**Evaluation of a pressure ulcer using ultrasonography**

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Why use ultrasonography to evaluate a pressure ulcer?

The severity of a pressure ulcer is typically classified into stages according to its ‘depth’, but deep tissue injury (DTI) is difficult to evaluate using the usual inspection of its appearance because it is an ‘unstageable lesion’. DTI is a pressure-related injury to subcutaneous tissue under intact skin; it arises in muscle layers adjacent to bony prominences following sustained loading and progresses outward towards the skin. An accurate and early DTI detection and appropriate treatment selection are important because DTI can rapidly deteriorate and become severe. Ultrasonography facilitates the visualisation of the subcutaneous tissue and muscle layer structure for real-time, non-invasive DTI identification.

Key points during the assessment of a pressure ulcer

Using a probe of ≥8 MHz for ultrasonography, observe the presence/absence of ‘unclear layered structures’, ‘discontinuous facia’, ‘hypoechoic lesions’ and ‘heterogeneous hypoechoic areas’. An unclear layered structure and a hypoechoic lesion probably reflect subcutaneous tissue damage, such as oedema and inflammation, and are commonly observed in a pressure ulcer with DTI. Discontinuous facia and a heterogeneous hypoechoic area likely reflect strong oedema or a necrotic area and might predict the future deterioration of the pressure ulcer with high probability.