

## Pioneering The Future of Effective Wound Care Solutions

The multi-award-winning company, Kent Imaging Inc., is a leading Medtech firm based in Calgary, Alberta, Canada. The company's technologies – namely SnapshotNIR – are enabling clinicians to drive better outcomes in wound care, limb preservation, and surgery, with its diagnostic-driven imaging technology that assesses tissue oxygenation. Consequently, Kent Imaging has, once again, earned itself the esteemed title of Best Medical Imaging Technology Development Company, 2022 – Canada.

Figure 1 fective wound management stems from consistent, indepth wound healing monitoring and persistent therapy. Tissue oxygenation is a key indicator in a wound's capacity to heal and tracking how this healing is progressing, as the delivery and uptake of oxygen in the tissue plays a fundamental role in cellular function and tissue epithelialization. Traditional equipment used in the observation of tissue perfusion and oxygenation is often large, immobile, and expensive. It is, in essence, incredibly limiting. As a result, patients are oftentimes wrapped up in lengthy appointments, invasive protocols, and a lack of accessibility. Additionally, many of these devices on the market only measure perfusion in the large vessels. SnapshotNIR measures tissue oxygenation in the critical microvascular network.

A Canadian company, Kent Imaging Inc., is on a crusade to optimise the technology utilised in this area. As such, Kent has established itself as an innovator, specialising in the production and marketing of advanced imaging equipment for wound care, limb preservation and surgical applications. Over the years, the company has filed multiple patents for groundbreaking technologies, with the goal of aiding both national and international healthcare systems.

Its flagship product, SnapshotNIR, serves as the latest generation of near-infrared tissue oxygenation imaging. The portable and lightweight technology is a far cry from the clunkiness of its predecessors and as easy to operate as a point-and-shoot camera, therefore able to be seamlessly integrated into clinical and surgical workflows. Furthermore, it is a wholly non-invasive piece of technology – SnapshotNIR uses no dyes or injectables, no consumables, and needs no direct patient contact to capture images wherever the patient is situated.

Supported by over two decades of research, SnapshotNIR uses near-infrared (NIR), reflectance-based technology. With this technology, SnapshotNIR measures relative amounts of oxygenated and deoxygenated hemoglobin in the microcirculatory network where oxygen exchange is happening. With a simple click of a button, clinicians are provided with a clear, easy to read, tissue oxygen saturation map that can provide valuable insight to help make informed, patient-centric medical decisions.

The SnapshotNIR device has a variety of applications, and can be used in cases of wound care, limb preservation, and

reconstructive surgery. To provide some examples, the device can be leveraged in hyperbaric oxygen therapy (HBOT) to gualify patients for this advanced treatment modality, and then to assess the effectiveness of this treatment over the prescribed number of sessions. This is extremely valuable from both a time and economic standpoint as it can assist in patient compliance and enable the documentation of continued therapeutic success or the end of treatment. SnapshotNIR can be used to provide insight into the adequate preparation of a wound bed for the application of advanced therapies and then continue with the documentation of the efficacy of the therapy. In the interoperative environment, Snapshot can indicate the level of oxygenation in a surgical flap to provide insight into the likelihood of flap survival. This can impact decisions made while still in the OR. Within limb preservation, for instance, time is of the essence and the identification of poor tissue oxygenation in the peri-wound and surrounding tissues can serve to expedite vascular referral and intervention. In the United States alone, statistics show that every 30 minutes, \$1 million is spent on diabetic foot complications, and 80% of non-traumatic amputations are a result of peripheral arterial disease (PAD) - over 50% will die within the first fiveyears of amputation. Kent Imaging's solution means that access to non-invasive vascular assessments is increased, not only saving limbs, but potentially lives.

Additionally, the product enables clinicians to provide a greater standard of care to patients. Healing chronic wounds can often be a slow and frustrating process as wounds can be deceiving. In many instances, the status of the wound healing progress cannot be fully evaluated with visual inspection alone. With SnapshotNIR, practitioners gain insight that allows them to offer patients timely, informed, and, in some cases, life-saving solutions. This technology provides real-time insight through non-invasive, accurate and actionable data, which can result in better patient compliance and more positive outcomes.

The impact that SnapshotNIR has had has been significantpatients and clinicians alike have nothing but high praise for the product, and these testimonies are displayed across Kent's website. Dr. Duane Cumberbatch has used the technology in a plethora of cases, and for one of his patients, an elderly woman suffering from chronic vascular wounds on each of her ankles, it forged almost unprecedented results. After suffering from these wounds for over six years, thanks to SnapshotNIR and Dr.



Cumberbatch's treatment, within six months of her first visit, her ankles were almost completely healed.

It is clear that Kent Imaging's SnapshotNIR offers multiple benefits to both its users and their patients. Dr. Duane Cumberbatch's experience with the product is mirrored within additional expert testimonies, including that of the Save a Leg, Save a Life Foundation. The organisation specialises in building awareness around the issues, care requirements and potential complications that can arise from diabetes or PAD-related chronic wounds.

The Foundation is now utilising SnapshotNIR in its community outreach screening events. "To be able to use a screening device like Snapshot that can give us information in a short amount of time is invaluable. As we grow our program and do more events around the country and elsewhere, wherever we have technology at our screenings, I think everyone benefits," summarises Dr. Desmond Bell, a key player, and the creator of the foundation.

The SnapshotNIR device is an exciting advancement in wound care technology. There is an increasing amount of evidence that displays the technology's positive impact on client outcomes and the work clinicians can fulfil. In turn, Kent Imaging is changing the future for wound care, limb preservation, and reconstruction patients.

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