

Skin Care: Bed and Mattress

You've probably heard enough about skin to last a lifetime. It's THE thing that health care professionals hammer on the most. And with good reason – skin breakdown remains one of the leading complications spinal cord injury (SCI) survivors have. It accounts for countless days of missed work, school, and fun. It results in costly surgery, and its complications can even end in death. It is a big deal. The purpose of this article is to talk about your sleeping surface.

Key Terms

As with anything related to your injury, learning the vocabulary to talk with your healthcare team is the first step. Words like “bed” and “mattress” are often used interchangeably in the real world. But, in the medical world, they mean two very different things. A “bed” refers to the frame the mattress sits on. A “mattress” is what you sleep on. In the medical world, a “mattress” is often referred to as a “specialty surface” or “support surface.” An overlay is a thin support surface that lies on top of the standard mattress.

- **Bed = Frame; what the mattress sits on**
- **Mattress = Support surface; what you sleep on**
- **Overlay = Thin support surface that lies on top of a standard mattress**

Bed or Frame

The bed or frame that the sleeping surface rests on will vary depending on your needs. You will need to decide if you need to raise and lower the head and feet of the bed. You will also need to decide if you need to adjust the height of the bed.

The height of the bed is often important if you get help with positioning, turning, or getting dressed. It can also be used to allow downhill transfers (both ways) if you have difficulty or pain with transferring. The ability to raise and lower the bed will make your caretaker's work easier and decrease back strain.

- **Full-electric bed** – This means that the movement of the bed is electric. Most hospital beds are fully-electric. If you get one at home, keep in mind that it will be a smaller and less heavy than the one in the hospital. Insurance companies rarely pay for this type of bed.
- **Semi-electric bed** – This means that the movement of the head and foot of the bed is electric but the height adjustment is done manually, usually with a crank.
- **Manual bed** – This means that all movement of the bed is done by hand.

Three Levels of Care

When deciding on your mattress or support surface, consider your needs. Do you have a skin sore that needs to heal? Do you need help turning or getting dressed? Do you transfer yourself in and out of bed or do you have a caretaker help you? Will you be sleeping with anyone else in bed with you?

Medicare has developed guidelines to categorize support surfaces based on your individual needs.

Level 1 – Pressure Reduction

These sleeping surfaces reduce pressure on bony prominences. Payment by insurance companies for these support surfaces usually requires a patient to be completely immobile or have limited mobility, have a skin sore on the trunk or pelvis and one of the following: impaired nutritional status, fecal or urinary incontinence, or altered sensory perception. Examples of support surfaces in this category include :

- **Maxifloat® Mattresses** – Pressure relieving mattress. This is the support surface typically used for most inpatients at Craig Hospital.
- **Geo-Matt® Overlay** – Foam egg-crate that lies on top of another support surface.
- **Alternating Pressure Overlay or APP-Overlay** – Overlay made up of chambers that alternate by inflating and deflating with air. Lays on top of another support surface.

Level 2 – Pressure Relief

These sleeping surfaces relieve pressure usually by submersion into something soft or by alternating pressure. Payment by insurance companies for these support surfaces usually requires a patient working with a wound care specialist on multiple or significant, non-healing open skin sores. Examples of support surfaces in this category include :

- **Alternating pressure mattress** – The support surface is made up of cells that alternate inflating and deflating with air. These mattresses tend to be cooler and produce intermittent noise when the air inflates and deflates.
- **Rotating mattress** – This support surface physically rotates you from side to side as you lay in bed. It produces intermittent noise when the air inflates and deflates. This surface is rarely recommended because the rotating movement can cause shearing injuries.
- **Low air loss mattress** – This support surface is a submersion mattress with chambers of air. The chambers can be filled with air depending on your body weight so that weight is distributed evenly. They are constantly losing and gaining air as it circulates throughout the mattress. They tend to be warmer mattresses and produce a constant noise.

Level 3 – Fluid

These surfaces are rarely used at home because they are extremely heavy and your home will need to be evaluated to see if it is able to sustain the weight of the bed. They are very expensive.

Examples of support surfaces in this category include Hill Rom Clinitron and KCI Air Fluidized bed.

Other Options

If you are lucky enough to not have significant skin problems and it's time to replace your mattress, buying one from a retailer may work for you. Keep in mind, insurance will rarely assist with buying a mattress from a retailer but if that is not an issue for you, consider these options:

- **Waterbeds** – These types of bed used to be a very popular option for people after spinal cord injury. Today they are harder to find but still very effective at reducing pressure. However, feedback from people who have used waterbeds is that transferring out of a waterbed and dressing, mobility, etc can be difficult.
- **SLEEP NUMBER® Beds** – These are air beds that allow you to control the relative softness and firmness of the mattress. Feedback from people who have used these beds report that they can make the bed soft when they are sleeping for better pressure reduction and firm when they are dressing and transferring.
- **Tempur-pedic or Memory Foam** – These are foam mattresses that soften with body heat and mold to your body. People generally either love them or hate them. People that have not liked them report that they retain heat so they are too warm to sleep in. And, because you sink into them, they are hard to move in and to transfer out of.
- **Overlays** – These are popular options that are relatively inexpensive. Overlays lie on top of an existing mattress and can be replaced if they become soiled or worn out. They come in a variety of materials including feather, pillow, foam, air, and memory foam.

Test drive before you buy

Many retailers offer a trial period of their mattresses in your home. If the mattress does not work for you then you can return it within the trial period for a full refund (you may still be responsible for delivery and pick up charges).

For specialty support surfaces or if insurance will be used to help pay, consider renting the mattress or frame before you buy it. Hill Rom Home Care Division is a major supplier of specialty support surfaces and frames and they can help you identify what you need. They also help with the paperwork needed by insurance. Renting before you buy is a cost effective way to make sure you don't get stuck with an expensive mistake.

The Big Picture

Getting the right mattress and frame is a small part of your overall skin care regimen. Just because you have a fancy mattress does NOT mean you can skimp on monitoring your skin, turning, or padding.

Check your skin every morning and night

Routine skin inspection is a way of finding skin problems early. Look at your skin or have your attendant look at your skin for any changes in skin color, blisters, bruises, cracked or dry skin. Use a mirror to check your back, bottom and heels. Feel for any hardness, or swelling or warmth that may signal skin breakdown. Any change in your skin is a signal of trouble. Inspecting your skin must become routine each morning, evening and any other time you think you might need to.

Practice regular turns while in bed

Using a regular turning schedule during the night will also keep your skin healthy. Depending on your body size and skin tolerance, your turning schedule may vary from 2 to 6 hours. Adding 30 minutes in a given position and then checking for redness can gradually increase the length of time between turns and build skin tolerance.

Anytime you make a change to your sleeping surface (new mattress, new overlay, hotel, friend's house, etc), decrease your turn times to every 2 hours. Gradually add 30 minutes in a given position and then check for redness to increase the length of time between turns and to build tolerance to the new surface. If redness or breakdown is noted, reduce turn times and keep off the area until it returns to normal.

Don't sit in bed for long periods of time. Raising the head of bed or propping your head up with pillows puts pressure on your tail bone putting you at increased risk for developing a pressure sore. If you need to sit up, get out of bed and into your wheelchair.

Practice padding in bed

Placing pillows and pads to relieve pressure can protect the bony prominences of your body. One rule of thumb to follow is to place padding above and below the bony prominences.

Effects of Aging on Your Skin

Aging of the skin is a fact of life for all individuals. With aging, our skin becomes thinner, dryer, has a decreased blood supply and is more fragile (especially to shearing forces). These are of particular concern to a spinal cord injured person because the chance of developing a pressure ulcer increases. You may notice that sitting and turning tolerances may diminish and you may develop pressure ulcers from activities that never caused any problems before. You may need to switch to a different type of cushion or do more frequent turns and weight shifts. As you age, be sure that your mattress and cushion do not age along with you. Check them periodically and replace when they lose their pressure relieving ability.