



ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

MEDIA RELEASE

Infra-Red Thermographic Imaging in the Serial Assessment of Burns

Thursday 5 May, 2011

Delegates to the 80th Annual Scientific Congress (ASC) of the Royal Australasian College of Surgeons have been told that infra-red thermographic imaging is a promising tool in the serial assessment of burn wounds.

Dr Anna-Marie Loch-Wilkinson, Plastic Surgery Registrar at Royal North Shore Hospital in Sydney, told delegates that infra-red thermal imaging cameras detect radiation emitted from a surface in the infra-red spectrum of the electromagnetic field. This imaging has been widely used in fields such as construction, the military, search and rescue, and vulcanology.

“The technology has been used since the 1970s to assess acute burns, however its use in the serial assessment of burns has to our knowledge not yet been explored,” Dr Loch-Wilkinson said.

“In burn wounds the epithelium is violated, resulting in evaporative heat loss from the injured area. A temperature difference results when compared with intact skin with viable epithelium, which is warmer. Current model cameras can detect and quantify temperature variations of less than 0.04 degrees Celsius.”

Four children presenting to the Burns Unit of Sydney’s Westmead Children’s Hospital during April 2009 were enrolled in a pilot study using infra-red thermographic imaging to serially assess their burns. All children were photographed at day 2 and at day 9 post-burn with both conventional and infra-red thermographic cameras. The imaging was compared with clinical findings.

“Thermographic imaging showed a decreased temperature in the areas of burnt skin consistent with the phenomenon of evaporative heat loss in de-epithelialised wounds,” Dr Loch-Wilkinson reported.

“Photographic software was used to calculate the percentage change in surface area of the de-epithelialised portion of skin between initial and follow-up assessments. By plotting this percentage change against time, a rate of re-epithelialisation and therefore time to healing was extrapolated.”

“Infra-red thermographic imaging appears to be a promising tool in the serial assessment of burns in order to objectively assess re-epithelialisation rates,” Dr Loch-Wilkinson concluded.

Dr Loch-Wilkinson’s presentation is one of hundreds at this year’s ASC, covering all surgical specialties and aspects of surgical history and education. Nearly 2,000 delegates are expected to attend the ASC, which runs from 2 to 6 May and is being held at the Adelaide Convention Centre. The ASC program is available online at www.surgeons.org

**Media inquiries: Michael Barrett, Media & PR Manager - 0429 028 933
Bridget Hooper, Media & PR Officer – 0437 008 891**