

Patient Safety Alert

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BED ENTRAPMENT PREVENTION

Health Canada defines bed entrapment as an event in which an individual is caught, trapped or entangled in the spaces in or about the bed rail, mattress or bed frame.

In Saskatchewan, critical incidents involving bed entrapments are reported to the Ministry of Health through the *Saskatchewan Critical Incident Reporting Guidelines 2004*. Since 2013/14, eight incidents of bed entrapments resulting in resident death or harm were reported in Saskatchewan. Between 1980 and 2017, Health Canada received 125 reports of bed entrapments, 47 of which led to deaths. Health Canada's most recent safety alert entitled *Hospital Beds – Risk of Patient Entrapment* was issued in 2017.

This alert is being issued so continued vigilance is maintained and Saskatchewan sees no reoccurrence of an avoidable harm to a patient/resident.

Bed entrapment prevention involves the entire care team. The use of standardized entrapment risk assessment for side rail use, effective communication and monitoring, along with understanding an individual's characteristics and medical history, reduces the likelihood of harm or asphyxiation due to bed-related entrapment.

RECOMMENDATIONS

The Ministry of Health recommends the Saskatchewan Health Authority and health care organizations have policies and/or work standards in place to ensure:

- Individualized patient/resident entrapment risk assessments are performed and bed safety plans are implemented and reviewed on an ongoing basis to reduce the risk of patient/resident entrapment;
- Patients/residents using this equipment are closely monitored. Any changes to bed safety plans are communicated to staff, the resident and families;
- An assessment of the patient/resident's environment is conducted and potential hazards in addition to bed safety, are identified. Any corrective actions taken are documented in the health record; and
- Ongoing bed and equipment safety checks, maintenance and replacement as per manufacturers' guidelines occurs, and maintenance is documented.

Supporting Documents

1. Sample documents from the Saskatchewan Health Authority (attached) to consider when creating work standards:
 - *Entrapment Risk Assessment* form;
 - *Entrapment Prevention - Points to consider*; and
 - *Side Rail Pathway*.
2. Bed Safety Testing and Entrapment Prevention Video
https://www.saskatoonhealthregion.ca/locations_services/services/Falls-Prevention/
3. *Hospital Beds – Risk of Patient Entrapment* <https://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2017/62960a-eng.php>
4. 2.7 Dimensional Limits for Identified Entrapment Zones - <https://www.canada.ca/en/health-canada/services/drugs-health-products/medical-devices/application-information/guidance-documents/guidance-document-adult-hospital-beds-patient-hazards-side-rail-other-hazards.html#a2.7>

Background of the Critical Incident

Incident 1

A resident of a Long Term Care (LTC) home was found on the fall mat on the floor with his head/neck trapped between the mattress and the side rail. The resident was carefully removed from the side rail. Bruising and a skin tear were noted on the resident's neck and cheek. The bed-exit alarm was affixed to a solid surface but did not sound when the resident fell from the bed. The side rails were up to assist the resident with repositioning; however, the resident was not able to use them effectively.

Incident 2

A resident of a LTC home was discovered entrapped and suspended between his bed and the mobility bar. A motion sensor alarm was in place; however it failed to alert staff to the resident's movement in bed. The resident died from positional asphyxia.

Summary of Contributory Factors and Analysis

Bed entrapments can occur in many care settings including hospitals, long term care facilities, privately operated care homes, and people's own homes. There are several contributory factors associated with bed entrapment:

Individual Factors

- Older age (60 plus);
- New resident to long term care home;
- Pre-existing medical conditions (dehydration, urinary tract infection, infection, etc.)
- Functional dependency;
- Weakness;
- Spasticity;
- Cognitive impairment;
- Communication impairment;
- Vision impairment;
- History of falls; and
- History of entrapment.

Equipment Factors

- Bed, mattress, and side rail compatibility unknown;
- Bed system with unsafe gaps or openings;
- No gap assessment for entrapment risk or preventative maintenance of individual bed systems; and
- Ineffective use of bed-exit alarms.

Work and Care Team Factors:

- Lack of timely, standardized safety checks on individuals (purposeful rounding);
- Lack of education, understanding and risk of complacency after staff work with an individual for a period of time; and
- Staffing levels.

Organizational Risk Factors

- Lack of Bed Safety Programs.

Patient Safety Alerts may be issued by the Ministry of Health following the review of at least one critical incident reported to the Ministry. A critical incident is defined as a serious adverse health event including, but not limited to, the actual or potential loss of life, limb or function related to a health service or a program operated by the Saskatchewan Health Authority (SHA), the Saskatchewan Cancer Agency or a health care organization.

The purpose of a patient safety alert is to recommend actions that will improve the safety of patients who may be cared for under similar circumstances. Recommendations are intended to support the development of best practices and to act as a framework for improvement and can be adapted to fit the needs of the health service organization. When possible, policies or initiatives that have been developed by the SHA or the Saskatchewan Cancer Agency will be shared, to support adoption of policies or actions.

Patient Safety Alerts online: www.ehealthsask.ca/services/resources/Pages/Patient-Safety.aspx

ENTRAPMENT RISK ASSESSMENT FORM

HOME: _____

Instructions:

- To be completed on move-in. Reassess after 72 hours, quarterly and after a significant change in status.
- Review *Least Restraint Policy and Procedure 7311-60-012*.
- Any changes to this form after the move-in assessment must be signed (including designation) and dated.

1. ASSESS THE RESIDENT FOR RISKS		
<input type="checkbox"/> Recent move-in <input type="checkbox"/> Cognitive Impairment <i>(Organic or Medication Related)</i> <input type="checkbox"/> Communication Impairment <i>(Unable to vocalize/Over vocalization)</i> <input type="checkbox"/> Unable to use call bell <input type="checkbox"/> Visual Impairment <input type="checkbox"/> Hearing Impairment <input type="checkbox"/> Body frame (e.g. Small)	<input type="checkbox"/> Functional dependency <input type="checkbox"/> Movement disorder <i>(e.g. Seizures, Spasticity, Startle Reflex)</i> <input type="checkbox"/> Incontinence <input type="checkbox"/> Turning sheets <input type="checkbox"/> History of falls <input type="checkbox"/> History of climbing out of bed <input type="checkbox"/> History of entrapment <input type="checkbox"/> Acute/Chronic Illness	<input type="checkbox"/> Weakness <input type="checkbox"/> Medications <i>(e.g. Sedatives, Medication changes)</i> <input type="checkbox"/> Significant change in status <input type="checkbox"/> Type of clothing <i>(e.g. Loose fitting, Texture)</i> <input type="checkbox"/> Other: _____
2. ASSESS THE ROOM AND ENVIRONMENT FOR SAFETY - REFER FALL SAFETY ASSESSMENT FOR THE RESIDENTS ROOM (# 104136)		
<input type="checkbox"/> Room free of clutter <input type="checkbox"/> Bed side furniture sturdy and free of sharp edges <input type="checkbox"/> Belongings/telephone/call bell/bed control within reach <input type="checkbox"/> Cords are out of the way and taped to reduce hazards <input type="checkbox"/> Arrange furniture according to residents mobility	<input type="checkbox"/> Adequate lighting including night light <input type="checkbox"/> Any other changes in environment <input type="checkbox"/> Handrail in the bathroom is secured properly <input type="checkbox"/> Mobility devices are locked and within reach <input type="checkbox"/> Alarms working appropriately and set for safety	
3. ASSESS THE BED FOR SAFETY		
<input type="checkbox"/> Bed placement (mark the best location for individual resident) <input type="checkbox"/> Appropriate length <input type="checkbox"/> Appropriate space around the bed (from other objects) <input type="checkbox"/> Mattress fits correctly and secured to the bedframe <input type="checkbox"/> Specialty Bed and/or Surface (ex. Air Mattress) <i>(Resident specific assessment is needed)</i>	<input type="checkbox"/> Appropriate bed height for the resident <input type="checkbox"/> Appropriate weight capacity <input type="checkbox"/> Bed System with no unsafe gaps/openings <input type="checkbox"/> Sheets fit appropriately and non-sliding <input type="checkbox"/> Brakes/locks on	
4. ASSESS THE RESIDENT ABILITY TO USE SIDE RAIL(S)/ASSIST RAIL(S) (if applicable)		
Resident needs rail(s) for transfer/turning Resident feels safe with rail(s) and requests rail(s) for the bed Resident is assessed for the safe removal of rail(s) Resident is assessed for continued use of rail(s)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No (Refer to " When are Rails indicated " section on page2) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No (Refer to " When are Rails indicated " section on page2) <input type="checkbox"/> No <input type="checkbox"/> No
<input type="checkbox"/> Rail(s) Removed (Residents still need to be monitored)		
If not removed , briefly explain why:		
5. ASSESS THE RESIDENT FOR APPROPRIATENESS OF SIDE RAIL/ASSIST RAIL ALTERNATIVES & SAFETY CONSIDERATIONS		
<input type="checkbox"/> Pole, Trapeze, etc. <input type="checkbox"/> Appropriate bed height <input type="checkbox"/> Positioning devices (e.g. Pads, Wedge Cushion) <input type="checkbox"/> Mattress with bolstered edges <input type="checkbox"/> Gap fillers	<input type="checkbox"/> Fall mats <input type="checkbox"/> Mattress retainers <input type="checkbox"/> Alarms (<i>Motion, Bed-exit</i>) <input type="checkbox"/> Rail cover(s) <input type="checkbox"/> Increased monitoring and frequent checks	
6. INTERVENTIONS		
7. DOCUMENTATION AND COMMUNICATION		Initials
<input type="checkbox"/> Update myPLAN addressing the risks identified above		_____ <i>DD/MM/YY</i>
<input type="checkbox"/> Update mobility record and TLR logo (if applicable)		_____ <i>DD/MM/YY</i>
<input type="checkbox"/> Document and communicate with resident, care staff, family/substitute decision maker		_____ <i>DD/MM/YY</i>
<input type="checkbox"/> Education provided to resident, family and staff		_____ <i>DD/MM/YY</i>

ENTRAPMENT RISK ASSESSMENT FORM

8. DATE(Implemented)		REASSESSMENT DUE: (72 hrs. after move-in, Quarterly and with significant change in status)	
<i>DD/MM/YY</i>	Due Dates:1) <i>DD/MM/YY (72 hrs. post move-in)</i> 2) <i>DD/MM/YY</i> 3) <i>DD/MM/YY</i>	and	Immediately following any entrapment event OR Change in risk factor(s) or bed system component(s).

9. DATE	COMMENTS FROM REVIEWS	SIGN & DESIGNATION
<i>DD/MM/YY</i>		

Form completed by(Signature): _____ **Designation:** _____ **Date:** *DD/MM/YY*

When are Side Rails Considered?

1. When the resident asks for Side Rails!
 - Residents should be informed of the risks.
 - All alternatives should be considered.
 - The discussion should be well documented in care plan and progress notes with safety interventions.
 - Respect resident’s right to decide.
2. When they are used by the resident for Bed mobility.
 - If the resident only uses the rail for repositioning when a care provider is in the room. (e.g. is prompted), the rails should remain down when the care provider is not in the room
 - The smallest possible rail should be utilized for repositioning. It will not eliminate the risk of entrapment, but will reduce the risk.
3. When the bed controls (or other valuable items) are on the rail AND the resident uses them
 - All other alternatives should be considered first
4. Bed against wall is considered as a **Full Rail**
 - Resident specific assessment need to be done in those cases

*Refer to ‘**Entrapment Prevention Tool Kit**’ on infonet.*

If the resident’s decision still puts them at risk for entrapment, fill out

“***Honouring Resident Choice and Mitigating Risk Form (#104254)***” with the resident and substitute decision maker (if applicable).

****Mandatory****

- ***Annual preventative maintenance test on every bed***
- ***Annual Bed System Measurement Device (Cone and Cylinder) test on each bed with a rail attached including turn assist bars***

10. DIRECTOR OF CARE /MANAGER/DESIGNATE USE ONLY

<input type="checkbox"/> Bed system assessed for compliance with <i>Health Canada bed system entrapment dimensional guidance</i>	
<input type="checkbox"/> Yes, Date: <i>DD/MM/YY</i> <input type="checkbox"/> No	Result: <input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Retrofit the bed as required List mitigating factors :

Entrapment Prevention

Points to Consider Prior to Bed Rail Removal

- Entrapment Prevention involves the entire team. Before removing any bed rails, involve all team members in a conversation about the initiative. Residents and families should be at the heart of this conversation.
- Assess the resident:
 - Complete the **Side Rail Entrapment Risk Assessment** to determine risk factors. Most individuals do not require a bed rail for safety.
 - Discuss the findings with the resident, family and your team.
- Assess the bed:
 - If the rail is removed, is there something to hold the mattress in place (e.g. mattress keepers/ mattress stoppers)?
 - If present, will the mattress remain in place when the resident is assisted with turning and repositioning while in bed?
 - Is the mattress the correct size for the bed? Are there any gaps?
 - Are there any available safety alternatives to side rails?
- Assess the environment:
 - Are there any other safety concerns that need to be discussed (e.g. heaters along the wall or a wide space between the bed and the wall)?
 - If present, what actions can be taken to reduce each risk?
- Involve the resident, family and your team in the discussion. We need to be transparent with the resident and family about each risk. Remember to document in the progress notes that the conversation took place. Document the outcome of the discussion (e.g. rails were removed, resident requested that the rails remain on the bed). Some residents may choose to live at risk and keep the rails on the bed.
- Ensure the entire team knows the plan and their responsibilities. Develop a communication strategy that is consistent and can be maintained over time. Everyone plays a role in entrapment prevention!
- Acceptance may not be immediate to the idea of removing bed rails. We can plant the seed and give time to adjust to the idea.
- Removal can be gradual. Start with one resident and one bed. Celebrate successes!
- Respect the resident's choice. This is their home.

SIDE RAIL PATHWAY

START HERE

Client is able to make decisions or has family/substitute decision maker when applicable

Educate client/family on the risks of side rail use
Discuss alternatives to their use that will be offered to maintain independence and provide sense of security

Is the client/family decision maker willing to trial alternatives to side rails?

YES

Is the client able to physically assist in repositioning themselves while in bed and/or transfer themselves (with or without assistance) to or from their bed?

YES

Refer to OT/PT/Team to assess bed mobility, positioning and transfer needs

Provide alternatives such as an assistive bar, pole or trapeze. Ensure any additional interventions are in place as appropriate for the client:

- Bed height at lowest appropriate position (as per make/model)
- Fall Mat(s) at side of bed
- Positioning devices such as body length or other pillows, wedges
- Hip protectors
- Obtain Least Restraint Consent only if alternatives are not available

Refer to Team once alternatives are in place for removal of side rails

Remove side rails. Ensure documentation in chart (progress notes).

Evaluate and document effectiveness of alternatives

