



INSTITUTE FOR PRESSURE INJURY PREVENTION

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Significant: ACB vs. foam supports (ACB is air cell based cushion – more info on his point [here](#) – it’s a study he published.)

There is consensus that selecting appropriate supports is critical for pressure injury prevention, but what is “appropriate”?

Point: ACB much better than foam

Historically, the evidence to support this has come from pressure mapping, but pressure mapping only shows what’s on the skin, not the deep tissue damage underneath. Technology is evolving, and now we can see the damage to the deep tissue underneath, further supporting this claim (that ACB is better than foam.)

He also talked a lot about **envelopment**. Look [here](#) at pages 6 and 7 for info re: envelopment (look in the last section on page 6 called “reactive support surfaces”) and goes on to page 7 to discuss envelopment and air-filled cushions.

Point: cover envelopment as a concept and discuss how it relates to ACB vs. foam

Surfaces that do not envelop the area create risk. There are surfaces all around us which therefore introduce risk. Spinal boards are terrible (slide #16)

You can get a cushion made specifically to fit the contours of your body. You’d think that would be the best envelopment available and it IS – for the first week. Often, bodies change, especially after spinal cord injuries. (slide #19, #20 and #21) Initially, after a spinal cord accident, the body will lose some weight. But shortly, because the body isn’t moving/active, it will GAIN. If a person with a customized cushion gains weight, the cushion is DOING MORE DAMAGE than good.



His point in his words:

Unlike flat foam cushions, which do not adapt, and contoured foam cushions, which fit the patient at a specific point in time, the ACB cushion's adaptability and adjustability allow it to conform to a variety of anatomies and pathophysiological changes, including the often overlooked risk factor of diabetes (diabetes + obesity) (no need to go into diabetes, etc.)

Point: patient use

Also, patient USE matters. For example, if a patient is doing is “wheelchair pushups” (as show in slide #28) and pushing himself up but then letting go and falling back down onto the cushion, the cushion is not going to last very long, vs. someone who is pushing himself up and then letting himself down slowly. Many health insurance companies only reimburse for cushions every 3 years. Recently, because the technology/materials have improved, they raised it to 5 years. But in that time, both body changes and the patient’s individual use of the cushion can render it completely useless or worse – detrimental.

Point: pressure mapping insufficient. It will tell you how much pressure is where, but what it will NOT tell you is how the deep tissue is doing (underneath) so we cannot rely on pressure mapping alone to give us complete information. • MRI is efficient for experimentally assessing deep tissue deformations when the body interacts with support surfaces

Point: A pre-existing scar (from anything, including a former pressure injury) is more susceptible to development of pressure injury. The *texture* of the scar tissue is different (stiffer) and entirely more susceptible and beneath the scar is deep tissue damage. This tissue behaves differently.

Point: Adjustability (slide #35) is imperative in a support surface because:

- Literature shows that external and internal anatomy as well as tissue structure and function change considerably over time, which increases the risk for pressure injuries



- An ideal support surface should be carefully tailored to the individual and be adequately adjustable to accommodate these (patho)physiological changes that occur over time

Summation: take everything from slide #38 “What makes a good cushion?” cover all four aspects that he highlights:

- Envelopment
- Adjustability: Support surfaces should respond to (or yield to) accidental misplacements of devices, tubing or wiring in order to offer protection of patients from human errors in forgetting something in the bed
- Durability
- Adaptability (environmental changes –like weather and temp fluctuation – can affect a cushion, like if it’s left in a car – the material will break down)

Toilet seats have no envelopment + sharp corners which makes them a huge risk

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