

## **Adaptive Beds**

This document summarizes clinical indicators for adaptive beds which address patient needs for safe and appropriate sleep equipment. This equipment is often used in conjunction with a patient lift.

A standard bed is generally parallel to the floor and can vary in width and length, as well as height from the floor. The height is fixed.

Specialized beds fall into two main categories: adjustable hospital beds and beds designed to contain the patient.

### Adjustable Hospital Beds

Adjustable Hospital Beds generally include adjustments in the height of head, under the knees and to the height of the entire bed. These adjustments may be manual or electric. Various mattresses are available. Railings and bumper pads are optional.

Adjustable hospital beds are recommended for the following reasons:

1. **Positioning:** Changes in position are helpful for a variety of reasons. Raising the head of the bed allows a patient to sit up in bed, who otherwise could not, for visual regard of the environment, for secretion management and for functional tasks. Changes in position also improve comfort, provide passive range of motion at the hips and knees and may decrease stiffness and tone.
2. **Pressure Relief:** Changes in position redistribute pressure along the body. For patients with minimal to moderate risk for developing pressure sores, in combination with the correct mattress, these positional changes will minimize risk.
3. **Personal Care:** Raising the bed for personal cares, such as dressing and diapering eases these tasks for the caregiver.
4. **Transfers:** Changing the height of the bed to match the height of the transfer surface (i.e. wheelchair or commode chair), eases transfers, possibly eliminating the need for a patient lift and increasing safety for the patient and caregiver.
5. **Safety:** The railings can prevent falling in some patients and also provide a hand grip which some patients are able to use to pull themselves into a different position, such as side lying.

### Product Options:

1. **Manual adjustable hospital bed:** these beds typically offer manual head, foot and bed height adjustments.
  - **Pros:**
    - All positional adjustments are available.
  - **Cons:**
    - The patient cannot control the adjustments independently.
    - The adjustments are slow.

2. Semi-electric adjustable hospital bed: these beds typically offer electrical head and foot adjustment and manual bed height adjustment.
  - Pros:
    - All positional adjustments are available.
    - The patient can independently adjust the head and foot, if they can use the buttons on the control.
    - If they cannot use the buttons on the control, switch adaptations or X10 control is available for additional cost.
    - The adjustments are faster. For example, if a patient is choking, the head of the bed can be moved quickly and the caregiver can support the head forward while pressing the button. The caregiver would be unable to hold the patient's head while using the crank.
  - Cons:
    - The client cannot adjust the height of the bed.
    - This bed is more expensive than a manual bed.
3. Fully electric adjustable hospital bed: these beds typically offer electrical head, foot and bed height adjustment.
  - Pros:
    - All positional adjustments are available.
    - The patient can independently adjust the head, foot and height, if they can use the buttons on the control.
    - Independent adjustment in height is particularly important if the client transfers independently.
    - If they cannot use the buttons on the control, switch adaptations or X10 control is available for additional cost.
    - The adjustments are faster. For example, if a patient is choking, the head of the bed can be moved quickly and the caregiver can support the head forward while pressing the button. The caregiver would be unable to hold the patient's head while using the crank.
  - Cons:
    - This bed is more expensive than a manual or semi-electric bed.
4. Fixed height adjustable hospital bed: these beds may offer manual or electrical head and foot adjustments. There is no bed height adjustment.
  - Pros:
    - Dependent on the options, similar to those listed above.
  - Cons:
    - The height cannot be adjusted for transfers. This style bed is typically recommended so that the bed cannot be too high for patients who are at risk for falling. Unfortunately, the patient is still at risk even if they do not fall quite as far.

#### Beds designed to contain the patient

Beds with high railings are designed to prevent falling. These railings are usually attached to the head and footboards, so that a patient cannot fall through these areas. The

railings are spaced closely in pediatric beds so that a small child cannot become trapped between them. Enclosed beds are designed to prevent the patient from climbing out of the bed. Some of these beds offer adjustable positions, as needed.

1. **Falling:** some patients are particularly prone to falling. This could be do to excessive movements (i.e. athetosis), seizures or impaired cognitive skills. These are sometimes referred to as Crib Beds as the railings are so high. A baby can roll out of bed or attempt to get out of bed and fall without railings on a standard crib. An older child with cognitive impairments may not realize the risk of falling or the need to stay in bed without railings. Falling out of bed can lead to injury, particularly in a patient who may be at higher risk of injury due to lack of protective reflexes or osteoporosis.
2. **Climbing:** some patients attempt to leave their bed when it is not appropriate, such as in the middle of the night. Even with high rails, these patients may fall or climb over these, if able. A patient who can come to high kneel or pull to stand may inadvertently fall over the railings, similar to a toddler who is now too tall for a crib. Some patients, such as children with autism, intentionally crawl over railings. This places the child at risk of injury, if they fall from the height of the railings. Once out of bed, children with autism are at grave risk. Children with autism are very poor sleepers and may get out of bed while caregivers are asleep. The children may leave the house, place a fork into an outlet, turn on stove, drink hazardous materials, etc. By placing this child in an enclosed bed, the child is more likely to sleep and is safe. Other options include having a paid attendant in the evenings to ensure the child does not do something dangerous or lock the door. Even if the door was locked, which is a safety risk in and of itself, the child can still access items in the room. Some of these children are quite capable of opening locked windows and getting out on the roof.

#### Product Options:

1. **Hard Manufacturing Beds**
  - a. **Stockton:** This bed has high rails attached to the head and foot boards with optional bumper pads. This bed also offers optional head, foot and bed height adjustments.
    - **Pros:**
      - The rails are higher than those on an adjustable hospital bed to prevent falling.
      - The rails are attached to the head and foot board so that the patient cannot fall through these spaces.
      - The rails are spaced close together so a small child cannot become entrapped.
    - **Cons:**
      - This bed costs more than an adjustable hospital bed.

- b. Monroe: This bed has high rails attached to the head and foot boards with soft, clear enclosure panels and roof above. This bed also offers optional bumper pads and head, foot and bed height adjustments.
  - Pros:
    - This bed prevents the patient from falling or climbing out.
  - Cons:
    - This bed is more costly than an adjustable hospital bed or the Stockton.

## 2. Pedicraft Beds

- a. Pedi-Crib bed: this bed has high rails attached to the head and foot boards with optional bumper pads.
  - Pros:
    - The rails are 27” high, higher than those on the Stockton bed, if this height is required to prevent falling.
    - The rails are attached to the head and foot board so that the patient cannot fall through these spaces.
    - The spacing between the rails is only 2 3/8”
  - Cons:
    - This bed costs more than an adjustable hospital bed.
- b. Homecare Crib: This is a Pedi-Crib bed with a soft top enclosure.
  - Pros:
    - This bed prevents the patient from falling or climbing out.
  - Cons:
    - This bed costs more than the Pedi-Crib bed.

### Pediatric vs. Adult beds

Some of the denials asked why a pediatric bed had such a long mattress. Beds are available in a variety of lengths. For example, the Pedi-Crib bed is available in 34”, 60” and 72” lengths. AAA Medical typically recommends the twin bed length mattress to accommodate future growth. Most children, having outgrown a crib, transition to a twin sized mattress. Toddler beds use a crib sized mattress. Ordering an odd-sized mattress makes finding bedding difficult and limits the lifetime of the product due to growth.

### Off the shelf Options

Some of the denials asked about off the shelf options, such as pillows, wedges and child railings. Placing many pillows in a bed for positioning is inefficient and, sometimes, dangerous. Pillows tends to fall out of position with patient movement and a patient can accidentally end up pressed against pillows and unable to move away due to lack of motor and postural control. This can lead to asphyxiation. Wedges can lift a client, but to a fixed position only. Typically, variances in angle are required to meet the goals of functional tasks and managing secretions. Patients are also more likely to roll off of a wedge and become trapped between a wedge and the railing. Finally, child railings, such as those found in baby stores, only block a portion of the side of the mattress. The patient

may be able to move to either end of this rail. Even if more than one rail is used, these bend easily and children often become entrapped between the railing and the mattress.

### Conclusion

In conclusion, many patients require a specialized bed to meet their needs for positioning, pressure, personal care, transfers and safety. Beds are one of the few DME items that can last the lifetime of the client. Determining the most appropriate bed is critical.