

Seeing what lies beneath the surface



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There have been numerous plays on words in 2020 that have made analogies to having great (20/20) vision. As skin and wound care providers, we can do the same. Our ability to 'see' and predict developing stage 1 pressure injury (ulcer), see injury in darkly pigmented skin and see areas of poor perfusion have been troublesome for a long time. Some of the most encouraging technologies for enhanced skin and soft tissue assessment are recommended in the new pressure injury guidelines released in November 2019 (European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance [EPUAP] et al, 2019). These are the measurement of skin perfusion (called skin temperature in the guideline) and measurement of sub-epidermal moisture.

It is interesting to reflect on the evolution of other forms of diagnostic studies in health care. For centuries, there was no ability to see inside the body. Then X-ray was invented, and enhanced assessment and diagnosis followed. I actually remember the use of pneumoencephalogram, a technique in which the cerebral spinal fluid was removed, and air was injected into the brain to 'see' abnormalities. Fortunately, CT scans entered soon thereafter. Likewise, a lot of patients swallowed barium, in order to 'see' abnormalities of the upper gastrointestinal system, which has largely been replaced with endoscopy. I think we are in the same evolutionary place; we now can assess the skin using technology to 'see what lies beneath'. We have tried to enhance the inspection of darkly pigmented skin but continue to see higher rates of full-thickness pressure injury in patients whose skin cannot be easily assessed to discover deep-tissue pressure injury.

Sub-epidermal moisture (SEM) is a measure of soft tissue oedema below the skin surface. Inflammation from tissue damage leads to increases in SEM in soft tissues. Change in SEM is, therefore, a marker for inflammation and tissue damage. Perfusion can be impaired from occlusion of arterial supply or from pressure on the soft tissue. The measurement of perfusion provides data on baseline arterial inflow or the presence of local damage that will likely evolve, such as deep tissue pressure injury. The EPUAP et al guidelines outline the evidence and recommend the use of these augmented assessment techniques.

These technologies can be performed at the bedside, which is another advantage. However, such bedside assessment will require training on how to use the devices and how to interpret the findings. We will need to inspect the skin for visual change, but it is exciting to know that we won't miss as many signs of early deep-tissue pressure injury and stage 1 injury in our patients going forward.

I am certain you have heard that it takes 17 years for new knowledge to become fully implemented. These technologies and our patients cannot wait that long. As leaders in the field of wound care, you need to have '20/20 vision', looking back at what was and seeing more clearly about what could be. Adopt these technologies as soon as you can. Once you do, please publish your work: how did you get the product into your system? What benefits have you seen in early identification and resolution of pressure injury? By outlining your experiences, the profession can only benefit. 

References

European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance (2019) *Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline*. EPUAP/NPIAP/PPPIA.