



# Pressure Ulcers eCourse

## Module 5.2: Repositioning & Support Surfaces

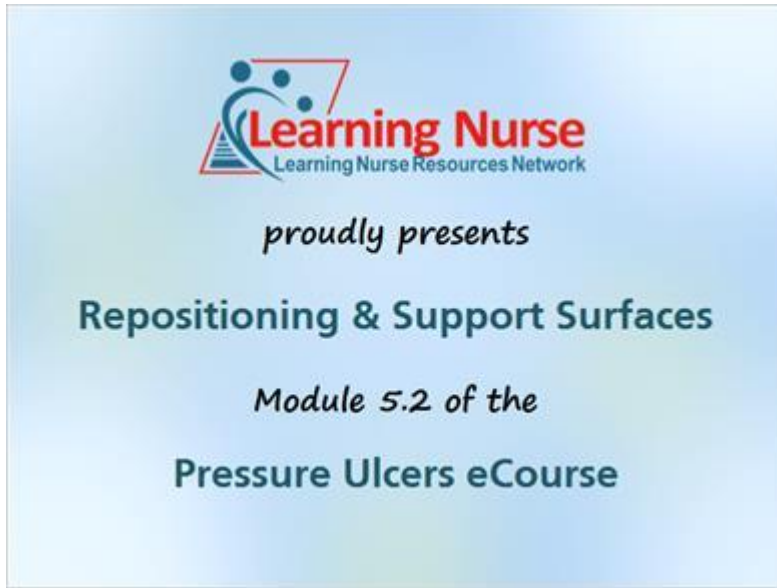
### Handout

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# Repositioning and Support Surfaces

## 1. Repositioning and Surfaces

### *1.1 Section Title*



### **Narration**

No narration, only music.

## 1.2 Topics



### Narration

**JILL:** Hi ... I'm Jill and with me is Mark. Welcome to Module 5.2 of this Pressure Ulcer course.

**MARK:** Hi Jill. In this module, we're going to discuss repositioning of patients and residents who are being treated for pressure ulcers. I gather we will also be looking at different support surfaces and how to use them as part of our treatment plans.

**JILL:** Yes, that is correct.

**MARK:** Great. Let's get started!

## 1.3 Repositioning

**Repositioning**

*Prevention and treatment*

*Frequency of repositioning influenced by:*

- *patient variables*
- *assessment of skin & comfort*
- *support surfaces*

A photograph showing a healthcare professional in a white uniform assisting an elderly male patient sitting up on a bed. The professional is leaning over the patient, possibly checking for pressure points or adjusting the patient's position. The patient is wearing a grey t-shirt and brown shorts.

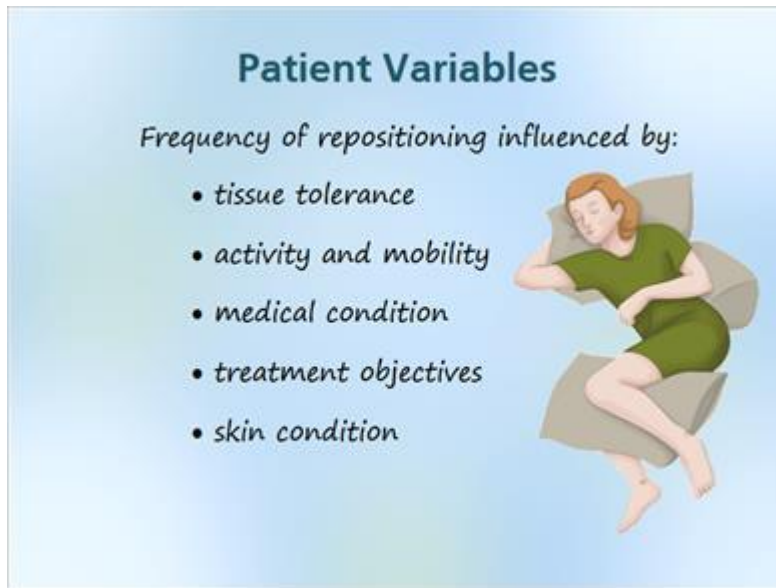
### Narration

**JILL:** Repositioning is changing an individual's body position to relieve pressure and enhance comfort. It is a key care strategy in both preventing and treating pressure ulcers.

**MARK:** So how often should be reposition a patient?

**JILL:** That depends on several factors. One is the health variables related to each patient. Second, it is dependent on the results of ongoing assessment of skin condition and comfort. And finally, it depends on the support surfaces in use. For example, if a patient is sitting on a chair without a cushion, we may need to reposition him more often.

## 1.4 Patient Variables



### Narration

**JILL:** Let's take a closer look at the patient variables we just mentioned. Mark, why don't describe these?

**MARK:** Sure thing. The first variable is the patient's tissue tolerance. As we discussed previously, tissue tolerance can vary significantly across individuals. The second factor is the level of activity or mobility of the patient or resident. Obviously individuals who are bedbound will require more repositioning than those that can get up and move about. Another important factor is general medical condition. If the patient is very ill, we have to be careful about repositioning them frequently to avoid aggravating their condition. Another factor is the overall treatment objectives. And finally, repositioning will be determined by the condition of the skin and the pressure ulcer.

**JILL:** Good job.

## 1.5 Techniques

**Repositioning Techniques**

*Transfer aids*

*Lift, do not drag*

*Devices and techniques:*

- *mechanical lifts*
- *transfer sheets*
- *2-4 person lifts*
- *turn-assist features on beds*



### Narration

**JILL:** Let's now discuss some specific repositioning techniques. Whenever possible, we should use transfer aids to reduce friction and shear on the patient's skin. Individuals should never be dragged across any surface during transfer or repositioning. Instead we should use devices and techniques to will reduce risks of tissue damage. These include: mechanical lifts, transfer sheets, 2-4 person lifts and turn-assist features on beds.

**MARK:** So the rule is always lift never drag a patient with a pressure ulcer?

**Jill:** Right!

## 1.6 Techniques 2



### Narration

**JILL:** And here are a few more techniques for appropriate repositioning of patients with pressure ulcers. Mark, why don't you do these?

**MARK:** Okay. We should redistribute pressure by using cushions or other appropriate support surfaces. Another useful technique is the 30-degree side lying position for patients. This reduces the pressure on those parts of the body most at risk. We should also use alternative positions so that no one part of the body is constantly subjected to pressure. We should avoid shear forces on the patient when we are repositioning. Finally, we should encourage, and assist, the patient to increase their activity and mobility.

**JILL:** Thanks for doing that.

## 1.7 Techniques 3

**Repositioning Techniques**

*Other techniques include: (continued)*

- *not on medical devices*
- *not on bony prominences*
- *not on pressure ulcers*
- *no slouching*
- *elevate heels*



### **Narration**

**JILL:** In addition to the repositioning techniques you already mentioned, here are a few more. One obvious one is that we should avoid positioning a patient on any medical devices. We should also avoid positioning patients so that there is pressure on their bony prominences. We should NEVER position on a pressure ulcer. Patients and residents should be reminded not to slouch while sitting. And finally, we should put a pillow under calves to elevate and reduce pressure on the heels.

**MARK:** Yep. Those are all good suggestions!



## 1.8 Sitting



**Sitting Positions**

*Maintain full range of activities*

*Minimize pressure and shear*

*Chair position A:*

- back tilted slightly backward*
- leg supported on rest with heel extending over*

### Narration

**JILL:** Our next topic is how to reposition patients who are sitting. We should position the individual so as to allow him a full range of activities. Sometimes this is difficult to do. We should also select a posture that is acceptable for the individual and minimizes the pressure and shear exerted on the skin and soft tissues.

**MARK:** One appropriate way to position a patient in a chair is to have the chair back tilted slightly backward and the legs supported on the rest with heels extended over the end of the rest.

## 1.9 Sitting 2

**Sitting Positions**

*Chair position B:*

- *upright position*
- *feet resting on floor*
- *arm rests on chair*

*Limit time in chair*



### **Narration**

**JILL:** Another suitable seating position is to have the chair back in an upright position, and feet resting on the floor. The chair should be equipped with arm rests that can be adjusted to a comfortable height.

**MARK:** And the final suggestion is to limit the time a patient or resident spends seated in a chair without pressure relief.

**JILL:** Good point.

## 1.10 Education



### Narration

**JILL:** Education is our final topic in this section on repositioning. Education about the importance of repositioning should be offered to all persons involved in the care of patients with pressure ulcers. This includes the patient or resident themselves, and their families and significant others.

**MARK:** We, as nurses, shouldn't be solely responsible for repositioning the patient. Our patients and residents should be shown how, and encouraged to reposition themselves as well.

**JILL:** Yes, good point.

## 1.11 Support Surfaces



### Narration

**JILL:** We are now going to look at support surfaces. Mark, what is a support surface?

**MARK:** Any surface you lay, sit or stand on?

**JILL:** Yes, sort of. The technical definition of a support surface is a specialized device for pressure redistribution designed for the management of tissue load, microclimate, and other therapeutic functions.

**MARK:** Well, okay if you say so. (chuckles)

## 1.12 Categories



### Narration

**JILL:** Let's take a brief look at the different types of support surfaces that we use in our care facilities. Mark, why don't you do this one?

**MARK:** Okay. There are three categories of support surfaces: a bed, chair and the floor. (pause)

**JILL:** Ah, I was looking for something a bit more detailed. (laughs)

**MARK:** Just kidding. There are four general categories of support surfaces. The first one is static since it does not require electricity. It is also known as non-powered. This category includes surfaces such as air, foam, gel, and water overlays and mattresses. The second category is dynamic. These devices are powered by electricity or pumps. They are also known as powered.

The third category is alternating pressure and low-air-loss mattresses. An alternating pressure mattress contains chambers filled with air or water that periodically circulates to create alternating low- and high- pressure areas. This action redistributes pressure while stimulating

blood circulation. Low-air-loss therapy beds contain segmented air cushions that inflate to help redistribute pressure on skin surfaces and to minimize shearing force during repositioning. The beds also circulate cool air to promote evaporation and temperature reduction. These mattresses fit on regular hospital bed frames.

The fourth category is air-fluidized therapy beds. Air-fluidized chambers contain microspheres suspended in warm air that relieves pressure and eliminates shear and friction to trouble areas, such as the sacrum, ischium and trochanter. The fluid-like surface redistributes pressure on the skin, thereby helping prevent pressure ulcers and promote wound healing.

Is that better?

**JILL:** Yes, much better!

## 1.13 Applications

### Application of Support Surfaces

*Static - for low at-risk patients*

*Alternating pressure<sup>?</sup> & low-air-loss mattresses<sup>?</sup> - moderate to high risk and for full-thickness ulcers*

*Air-fluidized beds<sup>?</sup> - high risk and for non-healing or numerous full-thickness ulcers*

### Narration

**MARK:** So which type of support surface should be used for preventing and treating pressure ulcers?

**JILL:** It depends. As a general rule, the static surfaces are most appropriate for patients who are at low risk for pressure ulcer development. The alternating pressure and low-air-loss mattresses are good for patients at moderate to high risk, or who already have full-thickness pressure ulcers. The air-fluidized beds are best for patients at high risk or those with non-healing or numerous full-thickness pressure ulcers. We will elaborate more shortly.

**MARK:** Sounds good.

## 1.14 Research



### Narration

**JILL:** Here is what the latest research studies found about support surfaces. It appears that high specification foam was more effective than a regular mattress in preventing pressure ulcers in moderate to high risk patients. It was also found that pressure-relieving mattresses in the operating room reduced the incidence of pressure ulcers developing after surgery. Low-air-loss beds may reduce development of pressure ulcers in the intensive care unit.

**MARK:** So what is the best support surface to use?

**JILL:** Unfortunately, despite all this research, we still cannot determine definitively the most effective surface for the prevention of pressure ulcers.

**MARK:** Interesting.



## 1.15 Terms

**Pressure Redistribution Terms**

*Immersion: depth of sinking*

*Envelopment: ability to conform, fit or mold*

A photograph of a hospital bed in a room. The bed is white with blue linens and is positioned in a room with light-colored walls and a window. The bed is on wheels and has a headboard and footboard. There are some medical supplies and a water bottle on a table next to the bed.

### Narration

**JILL:** Here is a review of a couple of terms related to pressure redistribution. Mark?

**MARK:** The term *immersion* means the depth of penetration or sinking into a support surface. The term *envelopment* means the ability of a support surface to conform, so as to fit or mold around irregularities in the body.

**JILL:** Thanks, Mark.

## 1.16 Surface Selection

**Support Surfaces Selection**

*Do not select solely on:*

- *level of risk*
- *category/stage*

*Compatible with care setting*

*Frequent repositioning not possible*



### Narration

**MARK:** How do we select the appropriate support surfaces for pressure ulcers?

**JILL:** Good question. Here are a few general considerations first. You should not select the support surface based solely on the perceived level of risk for pressure ulcer development or the category/stage of any existing pressure ulcer. You should choose a support surface that is compatible with the care setting. Finally, you should use an active support surface for at-risk patients where frequent manual repositioning is not possible. This may be due to the condition of the patient, or availability of care providers.

## 1.17 Treatment Surfaces

**Support Surfaces for Treatment**

Select support surfaces based on:

- number, severity, & location
- risk for additional pressure ulcers
- ability to control:
  - moisture
  - temperature
  - friction and shear



Alternating pressure mattress

### Narration

**JILL:** Now let's get a bit more specific about what factors should be taken into account when selecting a support surface to meet an individual's needs. Mark, why don't you do these?

**MARK:** Okay. The first important factor is the number, severity and location of the pressure ulcers. A second consideration is the risk for the development of more pressure ulcers. And the third, we need to take into account the need for additional features such as the ability to control moisture, temperature, and friction and shear.

**JILL:** Good information.

## 1.18 Treatment Surfaces 2

### Support Surfaces for Treatment

*Switch to redistributed support if:*

- *can't be turned off the ulcer*
- *has PU on 2 or more surfaces*
- *fails to heal or shows deterioration*
- *is at high risk for additional PU*
- *bottoms out on existing surface*

### Narration

**JILL:** We should replace the existing support surface with one that provides increased pressure redistribution in the following situations: if the patient can't be turned off the ulcer ... if the patient has a pressure ulcer in 2 or more surfaces ... if the pressure ulcer fails to heal or shows deterioration ... if the patient is at high risk to develop additional pressure ulcers, or if the patient bottoms out on the existing surface.

**MARK:** Good information on when we need to switch to a better support surface.

## 1.19 Treatment Surfaces 3

**Support Surfaces for Treatment**

When pressure ulcers deteriorate or fail to heal:

- re-evaluate ulcer and individual
- change interventions and wound care
- change support surfaces



### Narration

**JILL:** What should we do if the pressure ulcers deteriorate or fails to heal?

**MARK:** Three options come to mind. First, the individual and pressure ulcer should be re-evaluated to see if we missed something, or there have been significant changes. Second, the interventions and wound care strategies should be changed. And finally, we should consider changing the support surface.

**JILL:** Yes, those are the viable options that we have.

## 1.20 Treatment Surfaces 4



### Narration

**JILL:** Elaborating on the last point – changing the support surface – here are some specific suggestions. We should consider higher-specification foam or similar non-powered pressure-redistribution surfaces for Category/Stage I and II pressure ulcers.

Here is what we should do with frequently seated patients and residents with Stage I and II pressure ulcers. First, we should use a pressure-redistribution cushion on their chairs. We should also minimize seating time. If the pressure ulcers worsen on the seating surface selected, we should consult with a specialist to find a more effective surface.

Finally, we should always position the individual off the areas of suspected deep tissue injury with intact skin.

**MARK:** These are the strategies for surfaces for Category I and II pressure ulcers. What about surfaces for Category III and IV pressure ulcers?

**JILL:** Coming right up.

## 1.21 Treatment Surfaces 5

**Support Surfaces for Treatment**

*Position off areas of pressure ulcers*

*Proper support surfaces considering:*

- *pressure redistribution*
- *shear reduction*
- *microclimate control*



### Narration

**JILL:** You should position patients off any areas that have Category/Stage III, IV, or unstageable pressure ulcers. We need to keep the individual off these areas as much as possible.

If pressure over the area cannot be relieved by repositioning, or if there are pressure ulcers on multiple turning surfaces, then we need to do the following. We need to evaluate the individual and provide a support surface properly matched to his needs, considering pressure redistribution, shear reduction, and microclimate control.

**MARK:** What are the suitable support surfaces for these patients?

## 1.22 Air Fluidized

**Specialized Support Surfaces**

*Air-fluidized beds better for healing of III and IV ulcers than:*

- *standard beds*
- *alternating air with foam pad*
- *non-air-fluidized surfaces*



Air-fluidized therapy bed

### Narration

**JILL:** Good question. Beds with air-fluidized features produce better healing outcomes for Category/Stage III and IV pressure ulcers than: standard beds, alternating air with foam pad, and a variety of non-air-fluidized surfaces.

**MARK:** Okay, so air-fluidized support surfaces are one good option. Are there any others?



## 1.23 Low Air Loss



### Narration

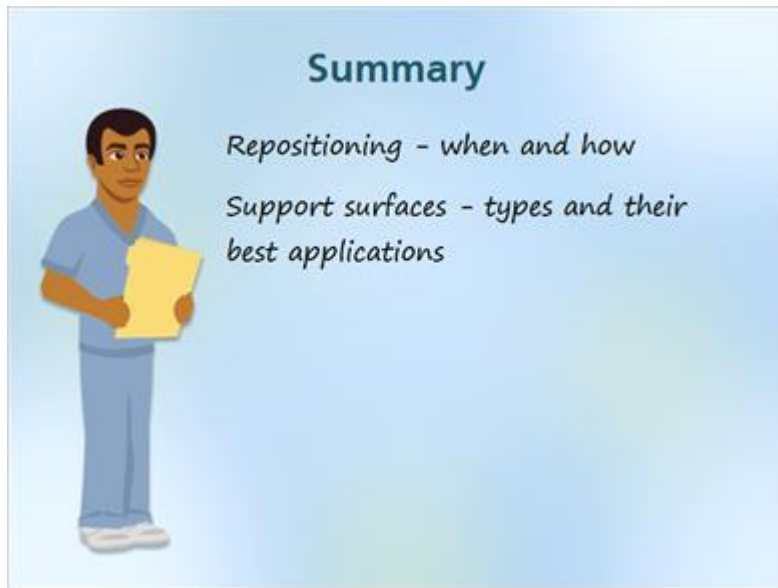
**JILL:** Well Mark, it appears that beds with low-air-loss produced better healing of Category/Stage III and IV ulcers than did foam mattresses. This is another appropriate option.

**MARK:** Okay, so we should consider air-fluidized and low-air-loss surfaces. What about alternating-pressure mattresses?

**JILL:** Yes, mattresses and overlays with alternating-pressure features are often recommended and used by clinicians for both prevention and treatment. However, there are no current published studies demonstrating better healing outcomes for Category/Stage III or IV pressure ulcers in comparison to other types of support surfaces.

**MARK:** Interesting.

## 1.24 Summary



### Narration

**JILL:** This brings us to the end of this module on repositioning and support surfaces. Mark, would you mind summarizing what we learned?

**MARK:** Sure thing! We started out by examining the factors that affect how often we reposition at-risk individuals and those who already have pressure ulcers. We then learned about the different acceptable techniques that can be used to reposition individuals. This included some do's and don'ts.

Next, we examined the different pressure redistribution support surfaces used in the prevention and treatment of pressure ulcers. Our discussion included the different types of support surfaces, the characteristics of each, and how to select the best ones to use with different stages of pressure ulcers. Did I miss anything?

**JILL:** No Mark, you covered all the key points. I'm Jill along with Mark, saying goodbye for now. We will see you again soon.

**MARK:** See you later!

## 1.25 The End



### **Narration**

No narration, only music.