

Rapid, point-of-care diagnostic tests will take the guesswork out of chronic wound care

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When faced with a patient with a chronic wound, the key question that clinicians need to ask themselves is 'What is the optimal treatment plan for this patient's wound?' What is more, this question needs to be asked every time they examine a wound.

There are several useful wound assessment tools that enable the clinician to determine whether a wound is healing, such as the Pressure Ulcer Scale for Healing (PUSH) (National Pressure Ulcer Advisory Panel, 1998) or the Pressure Sore Status Tool (PSST) (Bates-Jensen, 1990). The PUSH tool considers three parameters of the wound: area, exudate and tissue type. The PSST assesses 13 wound characteristics including depth, size, exudate type and oedema.

There are also general guidelines for prevention and treatment of chronic wounds, such as those published by the Wound Healing Society, NPUAP and the European Pressure Ulcer Advisory Panel. The guidelines provide the basis for general treatment algorithms of varying specificity and complexity for chronic wounds, such as wound bed preparation and the TIME algorithm. These algorithms focus on the four key aspects of wounds that should be continuously assessed to remove the barriers to healing: tissue,

inflammation/infection, moisture and edge (Schultz et al, 2003).

However, these treatment tools, guidelines and algorithms ultimately depend on the assessment of visible or physical parameters of the wound. Thus, deciding which treatment to use still depends in large part on subjective assessments of clinical signs and the personal judgment of the clinician.

The clinical signs will often be clear cut and the clinician will be able to choose a treatment plan that corrects the molecular imbalances that were

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impeding healing, and the chronic wound can begin to heal. But all too often, the clinical signs are not obvious, and the clinician must select a treatment based on the best estimate of what treatment may help the wound to heal. Sometimes the treatment is effective, and the wound begins to improve, but in many cases the treatment will not improve the wound's status and the clinician is left with the difficult choice of persisting with the current option or changing the treatment plan with the hope that it will target whatever is preventing the wound from healing. In these cases, using rapid diagnostic tests that could be performed by the clinician at the point

of care to provide useful information about the molecular status of the wound would enable them to more accurately target the specific problem identified by the tests, resulting in an appropriate treatment for the wound.

This scenario is not as far away as we might think. Rapid, point-of-care tests for several key indicators are currently being developed by research laboratories and wound care companies. In fact, the first rapid test for measuring levels of proteases in wound fluids was presented at the third meeting of the World Union of Wound Healing Societies in Toronto in June 2008. In the not too distant future, clinicians may be able to utilise a battery of rapid tests to measure several key indicators of wound healing at the bedside or in the clinic including protease levels, inflammatory cytokines, growth factors, bacterial levels, specific strains of bacteria like methicillin-resistant *Staphylococcus Aureus*, or bacterial biofilms. Armed with this information, clinicians should be able to synthesise an optimal treatment plan for each chronic wound that they treat and they will be able to reduce the 'try it and see' approach to wound care. **WUK**

References

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