Patient Transfer Devices

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If you are a key decision maker in your organization and you are involved in addressing problems related to pressure injury prevention (PIP) and safe patient handling and mobility (SPHM), then this brief article will be of interest to you.

The American Nurses Association (ANA) recommends implementing technology to support PIP and SPHM.[1] If your patients are immobilized to some degree and have limitations on their ability to move independently, then it is up to your nursing staff to turn and reposition patients according to a customized plan of standard of care.[2] Turning, repositioning, and transferring patients has implications for both PIP and for SPHM. There can be barriers to mobilizing patients that pose challenges to maintaining a safe environment for both patients and staff. Limited mobility may have multiple undesired effects on body systems of patients, while the manual turning and repositioning of patients may have undesired effects on the musculoskeletal systems of caregivers.

One of the questions that you may be asking yourself is 'What do I need to know about patient transfer devices in order to make the most appropriate decision regarding selection of devices?'' You might be wondering if you can leave the device under your patient between uses, and if the answer is yes, then how that impacts the performance of the support surface being used. How are the pressure redistribution properties of the support surface affected? Further, does the transfer device impact the skin microclimate–and what about the mechanical forces of shear and friction?

These are all great questions. The NPUAP explored these concerns in a white paper that addressed the use of slings under patients.[3] The primary concern is whether the use of an additional layer at the interface between patient and support surface makes a difference to the performance of that support surface. This white paper may be helpful to you.[3]

So, let's think about this. What sort of evidence supports your search about the efficacy of a transfer device? Are you aware that there are now new standards in place that address data for each of your concerns? The Support Surface Standards Initiative (S3I) is a committee that began as a task force of the NPUAP, situated within their Research Committee.[4] There are now performance evaluation tests on immersion, envelopment, and microclimate that have been developed through a structured standards process.[5] These tests are executed in a clinical test laboratory under rigid conditions and are standardized for every element of the test procedure. They ensure the validity and reliability of test results and are meant to offer data that can be used to compare single characteristics of support surfaces. Let's explain what those tests are and how you can use the findings to assist in your decision-making.

When you think about pressure redistribution, there are two tests that offer evidence associated with pressure redistribution: the test for immersion and the test for envelopment. The test for immersion measures the single characteristic of the depth of penetration of a load into a support surface. That means that it demonstrates or indicates how far a load will sink down into the support surface. The test for envelopment measures how well a support surface conforms or fits around the irregularities of the applied load. Together, the results of these tests present findings that reflect the ability of the support surface to redistribute pressure on an applied load (Figure).

When you think about microclimate or the temperature and humidity at the interface of the patient and the support surface, you probably wonder how the patient transfer device is going to affect the features of the support surface that impact microclimate. Because the transfer device is at that interface, is it going to minimize the features of the support surface to manage microclimate? One way to find that out is to look at results of the performance testing for microclimate, including the body analog method. This method is one of two new standardized

Figure.

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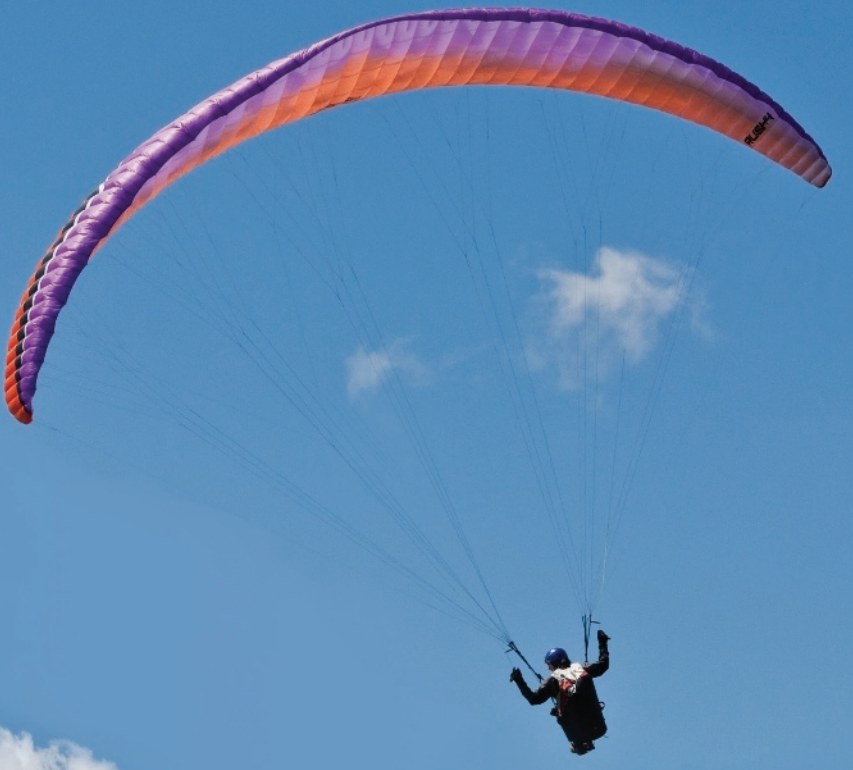

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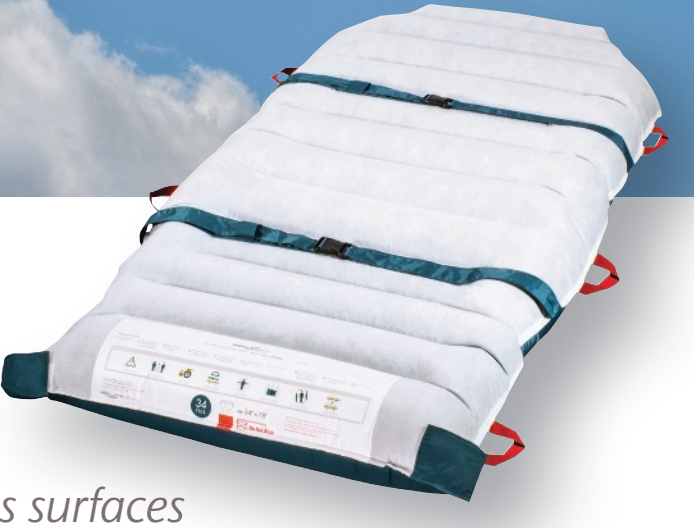

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tests for microclimate. This test uses a metal thermodynamic rigid cushion loading indenter to deliver temperature, load, and moisture in the form of water vapor to the support surface. The indenter-support surface interface conditions are monitored by temperature and humidity sensors.

When you think about the mechanical forces of shear and friction, you probably wonder how the patient transfer device is going to affect the features of the support surface that impact shear and friction. In addition, you may wonder how the patient transfer device impacts the mechanical forces when you are in the act of transferring the patient. The sliding resistance test measures the force required to pull a load across a support surface. Because of the design and the indications for use of a patient transfer device, the results of the test will measure the degree of impact to mechanical forces affected by use of the patient transfer device. Depending upon the result, the support surface may facilitate the transfer of your patients without risk of soft tissue damage.

Because you are interested in whether or not the patient transfer device is going to impact pressure redistribution, microclimate management, or the management of shear and friction, when it is left in place between uses and when it is used to transfer patients, the evidence you need includes the results of the tests for immersion, envelopment, body analog method, and the sliding resistance test, performed with the support surface alone (control) and the support surface and the patient transfer device together (experiment). If the experimental result is the same or very close, then the evidence shows that the patient transfer device offers minimal impact to the performance of the support surface and can safely be left in place between uses.

Therefore, when you are evaluating patient transfer devices, it is important that you know which test results to ask for and how to use those results to compare products. These results are one factor that will assist you in making decisions regarding selection of patient transfer devices.

I hope this installment of The Cutting Edge has been helpful to you in summarizing the recent literature and evaluating patient transfer devices. ●

References

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