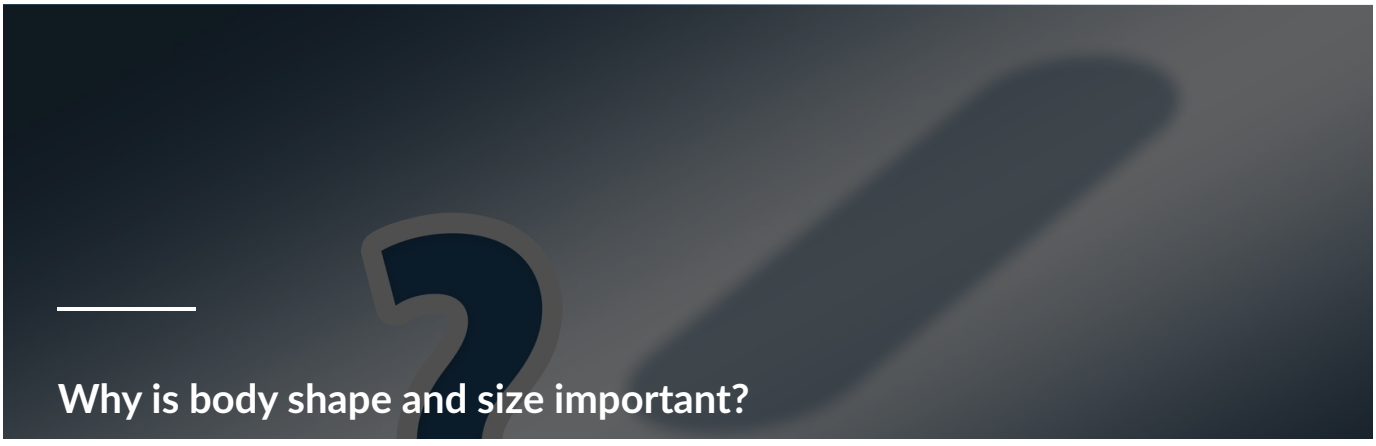
- Does the patient have extreme involuntary movements that would increase the risk of falling out of bed?
- Is the patient confused or showing signs of stress or distress?
- Does their presentation fluctuate?

Consider any issues related to substance misuse, as these may affect a person's judgment, decision-making, and cognitive abilities.

Use the following matrix to guide your decision making.

	Patient is immobile (bed rest or hoist dependent)	**Patient has reduced mobility. Requires assistance to mobilise**	**Patient can mobilise without help from staff**
Patient is confused/distressed	**Use bed safety rails with care, consider**	**Bed safety rails NOT recommended**	**Bed safety rails NOT recommended**

	alternatives/low bed (A)	use alternatives (A)	use alternatives (A)
Patient is drowsy	Bed safety rails recommended	Use bed safety rails with care, consider alternatives/low bed (A)	Bed safety rails NOT recommended use alternatives (A)
Patient is oriented and alert	Bed safety rails recommended	Bed safety rails recommended	Bed safety rails NOT recommended unless requested by the patient
Patient is unconscious	Bed safety rails recommended	N/A	N/A



- Inappropriate gaps will result in an increased risk of entrapment of the head or body parts.
- Most bed rails are designed for use with individuals over 1.46 m in height (4 feet 9 inches), which is also the height of an average 12-year-old child.
- The bed rail should be checked in accordance with the person's size and height.
- For children or adults with atypical anatomy (i.e., shorter than 1.46 m / 4’11”, lighter than 40 kg, or with a BMI under 17), bar spacing and other gaps need to be reduced.
- It is recommended that all gaps between the rail bars should be a maximum of 60 mm for children and adults with atypical anatomy and 120 mm for adults.
- Always seek guidance on compatible rails from the manufacturers to assess appropriateness for

the bed, the individual and the circumstances of use.

- Older beds may not meet current safety standards, leading to larger gaps that are unsuitable for use.

Entrapment Risk - Equipment/Bed

Question

- Have you checked that there are no gaps that could lead to an entrapment risk?

REVEAL GUIDANCE

The significance of body shape, size, and bed safety rail dimensions was covered in the 'What Is Your Role?' and

'Entrapment' lessons. Please refer back to these lessons as needed.

Where integral rails or third-party rails that have been approved by the manufacturers are used, the assessor should ensure that the rails meet the appropriate safety standards and comply with measurements for acceptable gaps/heights.

Bed Safety Rail Dimensions

Question

- Is the top edge of the Bed Safety Rail at least 220mm above the top of the mattress? (This is without compressing the mattress and includes any overlay, specialised mattress, sleep system or patient turning system that will be used).

REVEAL GUIDANCE

The person would be at risk of rolling over the rail if there was not adequate height.

- Consider Height Extension Side Rail.
- Consider different heights or depths of mattresses.
- If unable to meet the 220mm or above rule, then a bed safety rail should not be prescribed, and alternatives should be considered. For example, a different type of bed or a floor bed.

The significance of body shape, size, and bed safety rail dimensions was covered in the 'What Is Your Role?' and 'Entrapment' lessons. Please refer back to these lessons as needed.

Fitting Of The Bed Safety Rail

Question

- Have you checked that the bed safety rail is in good working order?

REVEAL GUIDANCE

Complete the following checks:

1. Check for signs of wear and tear.

2. Check that the bed rail moves up and down appropriately.
3. Check that the rail doesn’t wobble in place.
4. Check there are no obvious gaps between the bed/mattress.

The required safety checks and the maintenance checklist were covered in the 'What Is Your Role?' lesson. Please refer back to the lesson and content as needed.

If the bed safety rail is not fitted securely, this can cause the rail to move:

- Increasing the gaps.
- And increasing the risk of entrapment and injury.

> **The failure of the bed safety rail means that the person could potentially fall out of bed.**

Bed safety rails should not be used in the following situations:

- If the bed safety rail has not been fitted correctly.
- If the bed safety rail is not secure.
- If the bed safety rail is not compatible with the frame, it will be fitted to.
- If the bed safety rail is not in good working order.

Any faults with the equipment should be reported immediately to Estates through FM First.

1. The bed should be removed from use and stored in a safe place.
2. Remember to take note of the bed make, model and serial number.
3. Ensure ‘Do Not Use’ signs are displayed on the bed, with the reason and date recorded.

Accessories

Question

- If using any additional equipment, is this fitted appropriately and compatible with the bed?

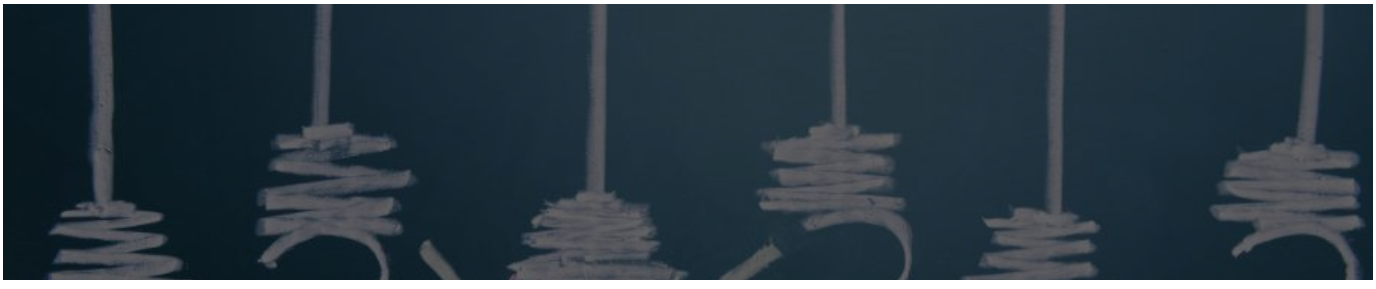
REVEAL GUIDANCE

Following the risk assessment, accessories or alternative formats can be utilised to minimise the risk of injury or entrapment in patients where such risks have been identified.

However, these may introduce other risks that should be considered.

Additional equipment may:

- Affect compliance with standards and acceptable gaps or heights
- Increase the risk of entrapment or injury.



Consider

Repetitive or involuntary movements can increase the risk of injury on bed safety rails. This risk may be reduced by using bumpers or alternative low beds, depending on the person's movement patterns.

Some accessories may introduce additional or different risks, such as suffocation, which should be taken into consideration.

Check the accessories in place, such as the sleep system, lateral turning system, and additional mattress overlay. Consider the manufacturer's instructions and guidance regarding use and compatibility, and liaise with the assessor of the additional equipment to discuss risk and agree on alternatives where possible, or a risk management regime that will adequately address the risk.

Examples of equipment that may affect safe use include:

- Pressure relieving mattresses
- Mattress overlays
- Turning systems
- In bed sliding sheets
- Postural sleep systems, e.g. wedges.

Ensure that any risk management strategies are clearly outlined in care plans. For example...

- In-bed sheet systems are locked to prevent sliding towards the rail and entrapment.
- Postural supports are placed in the agreed position by the assessor.
- Handheld controls for the bed are left in the agreed position by the assessor.

There are various other situations based on risk assessment; this list is not exhaustive.

Bed Height

Question

- Is the bed at a safe height?

REVEAL GUIDANCE

Staff must return the bed to the lowest safe height for the patient following delivery of any care.

Bed height was covered in the 'What Is Your Role?' lesson. Please refer back to the lesson and content as needed.

Section 3

Communication

Questions

- Has consent been obtained for the use of the bed safety rails via the person, parent/legal guardian or AWI treatment plan?
- Has the person been consulted regarding the use of the bed safety rails?
- Has the use of bed safety rails been discussed with relatives/carers?
- Has the use of bed safety rails been discussed with the MDT?

REVEAL GUIDANCE

If a person lacks the capacity to make decisions, this question relates to their representative, such as a Power of Attorney, guardian, family member,

or carer. If their representative does not agree, or if there is no representative available, you should consult with your line manager or consider a multidisciplinary team (MDT) discussion.

- If answering no, then rails should not be prescribed, and the rationale should be documented as to why.
- If answering yes, continue to document the rationale for use.

Young people under 16 have the legal capacity to consent if they are deemed capable of understanding the nature and possible consequences of treatment. If unable, a parent or legal guardian can consent on their behalf.

It is important that we ask for consent when prescribing bed safety rails to:

- Ensure that the person and their carers or families are informed about the correct use of the equipment and the risks associated with misuse.
- Ensure that equipment is not used as a form of unintentional restraint and meets the requirements of the Mental Welfare Commission.

Mental Welfare Commission Rights Good Practice Guide can be accessed by selecting 'GO TO GUIDE' below.

Mental Welfare Commission

Link to the Mental Welfare Commission Rights, Risks, and Limits to Freedom Good Practice Guide (PDF)

GO TO GUIDE

As an organisation, we must also adhere to the:

- Principles of the Adults with Incapacity (Scotland) Act 2000.
- The Human Rights Act 1998.
- The Mental Health (Care and Treatment) (Scotland) Act 2003.

This concludes the assessment process. The final thing to remember is that all bed safety rails should be reviewed on a regular basis.

Risk assessments should be reviewed and recorded after each significant change in the bed occupant's condition or needs, such as:

- Upon transfer to another area.
- After a fall or a change in the patient's condition. For example, a change in their physical condition, behavioural changes (such as stress and distress/attempts to climb over the rail).

- At least weekly (or monthly in long-term care wards, where the patient's behaviours are known to staff).

In the next lesson, we will look at some case studies and the lessons learned from the incidents.

CONTINUE

Learning From Previous Incidents

Case Studies

The following case studies outline serious incidents involving bed safety rails.

Please review each case study and then select the 'REVEAL ADVICE' buttons to reveal advice that may have prevented each incident.

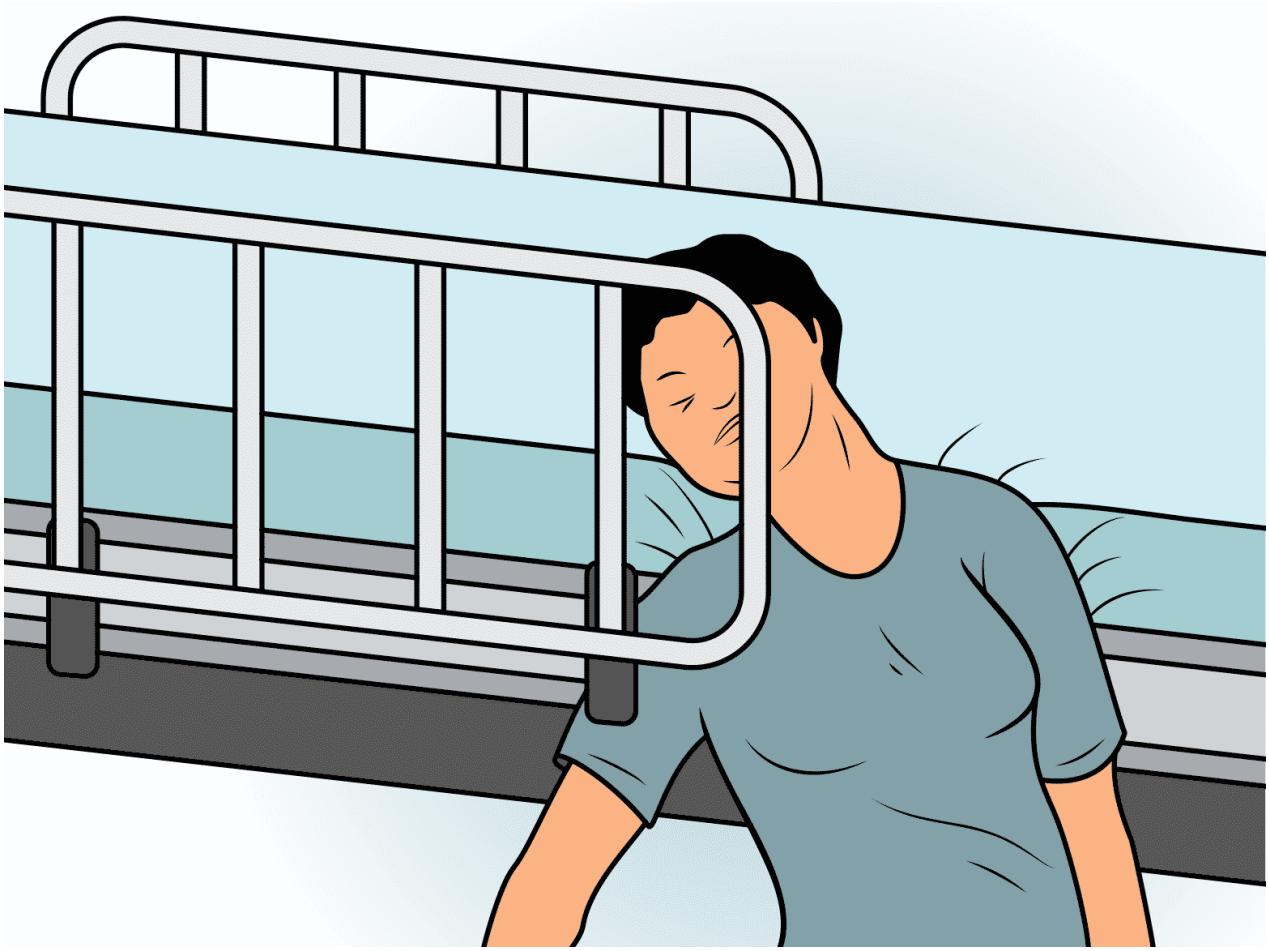
Demonstration of a patient climbing over bed rails and at risk of a fall.

Case Study 1 – Inappropriate Prescription Leading To Fall

A bed occupant died after climbing over the bed safety rails and falling. The user touched the position control and raised the bed to its maximum height. They then tried to get out of bed by climbing over the rail, only to fall and suffer a broken neck. The increased height of the bed likely increased the severity of the injury.

REVEAL ADVICE

- If bed users are known to be in a confused state, then bed safety rails may serve to increase the overall risk of injury. A risk assessment could have identified the hazard of leaving bed controls accessible, and the potential for the confused person to fall from height and have sufficient mobility to climb over the bed safety rails.
- Alternatives may have been not to use rails, but to lower the bed to the floor with a crash mat provided to reduce injury in the event of a fall. The controls should also have been left out of reach.



Entrapment Zone: Gap between the bottom of the rail and the bed.

Case Study 2 – Unsuitable Combination Of A Bed And Bed Safety Rail

A bed safety rail intended for use on a domestic divan bed was used on a hospital-type bed. This produced a large gap between the bottom of the bed safety rail and the bed when the mattress was compressed. A child slipped feet-first between the bed safety rail and the bed. The gap was not large enough for the child to pass completely through, and the child was trapped at chest level and died from postural asphyxiation.

REVEAL ADVICE

- When supplied, the gaps between the bottom of the lowest rail and the mattress platform should be checked to ensure they are **less than 60mm for a child**.

3

Demonstration showing the reduced height of a safety rail due to the additional height of the combined mattress and overlay.

Case Study 3 – Mattress Height Effect On Safety Rails

The bed occupant fell over the top of the bed safety rails after additional equipment was installed. A pressure ulcer reduction overlay was added to a bed that already had a bed safety rail fitted. The additional height of the combined mattress/overlay reduced the height of the bed safety rail. The bed occupant fell over the bed safety rail, sustaining a serious head injury.

REVEAL ADVICE

- Be aware of the mattress height compared to the safety rail height. Consideration should be made with regard to bed rail height extenders.
- Note the fitting of the mattress overlay and any gaps.

Bed safety rail separated from the bed leaving a gap.

Case Study 4 – Lack Of Maintenance

Bed safety rails were not reviewed regularly and were left in poor condition due to a lack of maintenance. The rails moved from the side of the person's bed and created a dangerous gap, which could have led to a fall or entrapment.

REVEAL ADVICE

- Be aware that regular checks on the condition of all bed safety rails are essential.
- Check for signs of wear and tear.

- Check that the bed safety rail moves up and down appropriately.
- Check that the bed safety rail doesn't wobble when in place.
- Check that there are no obvious gaps between the bed or mattress.
- **Remember** - If a fault is identified, then the bed should be immediately removed from use, labelled and stored in an appropriate place, and the fault reported on FM First.

CONTINUE TO KNOWLEDGE CHECK

Knowledge Check

The following image contains several hazards that could lead to patient injury.

Please take a few moments to note as many hazards as you can identify from the image.

Bed Rail Hazards Illustration

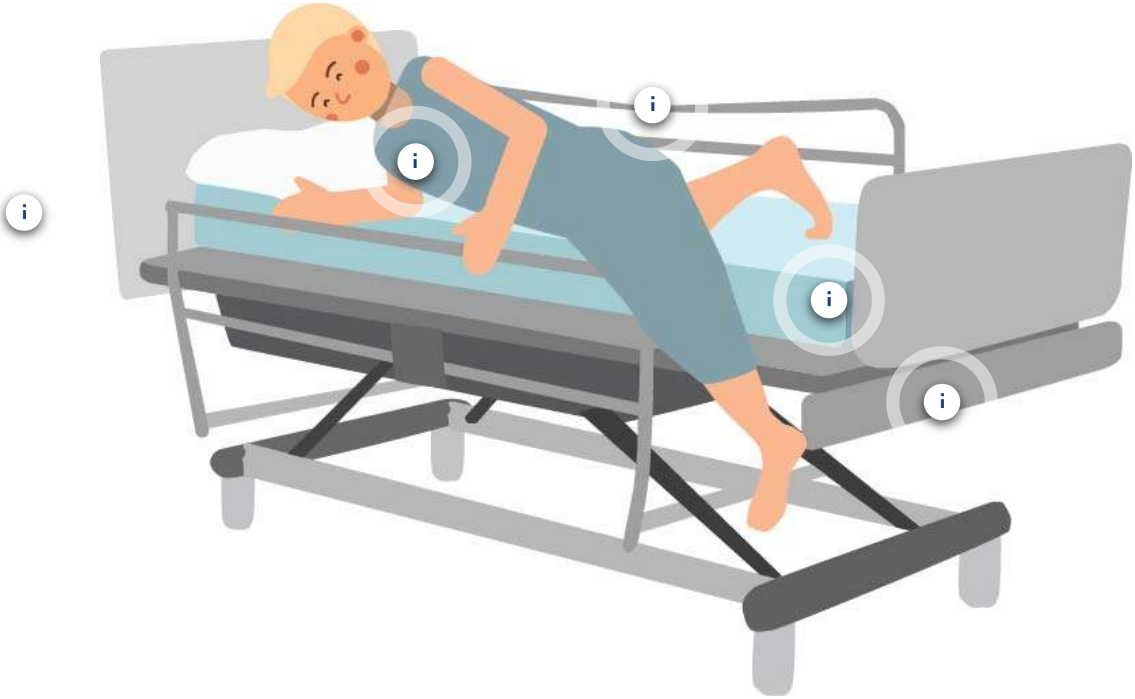
Enter any identified hazards in the free text interaction below, then select the 'REVEAL FEEDBACK' button.

REVEAL FEEDBACK

How Did You Do?

Let's check how many you got correct.

Select the five i signs (i) on the image below to reveal the correct answers.

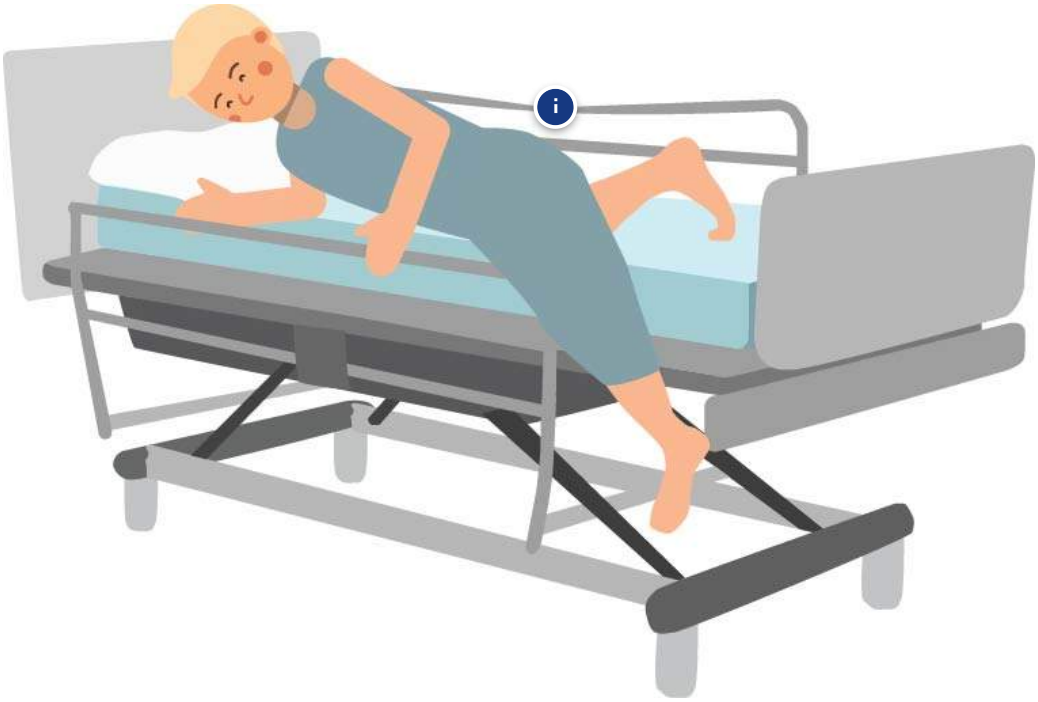


Bed rail left down

Where it is identified that bed safety rails are required to reduce the risk of falling it is important to ensure that both rails are kept in an upright position whilst the person is in bed.

Person climbing out

The risk of a person attempting to climb out of bed should be considered as part of the bed safety rail risk assessment.



Bed rail wear and tear

All bed rails should be checked regularly for any signs of wear and tear. Where a fault is identified this should be dealt with by following local procedures.

Mattress Width

It is essential that any mattress used is compatible with the bed to ensure that there are no unsafe gaps which can potentially cause entrapment.

Bed positioned too high

The bed should always be returned to the lowest safest height after completion of care task.

CONTINUE

Incident Reporting

As per NHSGGC's Incident Management and Recording policy, any relevant clinical/safety incidents should be reported using the relevant incident reporting system.

NHSGGC's Incident Management and Recording policy can be accessed by selecting 'GO TO POLICY' below.

Please note that NHSGGC SharePoint pages are only available to NHSGGC staff on the NHSGGC network.

NHSGGC SharePoint

The full policy can be accessed on the GGC-Safety Health and Wellbeing SharePoint Site

GO TO POLICY

Congratulations! You have reached the end of the module content. You can now proceed to the quiz to test your knowledge.

CONTINUE TO QUIZ

Quiz

Welcome to the quiz section of this course! This quiz is designed to assess your understanding of the material covered. It comprises 10 questions that will challenge your knowledge and comprehension.

To pass the quiz, you must achieve a minimum score of 80%. This means you must answer at least 8 out of 10 questions correctly.

For each question, select your answer and then select the 'SUBMIT' button. Once you have successfully passed the quiz, select 'CONTINUE' from the Quiz Results screen to proceed.

Select 'START QUIZ' to begin.

Question

01/10

Why should you complete a risk assessment?

- To ensure any risk of entrapment and injury caused by bed safety rails is reduced and recorded.
- To identify hazards associated with bed safety use.
- To assess the need for accessories or alternative to bed safety rails.
- All of the above.

Question

02/10

What is the minimum gap size between the mattress and the top of the rail to avoid rolling over the top of the bed?

- ◯ 150mm
- ◯ 100mm
- ◯ 300mm
- ◯ 220mm

Question

03/10

True or False?

The MHRA recommend that the gaps between bed safety rails are more than 120mm.

- ○ True
- ○ False

Question

04/10

What is the primary purpose of bed safety rails?

- To reduce the risk of patients accidentally slipping, sliding, falling, or rolling out of bed.
- To assist patients in manoeuvring themselves in bed.
- To prevent patients from leaving their bed.
- To provide a place for patients to hang personal items.

Question

05/10

What is a potential risk of using bed safety rails?

- ◯ Improved mobility for the patient
- ◯ Reduced risk of falling out of bed
- ◯ Risk of injury from climbing or rolling over bedrails
- ◯ Increased comfort during sleep

Question

06/10

When should you use the adult risk assessment?

Select all that apply.

- [ ] When the person is over 1.46m/ 4’11”
- [ ] When the person is less than 40kg
- [ ] When the person has a BMI over 17

Question

07/10

Which of the following represent good practice in relation to the maintenance of bed safety rails?

- Bed safety rails should be maintained in line with manufacturers guidelines
- Bed safety rails should be routinely checked during care delivery by all health and social care staff
- Unsafe bed safety rails should be condemned
- All of above

Question

08/10

When using bed safety rails what should you check for?

- ◯ Ensure there are no gaps between the rail and bed
- ◯ Check for any signs of wear and tear
- ◯ Listen for the "click" when the rail is raised
- ◯ Check that the rail is secured in the locked position
- ◯ All of the above

Question

09/10

What are the two types of bed safety rails?

- ◯ Third Party and Internal
- ◯ Integral and Modular
- ◯ Integral and Third Party
- ◯ Integral and External

Question

10/10

True or False?

The assessor is solely responsible for conducting ongoing risk assessments.

- ◯ True
- ◯ False

Additional Information and Resources

Additional Information And Guidance

You can explore the following resources to research these topics further on your own time.

The resources can be accessed by selecting the buttons below:

Please note that NHSGGC SharePoint pages are only available to NHSGGC staff on the NHSGGC network.

Resource 1

NHSGGC Inpatient Estates and Facilities SharePoint Page. Estates and Facilities SharePoint Page outlining the role of the directorate and team contact details.

GO TO RESOURCE 1

Resource 2

UK Government Page. Guidance on managing and using bed rails safely.

GO TO RESOURCE 2

Resource 3

UK Government Page. National Patient Safety Alert: Medical Beds, Trolleys, Bed Rails, Bed Grab Handles, and Lateral Turning Devices: Risk of Death from Entrapment or Falls.

GO TO RESOURCE 3

CONTINUE

Module Completion

Thank you for completing this module! We hope you found the information useful.

COMPLETE MODULE

Completed jigsaw puzzle

Course Complete

Please select the exit course button in the top right-hand corner. Your progress will be saved against your learning record, and you can generate a certificate of achievement.