

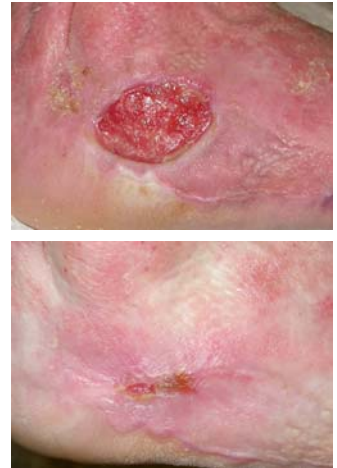
MySkin™: Wound closure technology

TANGIBLE IMPACTS ON HEALTH 2005/2006

BACKGROUND

Chronic wounds and serious burns cost the NHS an estimated £1 billion a year; there are in excess of 400 000¹ cases of leg ulcers at any one time and an annual incidence of over 700 serious burns.² The incidence of diabetes in the UK, another cause of chronic wounds, currently stands at 1 per cent of the UK population and its prevalence is increasing. Faced with this clinical need, Professor Sheila MacNeil of the tissue engineering group at the University of Sheffield has developed a method of returning a patient's own skin cells to a wound bed to encourage healing.

Tissue engineers working with materials scientists have developed a treatment where living cells can be expanded from the tissue of an individual patient for return to a patient's wound bed to encourage healing. The multidisciplinary team established a spin-out company (CellTran Ltd) to progress the technology. The concept has been refined and tested in a series of clinical trials with the support of a Wellcome Trust Technology Transfer award.



Above: Chronic wound post burn injury (top), then after treatment with MySkin.

CellTran Ltd

ADVANCE

The technology has now been successfully used for the treatment of burns and chronic wounds, such as diabetic foot ulcers and venous leg ulcers. MySkin™ is produced, according to the UK guidelines for a human tissue derived product, in CellTran's accredited aseptic production unit specifically for clinical use by medical professionals. The autologous (patient's own) sourcing of cells means that the product is bespoke produced and is supplied to fit in with the clinician's requirements.

HOW IT'S MAKING A DIFFERENCE

MySkin™ has been shown to resolve 'non-healing' wounds – in some instances wounds that have failed to respond to conventional treatment over a period of years. It also accelerates healing after skin grafting in the case of burns, reducing pain and improving the aesthetic outcome of grafted areas. MySkin™ also gives burns surgeons further treatment options for the reconstruction of damaged skin that have previously not been possible. Successful wound healing can prevent life threatening complications such as gangrene and sepsis, which are often managed by amputation. An estimated 3000 amputations are carried out in the UK to manage chronic wound problems, with 80 per cent of the total attributable to diabetic ulcers.³

For this expanding market, funding was needed to help exemplify the technology before investors could be expected to commit additional funds to develop the business. In 2005, after the launch of MySkin™, CellTran attracted £2.7 million in venture financing and in 2006 merged with Xcellentis, a subsidiary of Innogenetics, acquiring three new cell technologies to maintain its innovative position in burns treatment and wound healing. MySkin™ wound healing was featured by Sky News and *Time* magazine as one of the top innovations of 2004.

REFERENCES

¹ Cullum N et al. [A systematic review of compression treatment for venous leg ulcers](#). *BMJ* 1997;315:576–580.

^{2,3} Hospital episode statistics: www.dh.gov.uk/PublicationsAndStatistics/Statistics/HospitalEpisodeStatistics/fs/en.

Owen G et al. Autologous cell treatment of problem wounds. *Wounds* 2006;2:80–82.

Zhu N et al. Treatment of burns and chronic wounds using a new cell transfer dressing for delivery of autologous keratinocytes. *European Journal of Plastic Surgery* 2005;28:319–330.

CellTran website: www.celltran.co.uk.

MySkin website: www.myskin-info.com.

WELLCOME TRUST GRANT

University Translation Award, 'Development of a wound modifying dressing for accelerated re-epithelialisation partial thickness burns and scalds', 2005, two years, £346 638.

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