Burn wound chronicity – myth or reality?

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While there are several definitions of chronic or nonhealing wounds – and it is generally accepted that under normal circumstances, wound healing occurs within 6 weeks of injury and wounds that fall outside that are generally referred to as chronic wounds – the same cannot be said for burn wounds. We know that a superficial burn will heal in 5–7 days and a superficial dermal burn within 7–10 days, but little is understood about the normal healing trajectory of deep dermal or full-thickness burns.

Although many of these deeper burns will undergo surgical closure, in those with comorbidities, mental health or learning disabilities, or in older people, this is often not the case. Also, small deep burns are seldom surgically closed and are often left for many months to heal by secondary intention. So how long does a deep burn take to heal by secondary intention? Unfortunately, on reviewing the literature there is a paucity of articles discussing chronic burn wounds.

After conducting a MEDLINE/CINAHL search for the period between 1980–2013, just four articles were identified (post-2007). All four were written by surgeons, taking a surgical perspective to managing these wounds, and all were from developing countries where delays in presentation and healing is common. Even within these articles, the suggested treatments for chronic burn wounds were debridement, infection control, and promotion of granulation tissue (Maher, 2009).

So are chronic burn wounds even recognised in the UK?

In clinical practice, burn wounds that remain unhealed for many weeks or months often continue to be treated as burn wounds, as opposed to wounds that have become chronic. This means that they are treated topically with antimicrobials and reassessed every 2–3 days. It is not uncommon for a donor site to be unhealed at 9–12 months and the longest in-patient stay in the author's unit was 15 months, with the patient being discharged with significant unhealed areas. Despite attempts at regrafting and whose areas of skin loss some 2–3 months post-discharge were 6–10% of total body surface area.

So with so many modalities available to treat chronic nonhealing wounds (e.g. protease modulators, compression therapy, electrostimulation (e-stim) devices, extracellular matrices [ECMs]), this begs the question: "Why are these not being utilised within the area of burn wound management?"

Largely, this has to do with education, not only of nursing staff, but with many units still having a very hierarchal system where the consultant determines the wound care, of surgeons also.

A traditionalist approach is often the norm at many burns and plastic services, with consultants tending to use what the consultants who went before them used. However some innovations are embraced, for example the adoption of topical negative pressure was undertaken in burns well ahead of the game. They are also often the first speciality to adopt new innovations, such as nanocrystalline silver and skin substitutes.

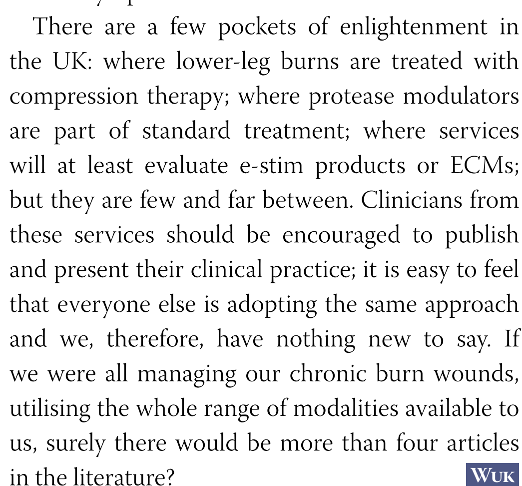
When it comes to general wound care and, in particular, wound care where surgery is not necessary, there appears to be a lack of education or even enthusiasm for it. However, this is not just an issue for nursing and surgical staff. Wound care companies unfortunately tend to pigeon-hole burns services as "acute wound care" and, therefore, only either demonstrate products they consider to be burns products or offer staff attendance at conferences/study days aimed at acute wounds. Such companies often speak about burns being a niche market and are often blissfully unaware of the need to better educate staff about chronic wound management.

This is compounded by the fact that, as we do not even recognise chronic wounds within our own speciality, we are unable to quote figures for burn wound chronicity – which given that there are over 250 000 people burned each year in the UK could generate a significant number of nonhealing wounds (NBCR, 2001).

There needs to be increased recognition of chronicity in burn wounds, so that wound care company representatives can justify spending time educating burn staff in chronic wound modalities. However, this is the age-old problem of the "chicken and the egg". Until we, as burns specialists, recognise the need for this education and an understanding of wider wound management, how are wound care companies expected to meet this demand?

We also need to consider the impact of these chronic, nonhealing wounds on the patient, their family, and society. This area has not been looked at in the literature, but given that burn patients are generally of lower socioeconomic background (Peck et al, 2009), what effect are long-term wounds having on their ability to work? What psychological effects are they having? Given that burns are one of the most traumatic events that can happen to an individual, surely these people will have the same long-term issues of anxiety and depression that chronic wound patients encounter (Guo and Dipietro, 2010), only overlaid with post-trauma symptoms as well?

There are a few pockets of enlightenment in the UK: where lower-leg burns are treated with compression therapy; where protease modulators are part of standard treatment; where services will at least evaluate e-stim products or ECMs; but they are few and far between. Clinicians from these services should be encouraged to publish and present their clinical practice; it is easy to feel that everyone else is adopting the same approach and we, therefore, have nothing new to say. If we were all managing our chronic burn wounds, utilising the whole range of modalities available to us, surely there would be more than four articles in the literature? WUK



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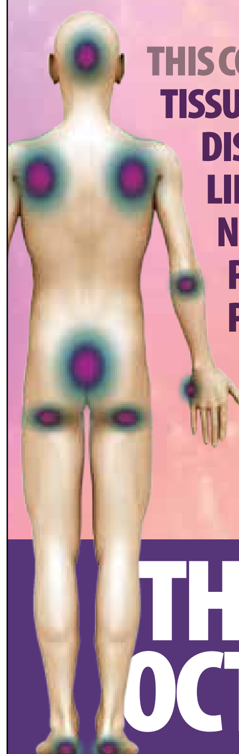

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