Technology Development & Commercialization
UNIVERSITY HEALTH NETWORK
Toronto General Hospital • Princess Margaret Hospital • Toronto Western Hospital

Hand-held Digital Imaging Platform for Wound-Care and Other Applications

Overview of Technology:

Researchers at the University Health Network have recently developed an innovative optical molecular imaging tool that enables point-of-care analysis of wound infections using biophotonic techniques.

This non-invasive imaging technology platform will have a significant impact on the care of both chronic and acute wounds by providing a means of monitoring clinical response to treatment–allowing adaptive modulation of therapy. Wound care is a major clinical challenge and creates an enormous burden on health care systems worldwide–particularly given the increasing population of seniors and the rapid rise of diabetes. This burden necessitates new approaches to chronic disease management. Although restoration of tissue continuity after injury is a natural phenomenon; infection, poor healing quality and fluid loss lengthen the healing time, resulting in major clinical challenges.

This technology platform overcomes major limitations in conventional wound-care management by providing important biological information, in real-time and in high-resolution compared to conventional clinical wound care practice. The device combines high-content imaging with the potential for telemedicine to enable comprehensive assessment of wound infection. Even the earliest indications of bacterial/microorganism contamination can be detected. Currently there is no imaging device available that is able to provide this amount of information about the state of a wound in an economical, handheld, non-contact, and non-invasive way.

Another application for this technology platform includes small animal imaging for cancer research–it is cost-effective enough to be distributed in any laboratory. Further, various opportunities exist to expand this low-cost imaging technology to other markets including:

- Veterinary Medicine
- Image-guided Surgery
- Dentistry
- Dermatology
- Food Production and Preparation

Imaging camera in use for hand application

This technology is protected by a comprehensive PCT patent application and is available for world-wide exclusive licensing. Clinical trials are currently underway at a large wound-management clinic.

Patent:

PCT/CA2009/000680 - Filed May 20, 2009

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