HEALTHCARE INNOVATIONS AUSTRALIA

Supporting your needs

'Let's Get it Clear' by Dr Barend ter Haar

One in a series of occasional resumés of aspects in the world of posture and mobility where there are common misconceptions, and myths to be addressed, to help promote better practice. Further items can be found at www.hiaus.net.au If you are interested in receiving further information on the topic, please contact barend@beshealthcare.net Dr ter Haar has been involved in seating and mobility for over 30 years, including lecturing internationally, and developing international seating standards.

Myth: Pressure mapping is only used to compare cushions

Pressure mapping is a technology that has been in use for more than 30 years, and over that time the technology has evolved so that now it is as easy to use routinely as measuring blood pressure. And, like the latter, the technology provides clinical information that cannot normally be accessed without the technology.

As the technology has advanced, mats have become more flexible (more easily following the contours of the body), able to provide data in real time (reflecting that sitting is a *dynamic* activity), able to transmit data wirelessly (allowing remote monitoring – even across the internet), and costs have come down.

BodiTrak Seat and Bed System

What can we use pressure mapping for?

One can indeed use pressure mapping to view how one cushion compares with another in dispersing the forces applied by the seated person – but please do so with the user carrying out the activities they would normally do, and not in an artificial 90-90-90 position (in which no-one normally sits). Also bear in mind that the picture will change with time as the cushions adapts to the user, and the user's tissues adapt to the cushion. However, pressure mapping has wider applications.

A valuable use of pressure mapping is to visualise whether the pressure has been redistributed as a consequence of seat and positioning adjustments. Back in the '90s, Professor Ian Swain reported that the simplest way to get better pressure redistribution of pressures away from the bony parts of the pelvis (the ITs), was to adjust the foot position (through the height of the foot supports) to have more pressure distributed under the thighs. Pressure mapping allows you to see the optimum set up of the different parts of the chair – foot supports, arm supports, back support, etc – for optimal pressure redistribution. (Note: The iShear product, in combination with pressure mapping, can be used to provide further information as to the distribution of forces arising from different positions of the individual.)

Pressure mapping is a great educational tool for use with carers and users. It's a great way of showing in colour what the effects are of good vs poor positioning. It's a great tool to show a user how far forward the user needs to lean to offload their ITs (see Figure 1)

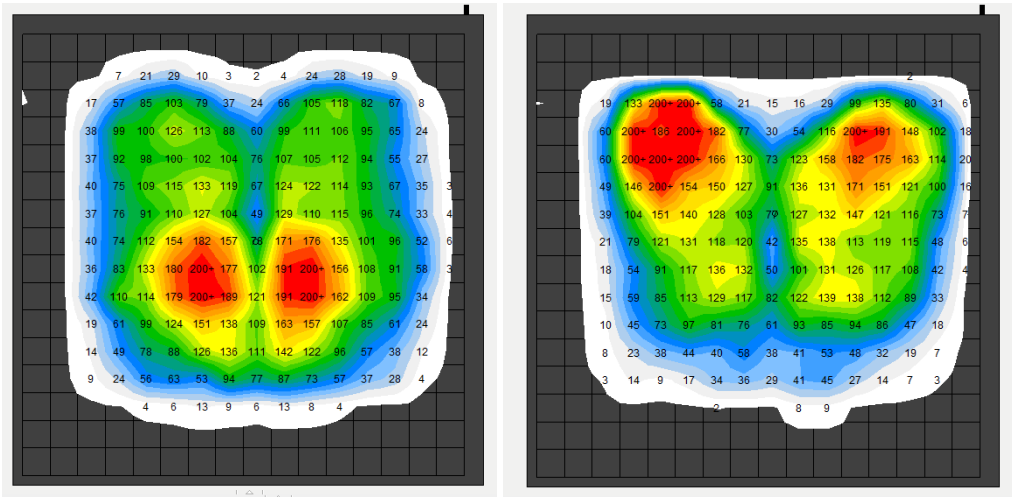

Figure 1. Demonstration of offloading pressure from under the pelvis by leaning forward

In recent years, the greater impact of shear strain, rather than pressure alone, on tissue integrity has become appreciated. Using the 'gradient' view that pressure mapping systems offer, allows one to visualise where the greatest rate of change of pressure is occurring: the greater the pressure gradient, the greater is likely to be the distortion of the skin tissues. In figure 2, the left hand picture is the pressure map, and the right hand picture the pressure gradient map for the same reading. The latter shows higher gradients around the tail bone – an area of thin skin tissues and poorer blood supply – indicating where seating intervention would be most beneficial.

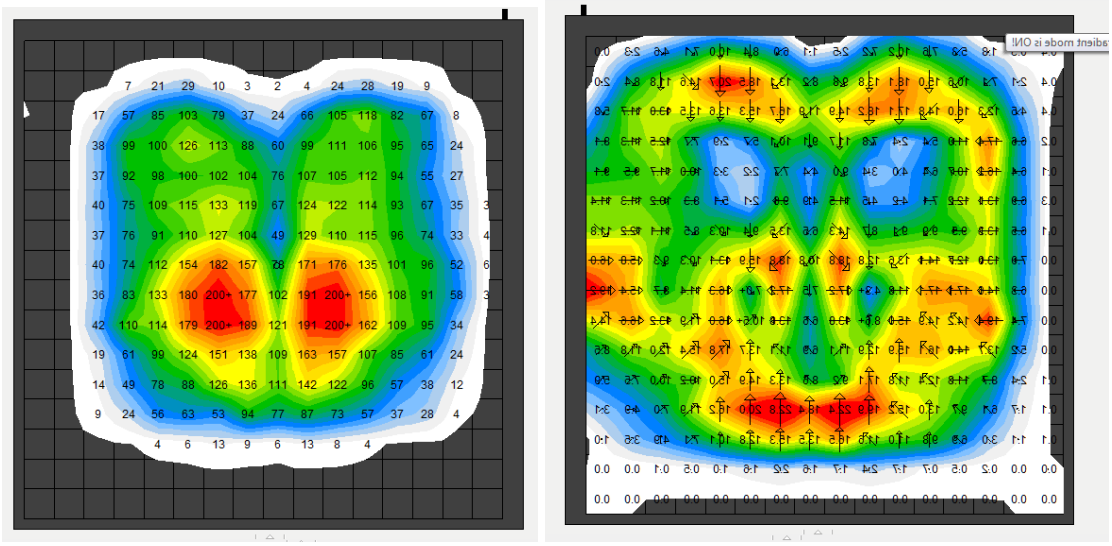

Figure 2. Pressure vs pressure gradient views

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And how does a pressure mapping system pay for itself?

Apart from the benefits around clinical outcomes, pressure mapping has financial benefits. Often a lower cost solution can be shown to be as effective as a requested higher cost item. Documentation of the effects of different solutions assessed in clinic, and the justification based on these assessments, cover the clinician and their employer where the user later prosecutes for clinical malpractice based on the solutions provided.

In the US, medical insurance companies will not pay for treatment of pressure ulcers that develop while a person is in hospital, and thus individuals are inspected more closely when they arrive in hospital: pressure mapping is used as part of the assessment of the person's risk of developing pressure ulcers while in hospital. Ideally, we should be taking this approach in our country!

For further advice around pressure mapping, visit the PMG's Best Practice Guidelines pages:

https://www.pmguk.co.uk/resources/best-practice-guidelines-bpgs/best-practice-guidelines

Please contact Healthcare Innovations Australia for pricing and further information on the Boditrak Pressure mapping systems.

Don't forget to ask if you qualify for our free trial!

Telephone 1300 499 282
Email: sales@hiaus.net.au