***NB: This assessment was developed by SWEP clinical advisors to be used in conjunction with the*** ***SWEP Beds, Mattresses and Bed Equipment Prescriber Summary Guideline***

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** |  | **ID no.** |  |
| **Address** |  | **DOB** |  |
| **Date assessed** |  |
| **Assessor / Profession** |  |

**SECTION 1: INFORMATION GATHERING**

**Medical History**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Age** |  | **Height - cm** |  | **Weight - Kg** |  | **BMI** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Diagnosis / Prognosis / Current Health issues** |  | | |
| **Psychological / Behavioural factors** |  | | |
| **Medication** |  | | |
| *Impact of medication on function / Can reduce alertness and ability to respond quickly / Fatigue impact* | | |
| **Vision** Normal  Impaired  *Details:* Click or tap here to enter text. | | | |
| **Hearing** Normal  Impaired  *Details:* Click or tap here to enter text. | | | |
| **Sensation** Normal  Impaired  *Details:* Click or tap here to enter text. | | | |
| **Smoking status** Smoker  Non-smoker | | | |
| **Body heat regulation** Normal  Impaired  *Details:* Click or tap here to enter text. | | | |
| **Bladder management** Continent  Incontinent  *Details:* Click or tap here to enter text. | | | |
| **Bowel management** Continent  Incontinent  *Details:* Click or tap here to enter text. | | | |
| Impact of toileting routine on bed use | | | |
| **Indicate with 🗸 if applicable** | | | **Comment / Further information** |
| *Seizures*  Frequency, type, last seizure | |  |  |
| *Tonal pattern/distribution*  e.g. hypotonia in trunk, spasticity present in both upper limbs, dystonia, spasm present | |  |  |
| *Risk of fractures*  *E.g. osteoporosis/ history of fractures* | |  |  |
| *Upper body and trunk*  Respiratory issues (history of aspiration, pneumonia), swallowing conditions, gastrostomy feeds, ventilator support, trunk posture | |  |  |
| *Limbs*  Oedema, contracture, spasticity management, dystonia or dyskinesia | |  |  |
| *History of pain*  Location, severity, frequency. Able to communicate pain? | |  |  |
| Positioning requirements  Roll from prone to supine and back, move up down bed and/or to edge of bed | |  |  |

**Communication**

|  |  |
| --- | --- |
| Verbal  Non-verbal | Able to call / seek assistance if required? Yes  No |
| *Method(s) used to communicate/seek assistance* |

**Behaviours of Concern**

|  |
| --- |
| Does the person have any behaviours of concern (Self-harm behaviours, lack of awareness of safely, leans over bedrail)? Yes  No  Does the person have unsafe habits (smoking in bed, wandering at night, lack of awareness of safely exiting bed)? Yes  No  Other Behavioural Issues? Yes  No  Describe  *If Yes, provide details / information from behaviour support plan:* |

**Sleep position and routine**

|  |  |  |  |
| --- | --- | --- | --- |
| Does the person share the bed with a partner? Yes  No  Not applicable | | | |
| For children: Does the parent/carer share the bed with the person? Yes  No  Not applicable | | | |
| Time spent in bed  Note times (e.g. 8pm to 6am) | Sleeping | | Awake (relaxing, stretching out) |
| Activities in bed  Dressing, changing | Fully independent? Yes  No  Does the person assist with changing? Yes  No  Does the person assist with dressing? Yes  No | | |
| Movement when awake | Does the person have uncontrolled movements? Yes  No  Does the person have Behaviours of concern that would mean they could/would come out of bed and be unsafe? Yes  No  If yes, would it mean they could come off the bed? Yes  No  Comments: | | |
| Movement when asleep | Does the person have uncontrolled movements? Yes  No  If yes, would it mean they could come off the bed? Yes  No  Comments: | | |
| Preferred sleeping position | |  | |
| Current turning / repositioning regime | |  | |
| Bed routine  Routine of person to get ready for bed / sleep, e.g. read a book, listen to music | |  | |

**Environment**

|  |  |  |
| --- | --- | --- |
| Living arrangements | Lives alone  With others  *Details:* | |
| Is the carer able to hear the person if they call out from the bed? Yes  No | | |
| Living environment  Note bedroom dimensions, other furniture/equipment, access to power, floor surface, home access, etc.  Note other equipment that needs to work with the bed (e.g. hoist / wheelchair commode etc.) | |  |
| Consider the position of bed in the room (sketch position of bed and furniture when in use) | | |
| Are there any gaps created between the bed and wall / item of furniture? Yes  No | | |
| Are there any other gaps? Yes  No  *Details of other gaps:* | | |

|  |  |  |
| --- | --- | --- |
| **History of bed incidents** | | **If Yes**, provide details of event / injury or falls risk assessment score |
| History of falls during bed transfer? | Yes  No |  |
| History of falling / rolling out bed? | Yes  No |  |
| Has the person been trapped in bedrail / bedding or injured by bed stick? | Yes  No |  |
| Has the person had pillows or items within the bed fall over their face? | Yes  No |  |
| Any injuries relating to the bed or bed use? | Yes  No |  |

**Pressure Injury (PI) Review / Management**

|  |  |  |
| --- | --- | --- |
| PI history *(date, stage, site of previous injury)*  Click or tap here to enter text. | | |
| Does the person have an existing PI? Yes  No  If Yes: Stage: Site:  Duration:  Management of injury? Nursing visits  Frequency:  Dressings:  Offloading  Other:  Is there a turning regime in place? Yes  No  If Yes, what is it? | | |
| Is the person/carer able to complete routine skin inspections? Yes  No  How many turning surfaces available (prone / supine / lateral)?  Does person need to lie on the PI? Yes  No  Can the person reposition and turn their body? Yes  No  Can the person offload the PI? Yes  No | | **Pressure Injury /Ulcer Risk Assessment Tool**  Braden  Braden Q  Other:  Score: |
| **Overall clinical risk of pressure injury (based on holistic assessment)** | Low  Medium  High | |
| Would the person/carer be able to monitor an active (dynamic) air mattress? Yes  No  Not applicable | | |
| Would the person be able to tolerate the motion/noise/vibration of an active (dynamic) air mattress?  Yes  No  Not applicable | | |

**Bed transfers, mobility and movement control**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Detail method of transfer | Note methods used including hoisting aids, devices, care intervention, medical equipment such as suction/ CPAP | | | | Method observed. Yes  No |
| Required working height for carers | | cm | Required transfer height for person | cm | |

| **Assessment of bed mobility and movement control** | | | |
| --- | --- | --- | --- |
| **Movement** | **Observed?** | **Movement control** | **Method (level of independence, assistance, note aids)** |
| Moving to side of bed | Yes  No | Controlled  Uncontrolled |  |
| Moving up the bed | Yes  No | Controlled  Uncontrolled |  |
| Sit to lie / lie to sit | Yes  No | Controlled  Uncontrolled |  |
| *Rolling in bed* |  |  |  |
| Prone to supine | Yes  No | Controlled  Uncontrolled |  |
| Supine to prone | Yes  No | Controlled  Uncontrolled |  |
| Side to side | Yes  No | Controlled  Uncontrolled |  |
| *Head control* |  |  |  |
| Lying | Yes  No | Good  Moderate  Poor |  |
| Sitting | Yes  No | Good  Moderate  Poor |  |
| *Limb movement* |  |  |  |
| Lower | Not applicable | Controlled  Uncontrolled |  |
| Upper | Not applicable | Controlled  Uncontrolled |  |
| Fine motor control | Not applicable | Good  Moderate  Poor |  |

**Current sleeping equipment**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bed platform and mattress make / model | | | | |  | | |
| Features | Head raise  Knee break  Leg raise  Trendelenburg  Head elevation  Height adjustment  (Range min to max) | | | | | | |
| Size | Single  Wider single  Longer single  King single  Double  Queen  Customised size | | | | | | |
| Mattress type and specifications | | **Domestic mattress**  Indicate type below:  Foam  Inner spring  Latex  Memory foam  **Mattress replacement**  Indicate type below:  Concave pressure redistribution foam  High specification foam  Low air loss  Combination air inserts into foam surround □ Active (dynamic) alternating air □  **Hybrid Mattress**  **Mattress Overlay**  Indicate type below:  Foam  Gel  Air  Low air loss  Active (dynamic) alternating air  Inserted into foam surround  **Mattress insert**  **Inserted into foam surround**  Air  Other  *Details:* | | | | | |
| Age of mattress if known \_\_\_\_\_\_ Years \_\_\_\_\_\_ Months Warranty period \_\_\_\_\_\_ Unknown  *Foam Specifications*  Weight range of mattress: Minimum to maximum (safe working load SWL) \_\_\_\_\_\_\_\_\_ Unknown  Type: High Resilience  Low Resilience / Memory  Layered  If known: Minimum density \_\_\_\_\_\_\_\_\_\_ Minimum hardness \_\_\_\_\_\_\_\_\_\_  Mattress cover: Breathable  MVTR  Waterproof  Stretch  Mattress Condition: Good  Average  Poor | | | | | |
| Bed platform dimensions (cm) | | | | | | | Mattress dimensions (cm) |
|  | | | | | | |  |
| Pressure redistribution mattress pump settings | | | | | | (Attach photo) | |
| **Bed height = bed base +mattress**  (consideration for transfers and positioning overnight) | | | Sleeping position bed height: cm - floor to top of mattress  Minimum possible height: cm - floor to top of mattress  *If DHHS House 900mm max height is required to top of mattress check with house supervisor*  Bed height during transfer: cm - floor to top of mattress | | | | |
| **Are bedrails in place?**  **Yes  No**  ***If Yes, section 2 must be completed*** | | | | **If Yes**: Bedrail type: ½ rails  ¾ length  Full-length  Custom  *Details:*  NB. Full-length rails recommended for children.  Are the bedrails securely attached to the bed? Yes  No  Has the person consented for bedrails? Yes  No  **Has the risk of entrapment been assessed?** Yes  No  Do the bedrails have a cover?Yes  No  If Yes, material: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Is the material breathable? Yes  No  Are the bedrail covers firm, well fitted and in good condition? Yes  No  Are the bedrail covers used permanently? Yes  No  If No, detail when:  Are there any gaps between the ends of the bedrails and the bedrail covers? Yes  No | | | |
| **Is a bed stick in place?**  **Yes  No**  ***If Yes, section 2 must be completed*** | | | | **If Yes**: is the bed stick secure and being used safely? Yes  No  Describe when the bed stick is used:  ***Refer to Appendix 1 – Table 2: Critical Area (3) Bedrail/bed stick horizontal measurement*** | | | |
| **Is a self-help pole in place?**  **Yes  No** | | | | **If Yes**: describe when the self-help pole is used: | | | |
| **Is there an IV pole in place?**  **Yes  No** | | | | **If Yes**: describe when the IV pole is used: | | | |
| **Is a fall out mat used?**  **Yes  No** | | | | **If Yes**: Does the bed lower to a reasonable height to make a fall out mat the safe option for the person? Yes  No  Min height: cm  Are the edges visible at night (i.e. not a trip hazard)? Yes  No  Are there other safety considerations for the person/carer? Yes  No  If Yes: detail: | | | |
| Other bed equipment  Bolster, mattress surround, bedding including incontinence sheeting, pillows, caster locks, wedges, splints, sleep systems | | | |  | | | |
| Other equipment used in bed  Oxygen, Bi-PAP, suction, ventilator  Frequency of use and position of equipment in relation to person in bed. | | | |  | | | |

**Section 2 Assessing the risk of Entrapment**

The following assessment has been adapted from South Australian Bed Systems Information. Please note this is a guide only and is to be used to support individual assessment and clinical decision making.

This assessment should be completed to assist you to highlight the level of entrapment risk for the person **when /if** a bedrail or bed stick(s) have been identified as the only suitable option then an additional assessment is required.

This assessment highlights the risk of entrapment for the person.

*Select the attribute(s) that apply to the person; one or a combination of attributes may place a person at risk:*

| **Person Attributes** | **Risk Level** | **Recommended Actions** | **Assessment notes** |
| --- | --- | --- | --- |
| Likely to be independent with mobility, may use ambulant mobility aid (walking stick, walker etc.), PWC or self-propelled MWC  No or mild cognitive impairment  May have mild ID  Likely to be independent with communication, able to alert carers as required  Good awareness of safety and surroundings  May have very minimal or weak movement, may be very ill or palliative AND is able to communicate and alert carers as required  (and has no history of entrapment or shifting to edges of mattress) | **LOW** | Assessment of entrapment zones is not required as:   1. Bedrail or bed stick is not required 2. If bedrail or bed stick is being used the person can move away independently but it is important to provide recommendations and education to person/carer(s) in monitoring and safe and effective use of equipment |  |
| Likely to require assistance for transfers and mobility, likely to be able to weight bear  May have more complex equipment needs for pressure management-  Mattress does not support the weight and shape of the person, “bottoming out” onto bed base, side of mattress collapsing / not maintaining depth  May have some history of entrapment  Medications may impact on night time behaviours and levels of arousal and alertness  OR  May be able to move minimally in bed, demonstrates moderate to severe cognitive impairment AND cannot communicate/alert carers  OR  May show repetitive behaviours tremors/movement disorders that may impact on motor planning and coordinated movement, may demonstrate moderate cognitive impairment (e.g. unaware of risks), may be unable to consistently alert carers | **MEDIUM** | * Evaluation of critical areas is required; Appendix 1Identification of Bed and Mattress Critical Entrapment and Falls Areas. * Some areas may apply for equipment other than bedrails and bed sticks (e.g. mattress, self-help pole) * Take all possible steps to eliminate non-compliant areas * Educate client and carers in safe, effective use and monitoring of equipment | Completed [Appendix 1](#_Appendix_1_–) |
| Likely to be dependent for transfers and mobility, most likely use of hoist for transfers  May have uncontrolled movement or weak movement  May get stuck in a position  May not be able to call out or seek assistance if needed  May have impaired cognition – unable to understand risks  May have seizures but are generally controlled by medication  May have a history of entrapment issues  May be at risk of toppling over rails to uncontrolled movement | **HIGH** | * Evaluation of critical areas is required: Appendix 1Identification of Bed and Mattress Critical Entrapment and Falls Areas * Some areas may apply for equipment other than bedrails and bed sticks (e.g. mattress, self-help pole) * Take all possible steps to eliminate non-compliant areas * Educate client and carers in safe, effective use and monitoring of equipment | Completed [Appendix 1](#_Appendix_1_–) |
| **May have night time behaviours of concern:**  Usually very mobile  May wander and is inconsistently able to alert carers  May have significant cognitive impairment  May be confused or agitated  Medication may impact on night time behaviours and levels of arousal and alertness  Hallucinations / illusions may impact on night time behaviours |
| Likely to be dependent for all transfers, most likely use hoist for transfers (This does not actually make a person high risk)  Likely to have significant uncontrolled movement or weak movement  May get into positions but not out of them (i.e. may get stuck in positions)  Likely to have significant cognitive impairment / lack of insight into risks  Hallucinations / illusions may impact on night time behaviours  Likely to have significant health and medical issues (e.g. respiratory, swallowing, pressure) requiring complex intervention  Medications may impact on night time behaviours and levels of arousal and alertness  Unlikely to be able to call out or request carer assistance  May have uncontrolled or unpredictable seizures  May have a history of entrapment issues | **HIGH / EXTREME** | * Evaluation of critical areas is required (Appendix 1Identification of Bed and Mattress Critical Entrapment and Falls Areas. * Some areas may apply for equipment other than bedrails and bed sticks (e.g. mattress, self-help pole) * Take all possible steps to eliminate non-compliant areas * Educate client and carers in safe, effective use and monitoring of equipment | Completed [Appendix 1](#_Appendix_1_–) |

For a person, whose risk level is **medium / high / high extreme** the size of the person needs to be considered in relationship to the size of the spacing of the bed / mattress and equipment. Use the relevant standards to guide recommendations of bedrail and bed stick safety.

**Table 1: Body Measurements**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assessment of the size of the person**  **(Required if medium/ high or extreme risk has been identified).** | | cy-head.pngHead depth  (ear to ear) | cy-neck.pngNeck depth | cy-chest.pngChest depth  (anterior to posterior of chest) |
| Click or tap here to enter text. mm | Click or tap here to enter text. mm | Click or tap here to enter text. mm |
| **Standards** | **International Electromedical Commission Standard Medical Electrical Equipment Part 2:52: Requirements for the basic safety and essential performance of medical beds**  (IEC 60601-2-52:2009) | ≤ than 120mm | ≤ than 60mm | ≥ than 318mm |

* **N.B. There is currently no standard that caters for children who need features that are found in adult size hospital beds.**

**The** [**Child**](https://socialstyrelsen.dk/filer/handicap/hjaelpemidler-og-velfaerdsteknologi/nordisk-kravspecifikation-barnesenge190601-word.pdf) **Nordic Requirement Specification provides guidance on beds for children under the age of 12 years who can fit on a mattress platform between 1200 - 1800 mm. This document provides sound guidelines on which to base decisions for acceptance of beds suitable for use by children. SWEP has selected this requirement for determining the suitability of paediatric beds it will purchase and provide to paediatric clients in Victoria.**

* **N.B. While the Nordic Requirement Specification states it "does not apply to adjustable beds for disabled persons over 12 years" and age cut-off is unreasonable in view of dimensional and weight characteristics of some people with a disability for whom an adult bed may not be desirable. It is appropriate to consider a size limit on a paediatric bed and the current definition of an Adult in IEC 60601-2-52:2009/AMD 1:2015 clause 201.3.219 is suitable.**

**SECTION 3: GOALS and INTERVENTIONS CONSIDERED**

|  |  |
| --- | --- |
| Goals and concerns (of the person)  Entrapment incidents, falling out of bed, manual handling issues, pressure care, partner |  |
| Goals and concerns (of the carer)  Ill health, carer burden, physical, behavioural |  |
| Requirements of person’s carer(s)  Height range of bed required, consideration of equipment used in conjunction with bed, specific requirements of organisation who employ carer(s) |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Issues identified (by assessor)  Entrapment incidents, falling out of bed, manual handling issues, pressure care |  | | |
| Options to be considered |  | | |
| **CTION 4: Goal / Recommendation** | | **Action to be taken** |
|  | |  |

**Recommended sleeping equipment**

|  |  |  |  |
| --- | --- | --- | --- |
| Bed base make and model | Bed make / model*:*  Warranty:  **Features:**  Knee break  Leg raise  Trendelenburg  Head elevation  max degrees (eg:60/ 70/80)  Height adjustment  (Range min to max)  Other  *Details / customisation:*  **Therapist to confirm:**  Recommended sleeping equipment has been assessed? Yes  No  Has the equipment been trialled on site? Yes  No  Supplier confirmed bed applies to Standards or equivalent? Yes  No  Which standard/ equivalent? [IEC](https://www.iso.org/standard/36067.html) 60601-2-52:2009  [Nordic](https://socialstyrelsen.dk/filer/handicap/hjaelpemidler-og-velfaerdsteknologi/nordisk-kravspecifikation-barnesenge190601-word.pdf) requirement | | |
| Size of bed base | Single  Wider single  Longer single  King single  Double  Queen  Customised size  **NB** if selecting custom size or wider single bed ensure the mattress replacement size is compatible as there are currently not commercially available wider single mattress replacements.  Check specifications for all air mattresses to ensure bed platform and mattress size match. | | |
| Mattress type  *Refer to* [*Appendix 2*](#_Appendix_2_–) *for mattress specifications* | Mattress or mattress replacement meets International Pressure Injury Guidelines 2014  **Mattress replacement**  Indicate type below:  Concave pressure redistribution foam  High specification foam  Combination air inserts into foam  Active (dynamic) alternating air  Low air loss  Reactive(static)  Active (dynamic)  Hybrid Mattress  **Mattress Overlay**  Indicate type below:  Foam  Gel  Air  Active (dynamic) alternating air  Low air loss  **Mattress insert  Inserted into foam surround**  Air  Other  *Details:*  **Foam Specifications**  Weight range of mattress: Minimum to maximum (safe working load SWL) Unknown  Type: High Resilience  Low Resilience/ Memory  Latex  Layered  Minimum density Minimum hardness  **Mattress cover**: Breathable  MVTR  Waterproof  Stretch  *Refer to Appendix 2 for further information on mattress specifications if required* | | |
| Warranty period | | |
| **Is bed base compatible with mattress?** | Bed platform dimensions (cm): | | |
| Mattress dimensions (cm): | | |
| **Bed height= bed base + mattress** | | When person sleeping: cm from floor to top of mattress  Is this the lowest the bed will go? Yes  No  When person is being transferred: cm from floor to top of mattress | |
| **Bed ends to be installed**  **(Head and foot ends)?**  **Yes  No** | | **If Yes:**  Will there be a space greater than 60mm between the mattress and bed end when bed is flat? Yes  – equipment presents a risk, further assessment required No | |
| **Bedrail to be installed?**  **Yes  No**  *Refer to SWEP Bedrail Clinical Considerations and Fact Sheet:* [*Appendix 3*](#_Appendix_3_1) | | **If Yes**:  Bedrail type: ½ rails  ¾ length  Full-length  Custom  *Details:*  Bedrail movement: Fold down  Fold into bed frame  Lift out  Other  *Other Details:*  Has the person consented for bedrails? Yes  No  Are bedrail covers to be used? Yes  No  If Yes, material:  *Are the bedrail covers to be used permanently?* Yes  No  If No, detail when:  **Has the risk of entrapment been assessed using Appendix 1 Entrapment Risk Assessment?**  **Yes  No**  **Therapist to confirm:**  Supplier can confirm the bed meets the Adult – IEC 60601-2-52-2009 or Child Nordic Requirement Specification 19.06.01 (SWEP requirement);  3 function bed operation (hi / low / head and leg raise) (SWEP requirement);  Compatibility between the person's size and weight with the bed and bedrails’ capacity or dimensions | |
| **Bed stick to be installed?**  **Yes  No**  *Refer to SWEP Bed stick Clinical Considerations and Fact Sheet:* [*Appendix 4*](#_Appendix_4) | | | **If Yes:** when the bed stick is used: |
| **Self-help pole to be installed?**  **Yes  No** | | | **If Yes:** when the self-help pole is used: |
| **Fall out mat to be used?**  **Yes  No** | | | **If Yes:**  Type: When will the mat be used:  Are there other safety considerations for the person/carer? Yes  No  If Yes: detail: |
| Other bed equipment recommended | | |  |
| Is the bed compatible with other equipment?  Hoist / wheelchair / mobile shower chair | | | Consideration has been given to hoist clearance? Yes  No  Not applicable  Compatibility of other equipment has been assessed? Yes  No  Not applicable |

The recommendations made and information recorded in this document reflect the person’s current situation. No responsibility is taken for improper / unreasonable use or maintenance of the equipment.

|  |  |
| --- | --- |
| **Date to be reassessed**  Regular reviews should be scheduled and can be triggered if there has been any significant change in the person’s physical abilities or following an injury/incident relating to the bed. |  |

**SECTION 5: NEW BED SET-UP**

|  |
| --- |
| The new bed ‘set-up’ (and equipment) has been installed, date Click or tap here to enter text.  Demonstration given to the person and carer(s) of how to correctly use Yes  No  Observed the person and carer(s) performing tasks on the bed Yes  No  Explained to the person, carer(s) and family the risks involved in using the equipment and bed features Yes  No  Information given to the person / carer:  Bedrail fact sheet  Bed stick fact sheet  Mattress replacement/overlay instruction manual  Fact sheets can be found at: <https://swep.bhs.org.au/other-relevant-documents.php>  Photograph was taken of the ‘set-up’? Yes  No  If Yes: ensure attached or made available to person/carer |

By signing below the person acknowledges that this bed set-up has been explained and understood.

|  |  |  |  |
| --- | --- | --- | --- |
| **Person** | Name (PRINT) | Signature | Date |
| **Carer or representative** | Name (PRINT) | Signature | Date |
| **Occupational Therapist** | Name (PRINT) | Signature | Date |

Please contact the Occupational Therapist who has completed this document if there are any questions.

**References:**

* **Australian Wound Management Association.** Pan Pacific Clinical Practice Guideline for the prevention and management of pressure injury. AWMA: 2012. Cambridge Publishing, WA**.**
* Electrically and manually operated beds for adult use (IEC 60601-2-38, Ed 1.0(1996) MOD)
* **Child Nordic Requirement Specification Adjustable beds for Disabled Children** - requirements and test methods ver. 19.06.01
* **IEC 60601-2-52:2009 International Electromedical Commission Standard Medical Equipment – Part 2:52: Particular requirements for the basic safety and essential performance of medical beds.**
* **IEC 60601-2-52:2009/AMD1:2015 International Standard Amendment 1, Medical Electrical Equipment – Part 2:52: Particular requirements for the basic safety and essential performance of medical beds.**
* **Scope (Australia) -** Occupational Therapy Assessment for Bed Systems Safety developed – 2013 version
* **Government of South Australia** – Department for Communities Equipment Services (October 2015)
* **Standard requirements for height adjustable needs for department managed disability accommodation services.** Developed by Chris Fitzgerald, Victorian State Government, Health and Human Services. Issued September 2015.
* **National Pressure Ulcer Advisory Panel, European Pressure Advisory Panel and Pan Pacific Pressure Injury Alliance.** Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline. Emily Haesler(ED.). Cambridge Media: Perth, Australia; 2014

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# Appendix 1 – Identification of Bed and Mattress Critical Entrapment and Falls Areas

The measurements provided in this table below are based on the IEC Standard 60601-2-52:2009 International Electromedical Commission Standard Medical Electrical Equipment - Part 2:52: Particular requirements for the basic safety and essential performance of medical beds, for adult beds and The Nordic Requirement Specification Adjustable beds for disabled children - requirements and test methods, ver. 19.06.01 for paediatric beds. A specific assessment tool (cone test tool) is specified in the IEC standard and a recent amendment IEC 60601-2-52:2009/AMD1:2015 to determine the integrity of beds and side rails in the prevention of entrapment hazards. Equipment suppliers should be able to provide the results from this cone test tool applied to their bed, mattress and side rails using the techniques prescribed in the IEC standard. Please attach this to your application.

It is recommended that a therapist undertake an evaluation of critical area to aid them in their clinical reasoning for recommending bedrails or bed stick use. The evaluation procedure and recommended measurements against each critical area in the table below can guide the prescribing therapist to determine and minimise possible entrapment areas when bedrails or bed sticks are used when the mattress is compressed by the bed occupant. **The evaluation procedure is undertaken with the bed occupant or similar sized test subject in the bed. If the bed occupant has smaller dimensions than outlined in Table 1- (Body Measurements) , the prescribing therapist needs to consider the increased risk of entrapment, and implement alternative strategies to reduce the sizing of gaps within the equipment set up .**

The critical entrapment areas match the entrapment zones described in Hospital Bed System Dimensional and Assessment Guidance to Reduce Entrapment, US Food and Drug Administration Centre for Devices and Radiological Health, document No 1537, Issued 10 March 2006

**Table 2: Measurement of Critical Entrapment and Falls Areas**

| **Critical Area** | **Evaluation procedure** | **IEC Standard(s) and Nordic Specification for paediatric beds** | **Assessment confirms area complies with recommended dimensions?** |
| --- | --- | --- | --- |
| 1. Within rail and to top of rail | * Place bed in flat position, elevate side rails * Measure horizontal or vertical distance between the 2 closest rails * Rails can be either vertical or horizontal   Zone 3 Bed | **Adult**  Distance is equal to or less than 120 mm  **Child**  Distance is equal to or less than 60 mm | Vertical space between / within rail: Click or tap here to enter text. mm  Horizontal space between / within rail: Click or tap here to enter text. mm  Supplier confirms bed and rails meet IEC standard (measuring force is also required)?  Yes  No |
| 1. **For full length rails**   Top of compressed Mattress to bottom of rail, between rail supports | * Place bed in flat position, elevate bed rails, push mattress towards opposite side * Have a person (equivalent to the person's size) on top edge of mattress, have the person’s shoulder positioned between rail supports, measure the diagonal distance from the top of the compressed mattress to bottom of the rail between rail supports. * Repeat with the person's head elevated | **Adult**  Distance is equal to, or less than 120 mm  **Child**  Distance is equal to, or less than 60 mm (on a compressed mattress) | Space when person in flat position: Click or tap here to enter text. mm  Space when person in elevated position: Click or tap here to enter text. mm  Supplier confirms bed and rails meet IEC standard (measuring force is also required)?  Yes  No |
| Rail to mattress, horizontal measurement | * Due to changeability of mattress compression, exact measurements for this zone do not reliably demonstrate entrapment or suffocation risk.   To clinically assess individual clients on the bed and mattress:  1. Place bed in flat position, elevate side rails (elevate head end rails only for split rails)  2. Push mattress to one side rail  3. Move person towards the bedrail to establish entrapment risk as shown (face up or down)  4. **Determine if the space provides a suffocation or entrapment risk. Can the person reposition themselves out of the entrapment zone?**  5. Repeat with head elevation and knee break or bed elevated | Measure person head from ear to ear.  Bed occupant test to see if condition No 4 (see previous column) can be met at the time of bed and mattress delivery.  If unable to trial bed request cone test from manufacturer.  Complete occupant test on the bed and mattress at time of delivery | ***Refer to Page 4 Bed transfers, mobility and movement control.***  Have you see the person on the requested bed, mattress with bedrails/bed stick in place?  Yes  No  Can the person reposition themselves out of the entrapment zone?  Yes  No  Oversized mattress required?  Yes  No |
| **(4) Under the Rail at the Ends of the Rail**  Top of compressed mattress to bottom of rail, at ends of rail | * Place bed in flat position, elevate side rails, push mattress towards the opposite side * Have a person (or equivalent to the person's size) lie on their side on top edge of the mattress, have the person’s shoulder positioned at end of split rail. Measure the diagonal distance from the top of the compressed mattress to the bottom of the end of the rail. * Repeat with head elevated | **Adult**  Distance is less than 60 mm  **Child** Distance is equal or less than 60 mm and as full-length rail are highly recommended for children, adult spacing does not apply. | ***NOTE: SWEP do not fund split (segmented) side rails.***  Space when bed flat: Click or tap here to enter text. mm  Space when head elevated:  Click or tap here to enter text. mm |
| (5) Between **split rails** | * Place bed in flat position, elevate side rails * Measure the distance between the split rails   If this section does not apply mark N/A | **Adult**  Distance less than 60 mm or greater than 318mm  **Child**  Not recommended for use | ***Most suppliers no longer have split rails****.*  *NOTE: SWEP do not fund split (segmented) side rails.*  Space between rails: Click or tap here to enter text. mm |
| (6) Rail to bed end (board), (both foot and head of bed) | * Place bed in flat position, elevate side rails * Measure the distance between the rail and end board * Measure both ends of bed | **Adult**  **Headboard** and adjacent bedrail: Distance less than 60 mm.  **Footboard** and bedrail: Distance is less than 60 mm or greater than 318mm.  **Child**  Distance is equal or less than 40 mm and as full-length rails are recommended for children, adult spacing does not apply. | Space at head end: Click or tap here to enter text. mm  Space at foot end: Click or tap here to enter text. mm |
| (7) horizontal measurement | * Place bed in flat position; ensure bed ends have been properly installed. * Push mattress to opposite end for each measurement, measure the horizontal distance between the end of the mattress and the inside surface of the bed end * Measure both ends of bed | **Adult**  Distance less than 30 mm  **Child**  Distance is less than  20 mm  If unable to trial bed request cone test from manufacturer | *This measurement is important even if no rail is being used.*  Space at foot end: Click or tap here to enter text. mm  Space at head end: Click or tap here to enter text. mm |
| C:\Users\sussanv\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\NOKK2E2W\Bed.pngTop of rail to uncompressed mattress | Height of top edge of bedrails above the mattress without compression  C:\Users\Catherine\Desktop\back pic .JPG  440mm is the 95th percentile adult male chest breadth  Nordic requirements use the same measurement for minimum bedrail height | **Adult**  Distance is equal to or greater than 220mm  **Child**  Chest depth of child will vary so minimum required as per adult (220mm) | *This measurement is important if a mattress overlay is being used*  Space: Click or tap here to enter text. mm |

**Table 3 - Considerations around Body Dimensions (Height, Weight and BMI) – to define Child, Smaller Adult and Adult**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A **CHILD/ SMALLER ADULT** is a person who has a  **Height < 146 cm AND**  **Weight < 40 kg AND**  **BMI < 17** | **CHILD OR SMALLER ADULT** | **Bedrail and end panels** | | **“Protection Bedrail” and end panels** |
| **Definitions:** as perNordic Requirement Specification Adjustable beds for disabled children - requirements and test methods ver. 19.06.01. | Bedrail (side rail) is defined as “Fold away or removable rail intended to prevent the disabled child from falling out of bed.” | | Protection bedrail (side rail) is defined as a “Side rail used to prevent a disabled child from getting out of bed”. |
| **Bedrail height**  **(top of bedrail from uncompressed mattress)** | Bedrail height must be  **≥ 220mm and ≤650mm** from uncompressed mattress | | Protective bedrail height must be  **≥ 650mm** above the uncompressed mattress |
| **Funding of these bedrails currently supported by SWEP for children?** | **YES** | | **NO**  Funding of beds for children requiring  “protection side rails” as per this definition is NOT CURRENTLY SUPPORTED BY SWEP DUE TO DHHS RESTRICTIVE PRACTICE GUIDELINES |
| An **ADULT** is a person who has a  **Height ≥ 146 cm AND**  **Weight ≥ 40 kg    AND**  **BMI > 17** | **ADULT** | | **Bedrail and bed head/ends** | |
| **Definition as per IEC** **60601-2-52:2009 AMD1:2015 in clause 201.3.219** | | | |
| **Bedrail heights above an uncompressed mattress** | **>220mm** (IEC standards) **and ≤ 400mm** (SWEP recommended maximum)  This maximum is based on gathering of clinical evidence related to beds most commonly used in Victoria and previously provided by SWEP. | | | |
| **Funding of these bedrails currently supported by SWEP for adults?** | **YES** | | | |

**Table 4: Defining and adult and how to calculate BMI**

|  |
| --- |
| **The IEC 60601-2-52:2009/Amendment 1:2015**  **Refers to an adult as per diagram below. Persons outside of these dimensions refer to above-mentioned Nordic Guidelines for reference.**  SWEP considers paediatric beds and mattresses should be available to clients who would not be considered an adult under the below definition.  **Refer to Bariatric guidelines when over 35 BMI (**[**Appendix 5**](#_Appendix_5)**).**  [Image result for free images person height measurement](https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjRgpDOh5HSAhUBjZQKHf_CBGIQjRwIBw&url=https://clipartfest.com/categories/view/434711298a8d2913fc0df7947bcc032e3cb0ad90/height-measurement-clipart.html&bvm=bv.146786187,d.dGc&psig=AFQjCNFAW-hoYoMQ8CByuAND8d0zI0hHNQ&ust=1487211934010456) [Image result for images for person on scales](http://www.bing.com/images/search?q=images+for+person+on+scales&id=F89B4B95E9113333F4D4E9DC003890C2DEE73DD4&FORM=IQFRBA)  A person with:  Height ≥ 146 cm **AND** Weight ≥ 40 kg **AND** BMI ≥ 17 is considered an ADULT  **Body Mass Index**  BMI = Body weight in kg  (Height in metres)2  Example: Person weighs 55 kg and is 140 cm tall, BMI = 55/ (1.4)2 = 28.  Person is not an *adult* because their height < 146 cm. |

Nordic Requirement Specification, Adjustable Beds for Disabled Children – Requirements and Test Methods – ver. 19.06.01:<https://socialstyrelsen.dk/filer/handicap/hjaelpemidler-og-velfaerdsteknologi/nordisk-kravspecifikation-barnesenge190601-word.pdf>

# Appendix 2 – Pressure Redistributing Support Surfaces: Active /Reactive mattresses (overlays and replacements)

| **Product Checklist Specifications of Overlay or replacement** | **Product Information / Assessment** |
| --- | --- |
| **Strength of evidence**  Supporting clinic claims: RCT / cohort studies / case control studies / comparative studies with no control / case studies; Outcome measures used? |  |
| **User weight limit (Safe working Load)**  **Note: minimum and maximum** |  |
| **Mode of operation**  Reactive (static) / active (dynamic), alternating/ micro air loss / zoning / genuine low air los. |  |
| **Foam specifications / quality**  Density / hardness / layers / zoning  High Resilience (HR) / Low Resilience(LR) / memory / latex |  |
| **Depth (min for foam replacement 150mm)**  Mattress overlay / replacement mattress (when inflated)  **Overlay min 10cm** |  |
| **eval5**  **Cell cycle time**  E.g. 10 min cell cycle time? **Cell movement** e.g. 1:2as above,or1:3, or 1:4 |  |
| **Type of cells**  No. of cells / individual cell size and shape / attachment to mattress base (i.e. potential for client to fall through the cells “bottom out”) |  |
| **Mattress construction**  1st / 2nd layer – active / reactive; e.g. layers – foam / gel / air / static head section/ zoning |  |
| **Pressure differential/ amplitude** delivered from the pump to the cells; what is the lowest and what is the highest pressure that is delivered into the cells e.g. 30mmHg-80mmHg |  |
| **Attachment to bed surface**  Check bed base sizing recommended. Review action with head raise and knee break |  |
| **Cover**  2 way stretch / moisture vapour transmission rate (MVTR) / waterproof / antimicrobial / fire retardant / welded / zippered seams |  |
| **Pump: pressure control**  Auto adjust / manual dial – changes for body weight / upright position |  |
| **Pump: type**  Air output (litres / min) / Noise (decibels) |  |
| **Safety features**  CPR release / transport mode – time / static mode / auto reset/ battery back up? |  |
| **Alarms**  Battery backup – how long? |  |
| **Hosing connections**  Attachment of hoses / covers over hoses (potential of hose to kink) / impact on speed of cell inflation / deflation |  |
| **Warranty**  All components / covers / mattress / pump/ time frames? |  |
| **Set-up instructions**  Specific / head-foot / marked on the product / infection control / cleaning methods |  |
| **Maintenance / service requirements**  Repairs / replacement costs – pump / cells / life of the product / company response time / replacement |  |

©Young and Dean (2012) updated (2016).

Ref: Australian Wound Management Association. Pan Pacific Clinical Practice Guideline for the prevention and management of pressure injury. AWMA: 2012. Cambridge Publishing, WA

# Appendix 3

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**Bedrails**

**Clinical Considerations for Prescribers**

**What is a bedrail?**

A bedrail is used to prevent falling/rolling out of bed.

There are potential risks (some of which are serious) associated with the use of bedrails which include:

* Parts of a person’s body can become trapped where there are gaps or moving parts, such as between the rails of the bedrail, between the mattress and bedrail, between the mattress and bed-head/bed-end, between the end of the bedrail and the headboard/footboard
* The risk of suffocation if the person’s face is wedged against a soft surface (mattress or bedrail cover) restricting breathing
* Injuries from falls if the person climbs over the rails
* Injuries from falling or striking against the rails

**Bedrails should only be considered after all other options to prevent rolling/falling out of bed have been fully explored. They are to be used in exceptional circumstances only**

**Clinical Assessment Considerations**

* To guide clinical decision making about whether bedrails are appropriate refer to the flowchart on Page 4. A clinical decision should then be made with the person/carer as to what solution involves the lowest/least likely risk (i.e. bedrails, no bedrails or an alternative strategy).
* Document your clinical reasoning and decision in clinical notes
* Before providing bedrails ensure you have assessed alternative options to prevent falling/rolling out of bed, to minimise the risk to the person using the bed. Many people can be safe in their beds without the use of bedrails. Options other than bedrails include:
  + Consider the need for a medical review (medication affecting sleep/settling, skin integrity, nutrition, pain management, circulation, etc.)
  + Ensure needs are anticipated (e.g. drinks accessible, regular toileting, call bell available)
  + Using tucked in sheets and blankets
  + Lowering an electrically height adjustable bed close to minimum height for sleeping (use caution where person can independently transfer)
  + Using a ultra low adjustable bed
  + Placing a floor mat or mattress next to the bed if the person is at risk of falling out of bed (use caution re OH&S for carers coming to assist person in bed)
  + Providing a foam mattress with firm or raised edges / concave mattress or bumpers
  + Provision of a positioning device or system
  + Use of monitoring systems/sensor alarms/alarm devices
  + Increased supervision when in bed
  + Using a larger bed
  + Note – using a wall instead of a bedrail is not recommended as gaps and entrapment can occur against a wall as well as bedrail
* In some situations the alternatives above may not work for an individual person. The use of bedrails should only be considered after all other options have been eliminated.
* When using bedrails always consider that anywhere a gap or moving part exists there could be a potential hazard.

The most common areas for gaps are between:

* + Rails of a bedrail
  + Bedrail and mattress
  + Bedrail and bed head or bed end
  + Bedrail and clamp-on bed stick (where used together)
* Only prescribe bedrails suitable for the bed type, that attach to the bed and preferably use bedrails manufactured by same company or supplier: i.e. adjustable beds (bedrail will generally clamp on or need to be screwed into place but can also be part of the bed frame)
* **Slide under mattress bedrails** are not considered safe as they move and create gaps and enable entrapment. Slide in bedrails are not funded by SWEP.
* To guide clinical decision making about a persons level of bed entrapment risk, refer to the **“SWEP – Bed, Mattress & Bed Equipment Assessment Tool”.** The level of bed entrapment risk will then guide the decision about the need to assess bed entrapment zones:
  + Low Risk: assessment of entrapment zones particularly for Zone 6 & 7 around head and foot board of bed.
  + Moderate/High/Extreme Risk: Full assessment of entrapment zones must occur and are to be part of the SWEP Prescription
* To guide assessment of bed entrapment zones refer to “**SWEP – Bed, Mattress & Bed-Equipment Assessment Tool” Appendix 1.**
* Be aware that some people may be at risk of climbing over the bedrails. A person may be at higher risk of this if they are significantly confused, and have enough strength and mobility to climb over the rails. Younger people may be at risk as their mobility develops
* Consent needs to be provided by the person and/or carer for the supply of bedrails if the bedrail is restricting the person from getting out of bed when they are capable of doing so and may wish to do so. **Consideration of restrictive practice needs to occur in these situation.**
* For all paediatric clients it is recommended full length bedrails are used but individual requirements are to be taken into account.

**Bedrail Covers – Mesh, material or padded cover that is placed over rail and secured**

* If the person is at risk of entrapment bedrail covers may be considered to eliminate gaps between the rails. Ensure that the length of the bedrail covers cover the bedrail adequately to comply with bed entrapment zone guidelines and/or ensure person/carers have been instructed in correct positioning and placement of bedrail covers if there are gaps
* Consider use of breathable bedrail covers over other options
* Be aware that a person could injure themselves on the bedrails. Consider padded covers for bedrails which can then decreases the breathability and can create entrapment areas due to padding being able to be compressed. Consider the least risk option.
* People may be more likely to knock the bedrails if they are confused, showing signs of agitation or challenging behaviours, do not understand the risks and/or their limitations, have epilepsy seizure, involuntary movements or muscle spasms, have a sensory impairment and or are unable to alert others
* Bedrail covers can be fabricated from a variety of materials. Consider mesh for ventilation and padding where the client is at risk of knocking the bedrails
* Bedrail covers need to be firmly fitted with no movement in the covers or loose fixture points which could enable a person to push against them and create a gap.
* Consider whether covers need to be removed to raise and lower rails and ease of doing this.

**Precautions/Recommendations**

* Where possible use bedrails and mattresses made to go with the bed and are a ‘good fit’
* Specify ‘where on the bed frame’ a bedrail is to be positioned. The person/carer needs to be shown the specific position and/or mark bed frame so the position is clearly known.
* Ensure bedrails are regularly checked to ensure that they are securely attached and have not become loose or moved from specified position
* Bedrails are not designed to help a person in bed to move in bed
  + Avoid using bedrails as a grab rail support when standing
  + Avoid using bedrails as a re-positioning aid
* If using bedrail covers, ensure they are firm fitting and securely attached
* Avoid using pillows or cushions to fill gaps as they may be highly compressible and not fit the space fully
* Avoid using bedrails to move the bed as this may loosen the rail attachments
* Consider if bedrail can be a restraint – preventing the person leaving the bed as they wish
* Consider the environment the bedrail is used in
* Walls can create entrapment zones and are not an alternative to bedrails

**Installation Considerations**

Must be installed by supplier with direction from therapist

**Person/Carer instructions**

* Instruct person/carer to check the bedrail DAILY to ensure no gaps have been created. Gaps can pose a risk of trapping parts of the body and causing injury
* Instruct person/carers in monitoring of equipment and to report any issues with equipment safety and integrity
* Instruct person/carers to check bedrail covers are positioned appropriately and fastened securely when placed on bedrails.
* Educate carer(s) on use of the bedrail (i.e. lowering/raising the bedrail with safe manual handling techniques and ensuring the bedrail is locked into position)

**Review**

Every 12 months (where possible) and more frequently if the person has a progressive condition, or if the

following changes occur, a person’s:

* Condition deteriorates
* Cognition decreases
* Changes to medication are made, with significant side effects
* Communication ability decreases such that person can no longer make needs known
* Unintentional movements increase
* An entrapment incident occurs
* Carer availability decreases

Check that:

Equipment is still in place, in use and appropriate for the person

Bed entrapment risk level assessed and assessment of entrapment zones occurs as required

Person/carer given information sheet; “Bedrail Fact Sheet”

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**Bedrail Clinical Considerations for Prescribers**

**For more information contact Independent Living Centre 1300 885 885**

Reference: Government of South Australia – Department for Communities Equipment Services (October 2015) with permission

Appendix 3 – SWEP - Bed Mattress and Bed equipment Assessment Tool – September 2017



**Bedrails Fact Sheet**

**Information for bed users and the people who support them**

**What is a bedrail?**

A bedrail is a bed accessory that can be part of the bed or fitted and attached onto the bed frame separately.

Bedrails are available in a variety of sizes, shapes and lengths





**Uses**

* A bedrail is designed to prevent a person from falling/rolling out of bed.
* A bedrail is not used to move in bed, to sit from a lying position or to assist with getting in and out of bed.
* The bedrail needs to be installed appropriately for you by the supplier and your therapist.

**Precautions**

It is important to be aware of the **potential serious risks** associated with the use of bedrails.

How to **minimise risks** to person before the use of bedrails:

* Check bedrails regularly as they may become loose over time and move out of position.
* Parts of your body may become trapped where there are gaps - for example between the rails of the bedrail, between the mattress and bedrail or between the mattress or bedrail and bed head/bed end. If a part of your body becomes trapped, you may find it difficult to breath and may be at risk of suffocation
* Injuries may occur from falls from climbing over the rails or from body parts bumping against the rails.
* Injuries to carers may occur if carers raise/lower bedrails without using safe manual handling techniques.
* Bedrails may not be effective if they are not locked into position correctly.
* If you have been provided with bedrail covers only use as demonstrated by your therapist or service provider

Bedrails that slide under the mattress and are not attached securely to the bed are  **not recommended and as such are not funded under SWEP,** as they can move out of position easily and have limited benefit to prevent the person rolling from bed. The ‘slide in’ bedrail use the weight of the person and mattress to hold them in position and

person can continue to roll out of bed with the ‘slide in bedrail’ also coming away from the bed and onto the person causing harm.

**What to avoid**

* Using pillows or cushions to fill gaps in bedrails
* Holding onto rails when moving the bed as this may loosen the rail attachments
* Using bedrails to provide support when standing unless the bedrail is designed to do so
* Using bedrails to help with re-positioning in bed

**General Care and Maintenance**

Notify your Therapist or their agency if you notice any of the following:

* If a part of your body becomes trapped or you are concerned about this happening,
* If you notice that your bedrail is moving out of position or becoming loose,
* If there is at risk of falls or injuries from climbing over or bumping against the rails.
* If you use bedrail covers and attachments are loose or have worn over time

**Useful information:**

Your Bedrail was prescribed by:

Organisation / Service Provider:

Phone number:

Funded by:

For SWEP funded Bedrails Repairs & Maintenance phone 1300 747 937

Supplier by:

Date supplied

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**Bed Rail facts sheet for Users**

**For repairs contact your prescribing therapist or their agency**

Reference: Government of South Australia – Department for Communities Equipment Services (October 2015) with permission

Appendix 3 – SWEP - Bed Mattress and Bed equipment Assessment Tool – September 2017

# Appendix 4

**Bed Stick**

**Clinical Considerations for Prescribers**

**What is a Bed stick?**

A bed stick is used to assist with rolling over in bed, sitting up from a lying position, getting in and out of bed and providing support when standing.

A bed stick is NOT designed to prevent someone from falling out of bed

**Clinical Assessment Considerations**

Before providing a bed stick, ensure alternative techniques have been assessed.

* Can the person roll, use the edge of the bed to pull on?
* Could silky sheets or silky sleep wear assist?
* Can the bed be raised or lowered to assist with bed transfer?
* Can options such as a bed wedge or backrest raise be trialled?
* Is the prescription of an adjustable bed appropriate?
* If the prescription of a bed stick is being considered use the SWEP 'Bed, Mattress & Bed Equipment Assessment Tool’ to evaluate the risk associated with prescribing a bed stick. Document your clinical reasoning and decision in all clinical notes
* Be aware that there are different bed stick styles (e.g. single point vs curved/dual pole vs horizontal bed stick). Consider match of bed stick style and person attributes (e.g. transfer technique, impalement risk, entrapment risk)
* If prescribing a bed stick to be used consider level of entrapment risk. If the level of entrapment risk considering entrapment zones (zones 1 and 3 may be relevant). Use SWEP 'Bed, Mattress & Bed Equipment Assessment Tool’ - Appendix 1
* Take steps to eliminate non-compliant zones or consider whether prescription of a bed stick is appropriate

There will be times where prescription of a bed stick is not an appropriate solution to support independence in bed mobility or transfers.

* Consider alternatives such as increased carer support or alternative equipment options (e.g. slide board).

**Precautions/Recommendations**

A bed stick should **NOT** be provided if the user has a history of falling / rolling out of bed.

* Review person’s risk of bed stick use if the person currently has a bed stick in place and has recently fallen or is at increased risk of falling / rolling from the bed
* If there is an anticipated risk of the person falling against / onto the bed stick during bed transfers, a round ended bed stick should be provided
* Use caution in prescribing a bed stick if the person has an existing upper limb pain/ injury
* Consider if the person’s cognition or medication use impacts on their safe use of
* a bed stick
* The bed stick should typically be positioned close to the waist when the person is lying in bed, and not too close to the head/upper body
* Two styles of bed sticks pictured below are not recommended for use at all due to high risk of impalement:



Bed Stick Standard Bed Stick Mambo

If a person, being reviewed is using these styles of bed sticks consideration should be given to removal or replacement.

**For non- adjustable beds:**

* Do NOT tie or fix the bed stick to the bed (unless it has been designed for this purpose) as the mattress may still move/flip
* Ensure sufficient weight is placed upon the bed stick to limit its movement while the user is in bed and using the item for repositioning and/or transfers.

**If mattress weight is not sufficient the bed stick may be unstable.**

* Under mattress bed sticks are NOT suitable for water beds, beds with an elevating bed head or metal-based beds with springs
* Non-slip matting may be used to assist with keeping the bed stick in place, however consideration of weight on bed stick when in use.

**For adjustable beds:**

* Only use clamp on bed sticks with adjustable beds (moving parts within adjustable beds make slide in bed sticks unsafe for use)
* The clamp must be the same size for the bed frame so there is not movement in the bed stick

**Installations Considerations**

* Must be installed by supplier or your therapist
* Position bed stick at the side, near the waist of the person using it.
* Ensure the bed stick is not too close to the bed head
* Adjust the bed stick position after trial with the person as required
* Consider marking the optimal position of the bed stick on the bed frame to ensure correct placement
* To minimise entrapment risk, ensure there is no gap between the vertical component(s) and mattress. Check that the bed stick and mattress cannot easily move and create a gap
* If using the clamp on variety on an adjustable bed, install by clamping firmly in position. The clamp size needs to be the same as the Bed frame tubing.
* Check that the bed stick is not bending when the person is using it

**Person/Carer Instructions**

* Demonstrate to the person how to turn over, get in and out of bed and sit up as appropriate
* Observe the person doing above
* Advise the person/carer that both the bed stick and the mattress may move and create a gap, posing a risk of trapping parts of the body and causing injury
* Instruct person/carer(s) to check the bed stick DAILY to ensure the bed stick has not moved out of position
* If the bed stick is a clamp on variety (for adjustable beds) instruct the person/carer to check that the clamp is still holding on a DAILY basis
* Instruct person/carer not to hang items (e.g. face washer, handkerchief etc.) on the bed stick

**Review**

Every 12 months (were practical) and more frequently if the person is heavy, transfers awkwardly, or if the following changes occur, e.g. if a person’s:

* Condition deteriorates
* Cognition decreases
* Has a fall during bed transfers
* Has a fall / rolls out of bed
* Changes to medication are made, with significant side effects
* Communication ability decreases such that person can no longer make needs known
* An entrapment incident occurs
* Carer availability decreases

**Check that:**

* Equipment is still in place, in use and appropriate for the person
* The person can still demonstrate safe use of the equipment
* Bed stick has not bent and end cover of single point stick is in place.
* If bed stick is a clamp on variety (for adjustable beds) check that clamp is functional and is secure
* Bed entrapment risk level assessed and an assessment of entrapment zones occurs as required
* Person/carer(s) have been given information sheet **“Bed Stick Fact Sheet”**

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**Bed Stick Clinical Considerations for Prescribers**

**For more information contact Independent Living Centre 1300 885 885**

Reference: Government of South Australia – Department for Communities Equipment Services (October 2015) with permission

Appendix 4 – SWEP - Bed Mattress and Bed equipment Assessment Tool – September 2017

**Bed Stick Fact Sheet**

**Information for bed users and those people who support them**

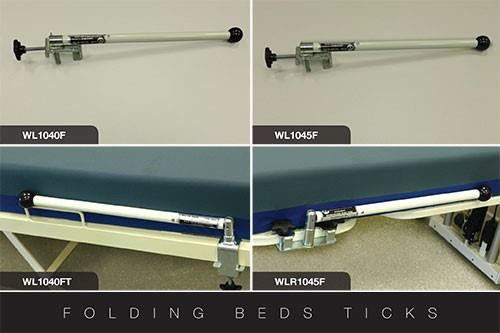
**What is a Bed Stick?**

A Bed Stick is a metal tube, part of which usually sits under the mattress or clamps onto bed frame and part of the tubing extending up the side of the mattress.

A Bed Stick that slides under the mattress can move so great care and consideration when using is required.

Bed Stick can come in different shapes but loops, hooks or knobs prevent the Bed Stick causing you harm if you sit or lean over the top of the Bed Stick.



  Slide under mattress bed stick

**Uses**

A Bed Stick is used to roll over; to sit from a lying position and to assist with getting in and out of bed.

The Bed Stick should be installed appropriately by supplier on delivery. However contact therapist or service provider if there are any questions or concerns.

For all Clamp on Bed Sticks the clamp and bed frame diameter need to be compatible. The clamp should remain tightened and keep the Bed Stick steady with no movement for safe usage.

**Precautions**

* Check the Bed Stick daily to ensure it has not moved out of position. Both the Bed Stick and the mattress may move and create a gap

Any gap can pose a **risk** of trapping parts of the body and causing injury

* If you notice that your Bed Stick is moving out of position frequently contact your therapist or service provider
* Contact your therapist or service provider if the person using the Bed Stick is falling or at risk of falling from bed
* Make sure that the Bed Stick stays in position and does not make it difficult to get in or out of the bed
* Use caution if you have any existing upper limb pain or injury
* Do not use additional tie or fix the Bed Stick to the bed (unless it has been designed to do this – e.g. has a clamp or fixation device built in)

**General Care and Maintenance**

Notify your therapist or service provider if you notice any of the following:

* The stick frequently moving out of position
* Bowing (bending) of the tubing.

**Weight Tolerance**

Most equipment is weight tested to Australian and or International Standards.

If you experience significant weight gain the equipment prescribed may become unsafe. If you experience significant weight gain please contact your therapist or service provider

**Useful information:**

Your Bed Stick was prescribed by :

Service Provider / Organisation :

Phone number :

Funded by :

For SWEP funded Bed rails Repairs & Maintenance phone 1300 747 937

Supplier by :

Date supplied :

**Picture or Sketch of ‘Position on bed’ can assist to know if Bed Stick is in the recommended position:**

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**Bed Stick facts sheet for Users**

**For repairs contact your prescribing therapist or their agency**

Reference: Government of South Australia – Department for Communities Equipment Services (October 2015) with permission

Appendix 4 – SWEP - Bed Mattress and Bed equipment Assessment Tool – September 2017

# Appendix 5

**Considerations for those at the extremes of the weight range**

**(E.g.** **Bariatric** ≥ **35 BMI and low weight less than or equal to 40 kg)**

**General considerations:**

* Check for a recommended minimum and maximum weight capacity on all mattress replacements and overlays.
* Consider height /shape / fat distribution and weight of the person and the impact of their body dimensions on a sleeping surface.
* Assess the person on the bed and mattress combination for potential bottoming out and adequate immersion into the surface. Do this in all relevant functional positions that relate to the individual (e.g. supine / lateral lying / sitting with head elevation /knee bend / leg elevation / Trendelenburg).
* Consider floor to top of mattress overall height for any negative impact on transfer ability (e.g. shearing / pressure injury risk is increased if bed is too high).
* Assess all slings and impact on hoist clearance on new surfaces, if needing to change to a larger size. Longer attachment loops may require lower bed / mattress height to achieve optimal transfer clearance.
* Alternating air mattress overlay, and base foam mattress replacement need to be considered together. Check both for minimum and maximum weight capacity.
* Check cognitive capacity of person and carers to manage bed controller / style / display / level of complexity.
* Identify training needs for person /and carers.

**When Selecting a Mattress for a Person of Low Weight consider:**

* Prescription of a mattress that is too firm, and does not allow adequate immersion for a low weight client may increase pressure injury risk. Persons under 50 kg may need a mattress specifically designed for lighter weight capacity (e.g. softer top layers of foam or lower minimum pressure settings for alternating air, or adjustable air surfaces). It is important to seek product performance advise from suppliers regarding persons in the lower weight range.

**When Selecting a Mattress for a Person of Higher Weight (BARIATRIC ≥ 35 BMI) consider:**

**The Person will have an increased pressure injury risk due to:**

* Adipose tissue has reduced blood supply and skin perfusion - so these individuals are at increased risk.
* Wound healing is slower in this population.
* Extra Skin folds- requiring increased skin care, potential to get caught on sharp edges etc., pinching around slings, and backs on chairs during bed transfer.
* Microclimate: Increased Moisture/ Heat. This population have increased potential to sweat, and consequent increased moisture and friction in skin folds.
* Dryer skin potential in this group, so they are more prone to skin damage, due to changes in the permeability of the skin.
* Equipment that is too small-causes pressure/ shear and friction on excess tissue over bony prominences and skin folds.
* Friction and resultant tissue shearing, is increased due to poor mobility/ transfer techniques/ and inability to clear body parts during transfer
* Consider use of bed Trendelenburg function /anti shear head raise on bed, to reduce shearing forces.

**Weight:**

* Safe Working Load (SWL) - consider weight distribution, and body weight. Include weight of potential visitors, who may sit on bed with client in the bed. (SWL: included bed / mattress / bedding / visitors and person) total SWL of bed base and mattress.
* Assess where the heaviest part of the body is located- then check for “bottoming out” in that area.
* Review fat distribution, it may not be around buttocks.
* Potential for it to be more around the mid body or girth area.
* Measure in upright position, as load spreads and seating width changes significantly from lying to supine.
* Check joint range of movement (ROM), but also consider if it is the girth measure that prevents being able to sit upright. This will impact seated bed positioning (head raise).

**Height:**

* Length of bed may need extension.
* Shorter person may need low line bed to perform stand transfer.

**Body Shape:**

* Extra bed width may be required to enable safe turning space (usually minimum of king single size).
* Bed with adequate positioning modes to accommodate the person's shape for comfort etc.
* Bed – consider mobility aids to increase independence.

**Bed /Mattress:**

* Bed width – consider bed extension designs, which give options for flexibility.
* Functions: anti shear / chair position / rehab functions/ Trendelenburg / knee bend and leg elevation (all functions may need reinforcement).
* Head elevation mechanism may be used constantly, to allow comfortable breathing. May need reinforced back rest
* Check body dimensions to match knee bend and head raise profiles.
* Prescription of a mattress that is too shallow, does not support the person’s shape and increased weight without “bottoming out” to the bed base, may increase pressure injury risk. Manufacturers are now designing Bariatric mattress depth at 200mm minimum to reduce “the bottoming out” potential and high interface pressures when the foam is heavily compressed.
* Assess the person of higher weight for “bottoming out” potential on the foam edging of the mattress. Check that the foam in the central section of the mattress is supportive and not too soft. This can create “a bogged effect”, and significantly reduce independence in repositioning up / down the bed / side-to-side positioning, and transfers.
* Memory foam may not be the best option for this population. It will not support heavy weights- as it needs to be too deep to handle large weight/ or too firm to support large loads.
* Memory foam- can reduce bed mobility and increase heat and sweating in this population.

The Environment

* Access - consider resistance created by the type of flooring, door and corridor widths, does bed fold up for transporting/ delivery site access / home visit may be needed prior to trial to review method of entry.
* Bed and mattress trials: consider alternative venues for a trial – if home modifications are needed to allow access to larger pieces of equipment.
* Mobility of the bed - is there a drive function? Will a bed mover fit it?
* Room – size, clutter, space for carer and access to other equipment (e.g. wheelchair / hoist /commode)

## ***For more information for Persons with Obesity and Bariatric Equipment needs***

## ***Contact: AusBIG email:*** [***info@ausbig.com.au***](mailto:info@ausbig.com.au)

## ***Director: Janet Hope***

## ***Aim of this group****:*

## *To raise the awareness enabling safe, dignified and caring management of the population with obesity who have bariatric needs.*