



GRAVITAS
Raising Standards In Care

Interpreting the MHRA

Guidance Bed rails: management and safe use

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Interpreting the MHRA Guidance Bed rails: management and safe use.



Explain the reasons for the MHRA bed rail alert



Understand the range and function of beds, bed rails and bed levers available in Berkshire, applicable to the alert.



List the reasons why bed rails/bed levers are prescribed



Identify the two standards associated with bed rail use



Exploration of hazards and common risk factors with use of bed rails and bed grab handles.

Patient safety notice NatPSA/2023/010/MHRA

MHRA Guidance bed rails: managing and using bed rails safely.

Document is aimed at all users, carers and staff with responsibility for the provision, prescription, use, maintenance and fitting of bed rails.

- The MHRA updated 2020 alert in August 2023 as it had been receiving (and continues to receive) reports of deaths and serious injuries from entrapment or falls.
- The MHRA Alert is available [here](#).
- Medical beds
- Bed rails
- Trolleys
- Bariatric beds
- Lateral turning devices
- Bed grab handles (bed levers/bed sticks).

Explanation of identified safety issue

- 2018 to 2022
- 18 reports of deaths related to bed rails and associated equipment.
- 54 reports of serious injuries from entrapment or falls.
- Community care settings, nursing homes or patient's own home.
- Acute settings - with side rails on trolleys and stretchers.
- Chest or neck entrapment in bed rails is listed as a 'Never Event' according to the NHS in 2018.
- 'Never Events' are "serious , largely preventable patient safety incidents that should not occur if the available preventative measures have been implemented by healthcare providers".

Investigation findings

Deaths involved:

- Inadequate risk assessment
- Maintenance issues
- Children and adults of small stature:
- Inappropriate use of bed rails
- Incompatibility of bed rails with beds/mattress's

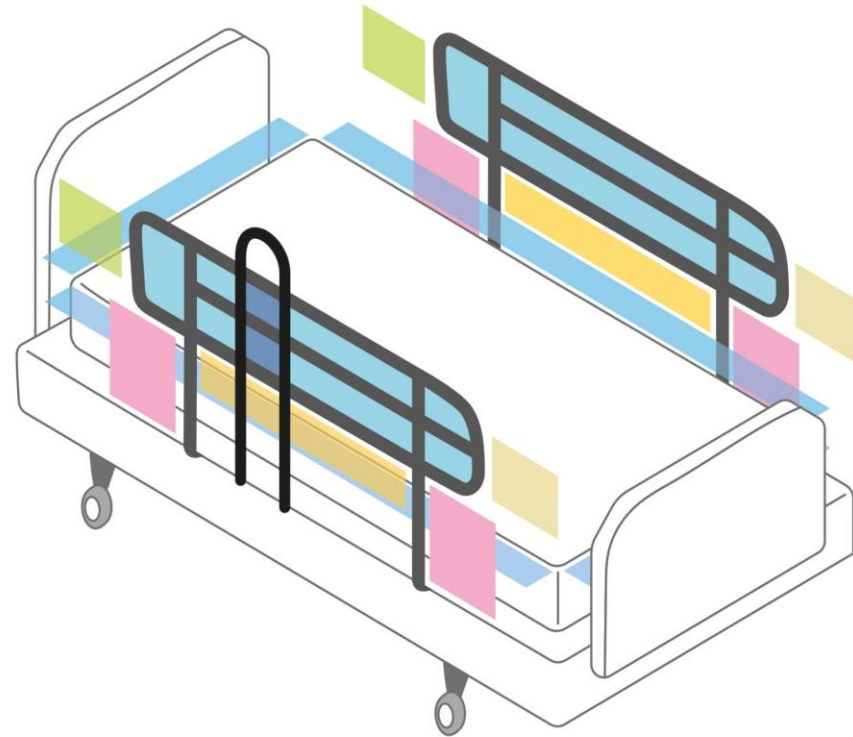
Using beds designed for use by adults with typical body dimensions.

Direct Hazards:

Entrapment and entanglement

Risks:

Asphyxiation and death, limb damage



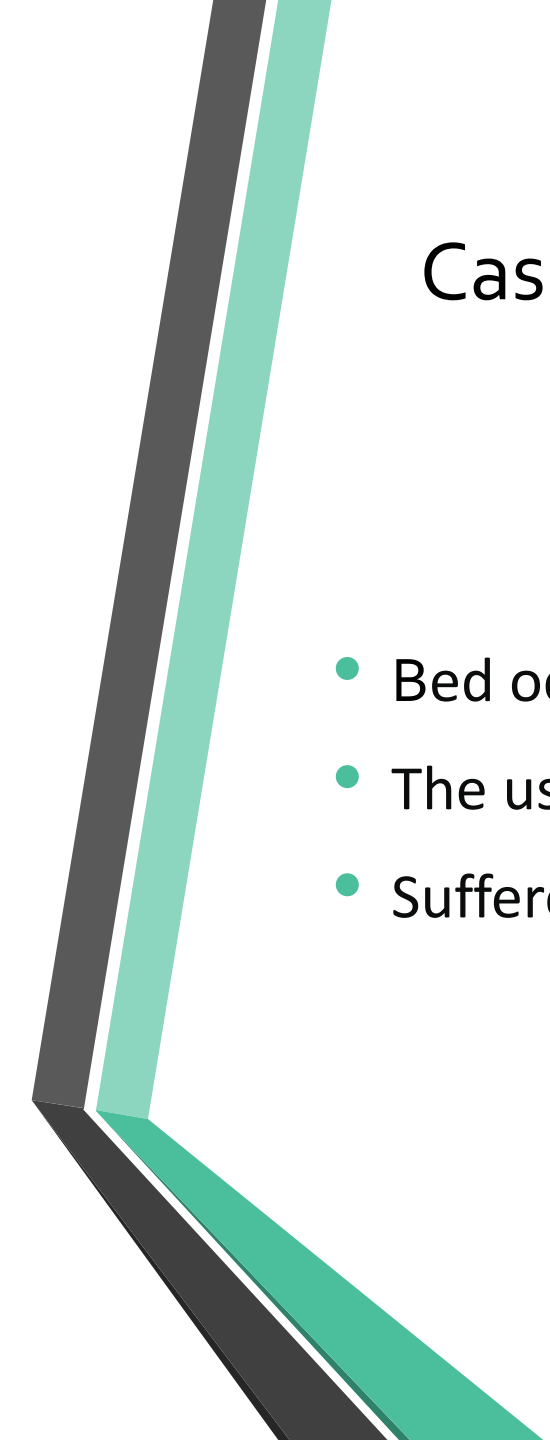
Indirect Hazards:



Confusion or disorientation – climbing over rails



Risks: Occupants have then fallen from a greater height than would otherwise be the case, increasing the severity of injury.

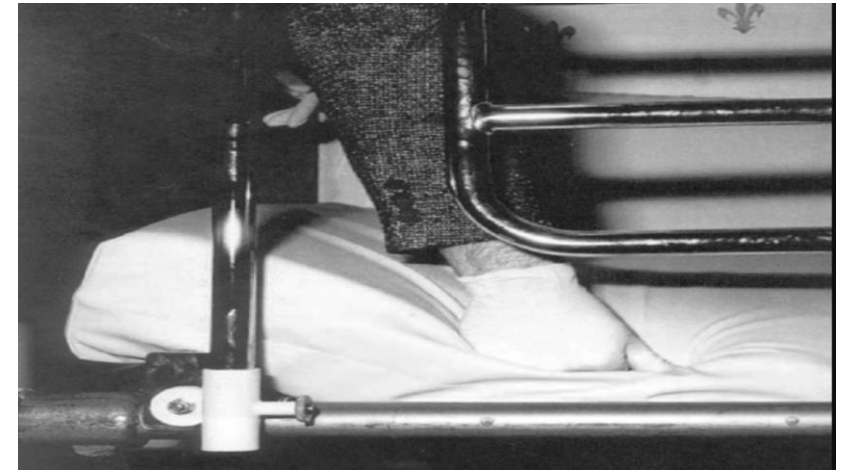


Case study 1 **Inappropriate prescription leading to fall**

- Bed occupant died after climbing over the bed rails and falling.
- The user raised bed to max height (increased severity of injury)
- Suffered broken neck.

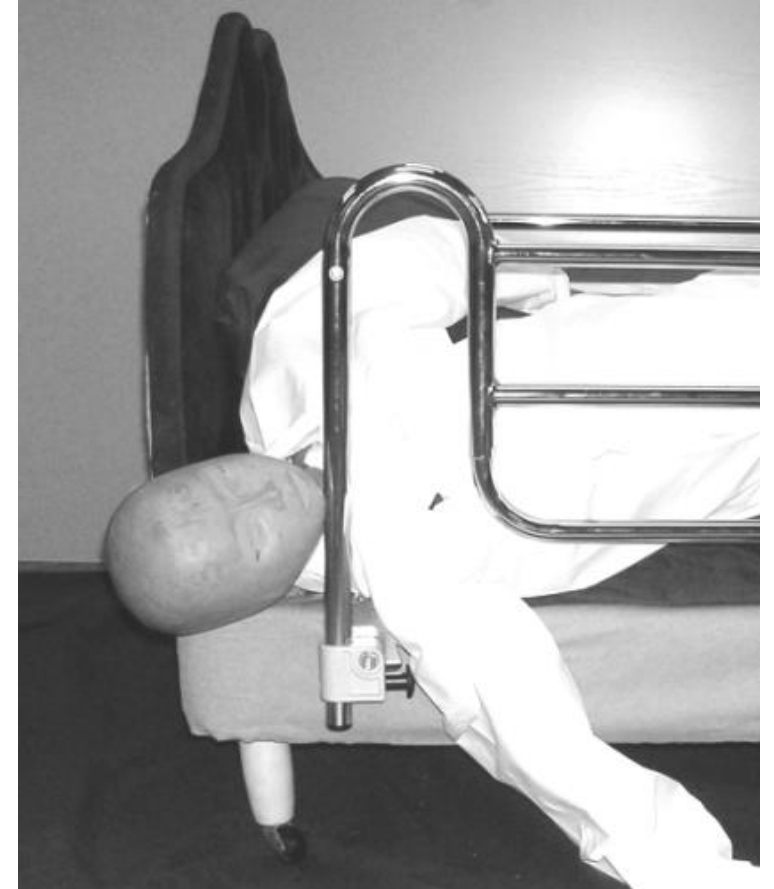
Case study 2 – Unsuitable combination of a bed and a bed rail

- A bed 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 rail and the bed when the mattress was compressed.
- A child slipped feet first between the bed 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.
- What could have been done differently?



Case study 3 – User entrapment in inappropriate gaps

- Entrapment between end of the bed rail and the headboard if the gap is inappropriate.
- Avoid gaps over 60 mm which could be enough to cause neck entrapment.
- Entrapment in space between a poorly fitting mattress and side of the bed rail or bed rail that does not fit the bed base snugly enough.
- Compressed edges of mattress.



Case study 4 – Mattress too light to keep bed rail in correct position

- Some designs rely on the weight of the divan or standard mattress to keep the bed rails in position.
- A lighter mattress can allow the rails to move away from the side of the bed, creating an entrapment gap, or can allow the rails to fall off the bed completely.



Case study 5 – Insufficient risk assessment which failed to account for the user's body size

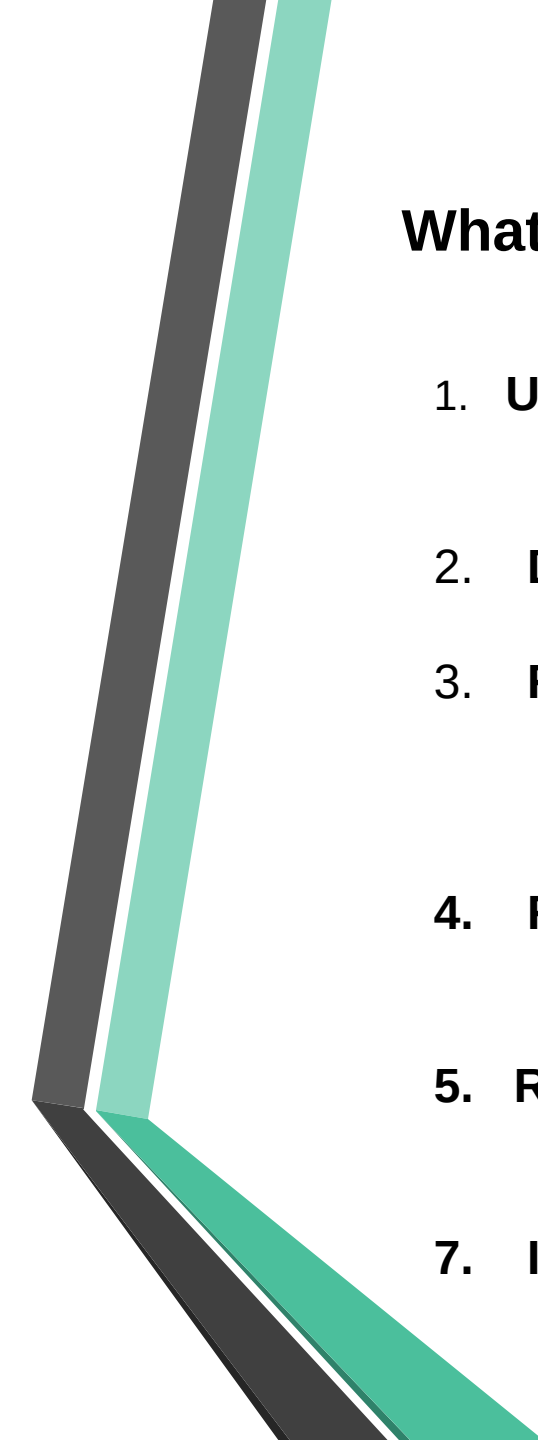
- A bed rail was supplied to the parents of a child being cared for in the community. No assessment of the child's physical size was carried out to determine if an entrapment hazard existed: in this case the gap between the horizontal bars of the bed rail was too large. The child slipped between the bars and asphyxiated as a result of head entrapment.



Case study 6 – Bed occupant fell over the top of the bed rails after additional equipment installed

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



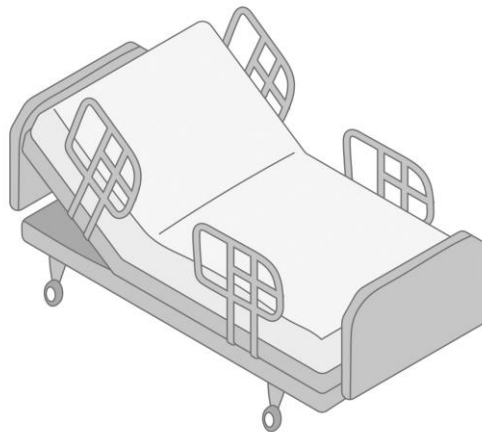


What actions should be taken by organisations/occupational therapy services in England?

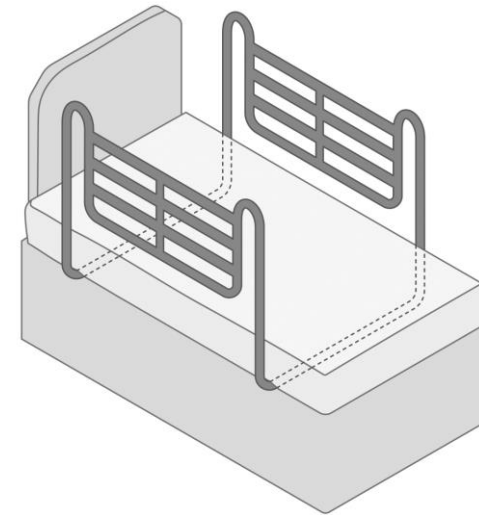
- 1. Update policies and procedures on procurement, prescribing, servicing and maintenance of bed rails.**
- 2. Develop a plan for all applicable staff to have training relevant to their role.**
- 3. Review the medical device management system (inventory/database) for your organization and implement maintenance and servicing schedules for the devices**
- 4. Review patients who are children or adults with atypical anatomy as a priority.**
- 5. Review all patients who are currently provided with bed rails or bed grab handles**
- 7. Implement systems to update risk assessments**

Types of Bed rails: Rigid bed rails

Integral



Third party types



International bed standards for medical beds

(requirements for acceptable gaps in order to reduce entrapment risks)

BS EN 60601-2-52: 2010+A1:2015

- Dimensions and function of medical beds intended for adults.
- Includes info on permissible gaps between rails and rails and the bed frame.

BS EN 50637:2017

- Dimensions and function of medical beds intended for children and adults with atypical anatomy
- Physical size less than 146 cm
- Mass less than 40kg
- Body mass index of less than 17
- Physically smaller patients can get trapped in smaller gaps.

Manufacturers intended use of bed rails

- Prevent or reduce the risk of bed occupants falling and sustaining injury.
- Not designed or intended to limit the freedom of people by preventing them from intentionally leaving their beds.
- Not intended to restrain people whose condition disposes them to erratic, repetitive or violent movement.

Hazards & Risks if used in this way

- Occupant may attempt to climb over the bed rail.
 - ➡ Increased risk of falling from height and injury.
- Erratic, repetitive or violent movements may cause bed rails to break.
 - ➡ Increased risk of falling or injury from the broken rail.

Bed Grab handles

- Facilitate transfers on/off the bed
- Assist bed mobility
- Not to be used to stop the bed occupant falling out
- Hazard: Entrapment
- Risks: asphyxiation and death, limb damage



Other devices

- Can affect gaps
- May raise resting surface
- Measure top edge of rail to mattress platform:
- +/- 220mm



Berkshire beds & accessories

Solite

Invacare Etude

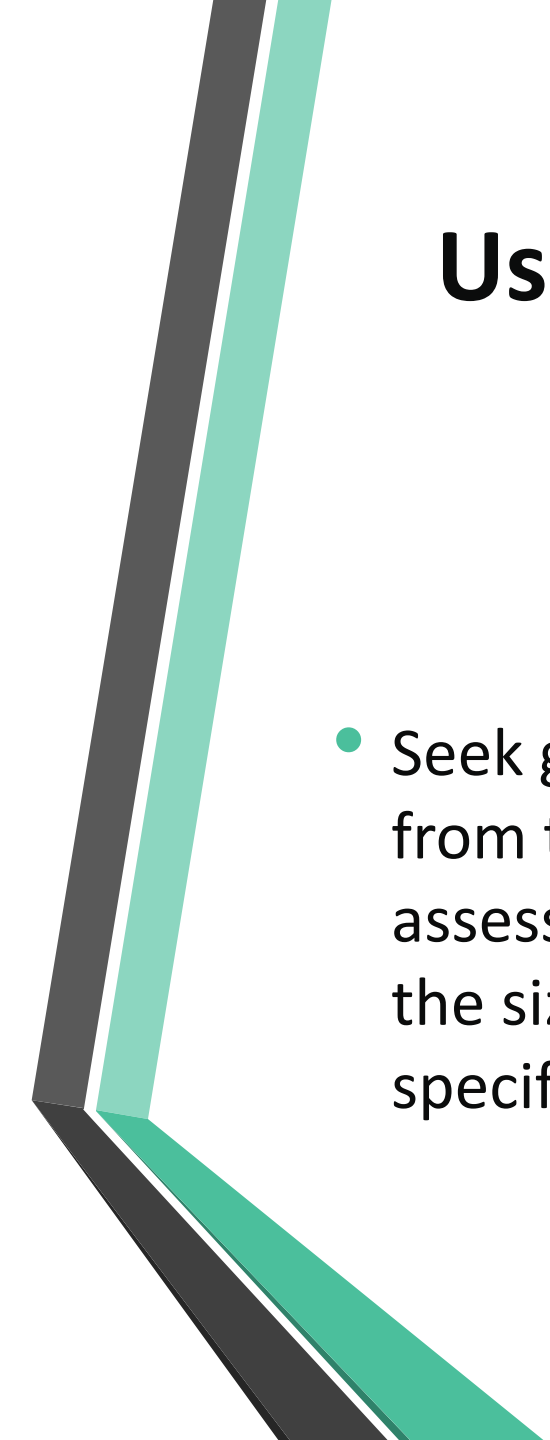


Allura: Bariatric



Accora Floor bed





Use with children and adults with atypical anatomy

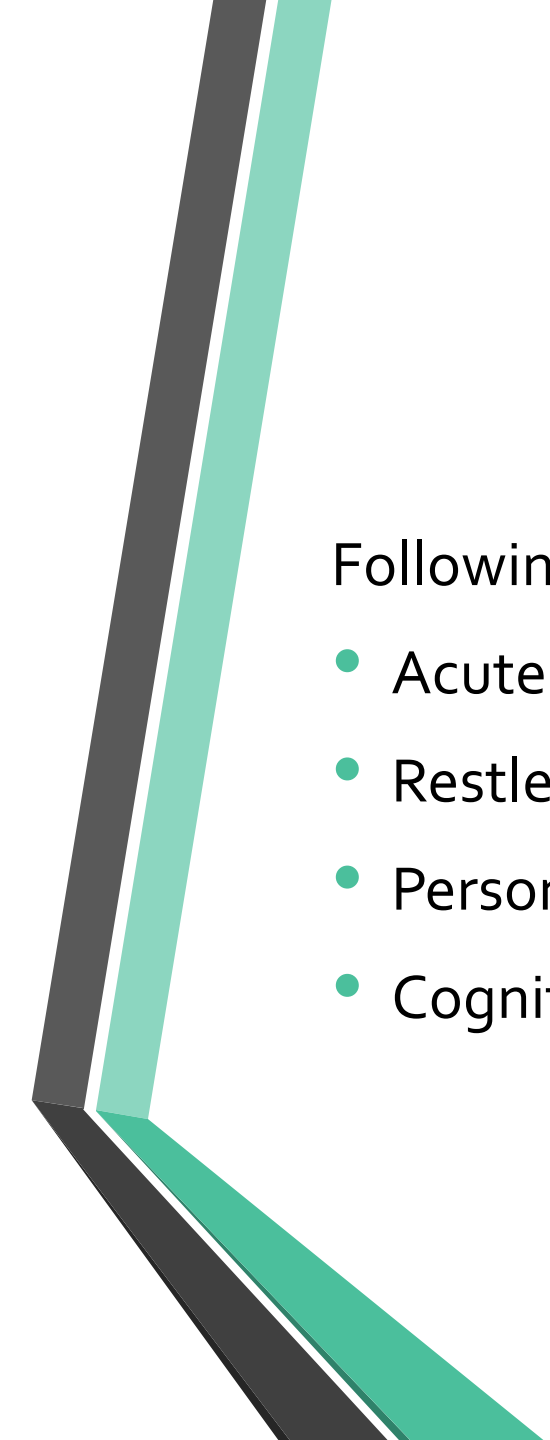
- Seek guidance on suitable rails from the manufacturers and assess their compatibility with the size of the individual and the specific circumstances of use.
- It is recommended that all gaps between the rail bars should be a maximum of 60 mm.

Why do we issue beds for use at home?



Beds are prescribed by a health or social care professional to meet specific health or care needs unable to be met by their own domestic bed.

- Increase independence
- Reduction in MSK injuries for carers
- Pressure care needs
- Safety/falls prevention



When are bed rails appropriate?

Following risk assessment have been identified at risk of falling from bed.

- Acutely ill
- Restless/agitated
- Person's request
- Cognitive impairment



Bed rails inappropriate for:

- People who attempt to climb out of bed
- People whose agitation is made worse by such confinement
- People whose behaviour puts them at risk from becoming trapped in bed rails
- People at risks of injury due to involuntary movements.

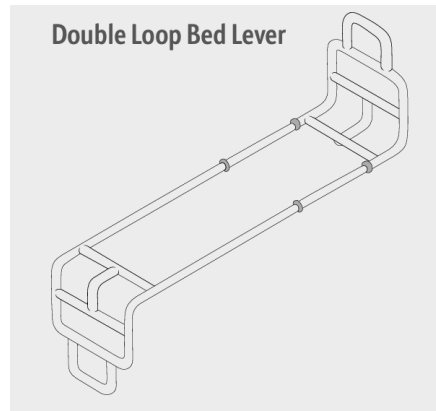


To prevent unintended restraint (through the use of bedrails):

- Complete a robust assessment.
- Does the use of the bed rail prevent the person from moving freely?
- Does the use of the bed rail make the person feel restricted from moving freely?
- The least restrictive options should be explored according to the Mental Capacity Act.

Bed Grab handles in Berkshire

Function: – supports transfers in/out bed,
repositioning in bed.

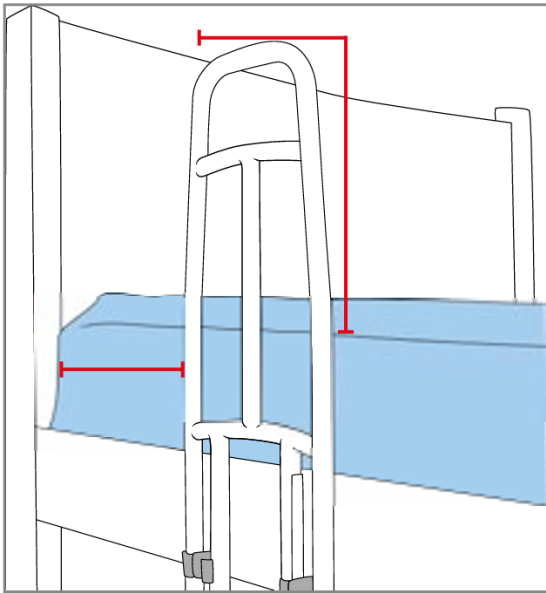


Guidance to measuring bed grab handles for adults

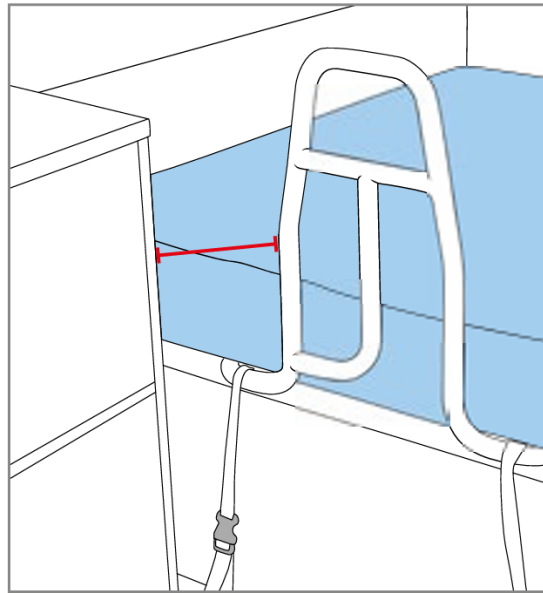
COLUMN DIGITAL

THE JOURNAL OF NATIONAL BACK EXCHANGE

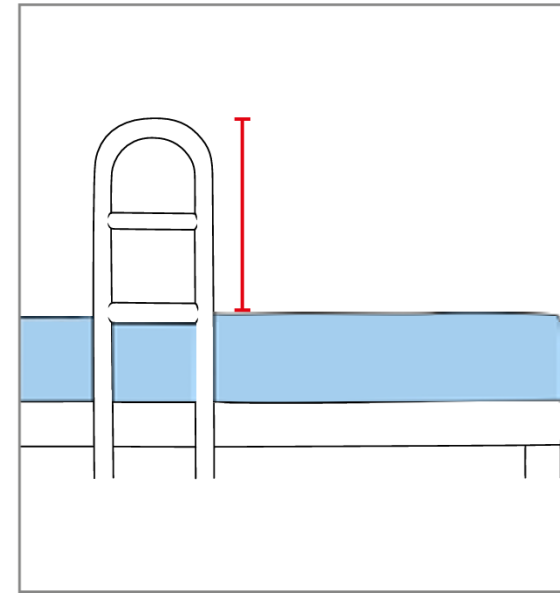
VOLUME 36.1 • 2024 p.8-13



There should be a distance of **less than 60mm or more than 320mm** between the bed rail, loop or lever and the headboard or footboard of the bed.

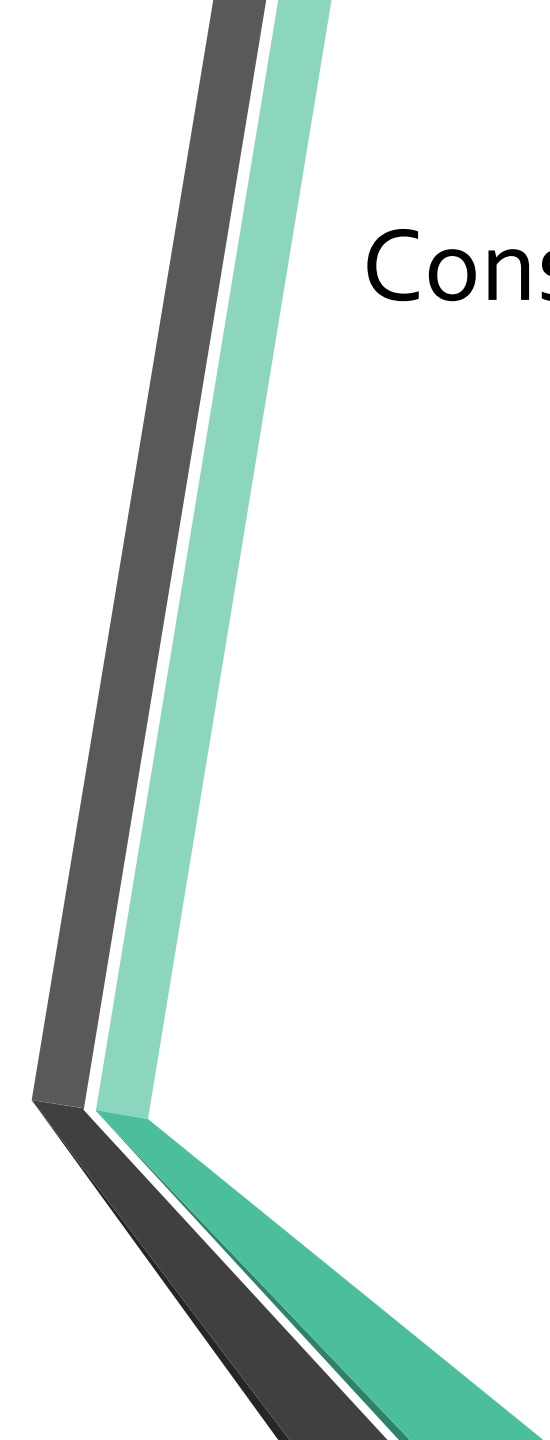


There must be a distance of **less than 60mm or more than 320mm** from the rail to solid objects/furniture at the side such as bedside drawers or cabinets.



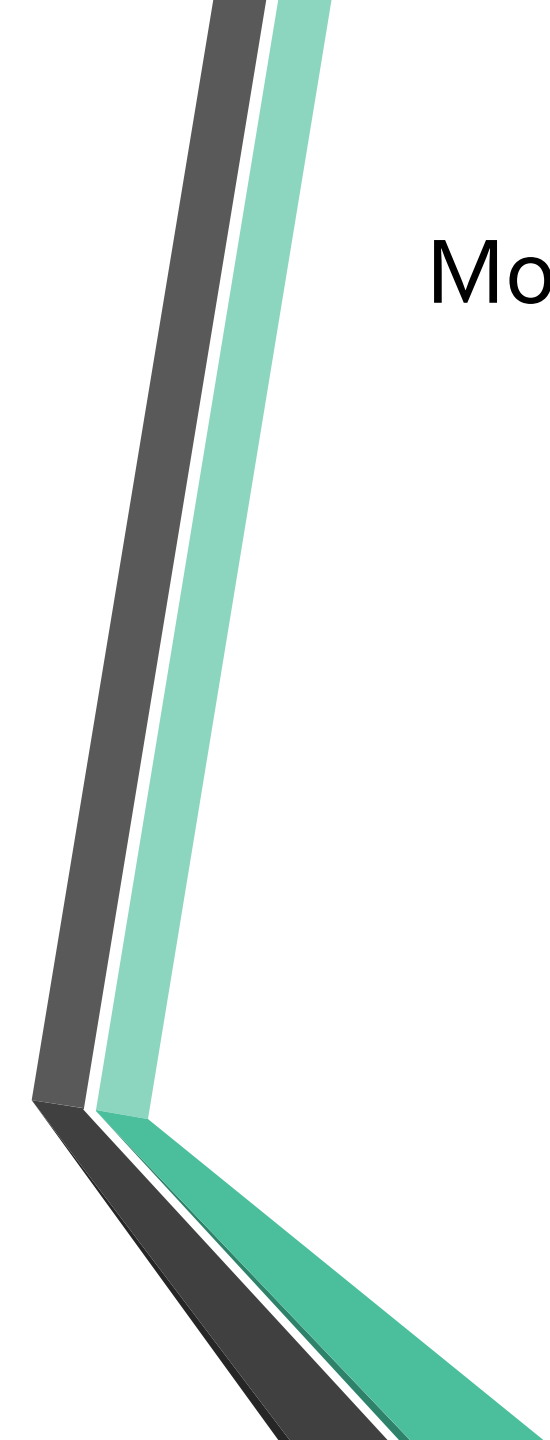
There should be a **minimum of 220mm** between the top of an uncompressed foam mattress and the top of the rail to reduce risk of falls.





Consideration for Risk assessment of bed rails and bed levers

- Physical presentation: Doesn't lie symmetrically, head one side, feet at other?
- Frog legs
- Confusion/agitation/delirium
- Spasms
- Epilepsy
- Dementia/Learning disabilities
- Repetitive or involuntary movements – bruising from hitting rails?
- Independent with transfers in/out of bed?
- Sensation – how would they know if their limb was caught?
- larger or smaller than average body size (which may change entrapment risks)
- Live alone?
- How would they alert for help?
- Communication difficulties



More considerations for assessment of bed rails & bed levers

- Likelihood of falls from bed?
- If likely, are bed rails an appropriate solution or could the risk of falling from the bed be reduced by means other than bed rails?
- Could the use of a bed rail increase risks to the occupant's physical or clinical condition (see Case Study 1)?
- Likelihood of attempting to climb over the bed rails?
- Has the bed occupant used bed rails before? Do they have a history of falling from bed, or conversely of climbing over bed rails?
- What are the bed occupant's views on using bed rails?
- What configuration of bed, mattress and rail system is being used?
- Are other devices being used, which could increase risk, such as lateral turning devices?

Prescriber responsibilities:

- Remain up to date in all your statutory training: risk management, health and safety and moving and handling.
- Assessing and managing identified risks involved in providing care to people (Health & Safety at work Act, MCA)
- Consider implications for carers
- Demonstrate that the community care bed can be used safely in a domestic environment
 - All breaks accessible? (bed against wall), minimal circulation space?
 - Safe use of features and functions of the bed
 - How can bed assist and reduce manual handling issues? (Demo and written information given to people and their carer's/families).
- Details of cleaning and maintenance and who to contact if there are any issues should also be provided at the time of delivery.



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- People handling & risk assessment trainer
- Risk Assessment workshops
- Please contact gravitatrainingcentre@gmail.com for more information on available courses for your teams.
- www.gravitatrainingcentre.care