Measurement of Tissue Oxygenation with a Hyperspectral Tissue Camera System before and after Topical Wound Oxygen (TWO₂) therapy

**Male Patient, 82 years old, Peripheral Artery Disease (PAD)**

<table>
<thead>
<tr>
<th>Main diagnosis</th>
<th>Secondary diagnosis</th>
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<tbody>
<tr>
<td>Severe Arterial ulcer due to PAD of lower right leg</td>
<td>Chronic venous insufficiency</td>
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<tr>
<td>Fontaine Stage IV: Necrosis / gangrene of the limb</td>
<td>Coronary heart disease with bypass surgery in 1986 and 1994</td>
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<tr>
<td>Condition remains after Percutaneous transluminal angioplasty (PTA) of A. tibular. post., A. fibular, A. plantar right (08/2014)</td>
<td>Arterial hypertension. Intermittent atrial fibrillation</td>
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<tr>
<td>Condition remains after PTA of A. tibular anterior, A. fibular right (03/2015)</td>
<td>Prostatectomy for prostate carcinoma in 2006</td>
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<td><strong>Beginning of 2016</strong></td>
<td><strong>August 2015 - September 2016</strong></td>
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<tr>
<td>New formation of a deep ulcer in the area of the back of the right foot with transition to lateral foot</td>
<td>Surgical treatment of the extensive ulceration with Reverdin Skin Graft fails and ulcer size increases</td>
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</tbody>
</table>

Hyperspectral Camera measurements made Before and After the application of Topical Wound Oxygen (TWO₂) therapy for 60 mins. Comparison of the Before and After TWO₂ application Hyperspectral measured values:

1. **Significant improvement of oxygen saturation in the superficial tissue (StO₂)**
2. **Significant improvement of oxygen saturation in the deeper tissue layers (NIR)**
3. **Increase of total hemoglobin (THI)**
4. **Partially lasting effects in the entire distal lower limb and foot area**

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For information on TIVITA:
Diaspective Vision GmbH
Strandstraße 15
18233 Am Salzhaff, OT Pepelow
Germany
Tel: +49 (0) 38294 166760
Email: info@diaspective-vision.com
www.diaspective-vision.com

For information on TWO₂:
Advanced Oxygen Therapy Inc.
3512 Seagate Way, Suite 100
Oceanside, CA 92056
USA
Tel: +1 760 672 1920
Email: info@aotinc.net
www.aotinc.net
About TIVITA™ Tissue – The Hyperspectral Tissue Camera for Objective Measurements of Physiological Parameters

The TIVITA™ Tissue (Diaspective Vision GmbH, Germany) is an innovative imaging technology for the easy and flexible assessment and documentation of tissue areas. It allows for the contact-free, non-invasive recording of various tissue parameters of surfaces over larger areas. Important parameters such as Tissue Oxygenation and Perfusion can be measured within a few seconds.

The TIVITA™ Tissue System uses the Chemical Color Imaging Technology for data acquisition, calculation and display.

The visible (VIS) and near infrared (NIR) spectral range is recorded by the image acquisition system. It is like an imaging tissue oximeter and relies on the latest advantages in hyperspectral imaging. Instead of a single-spot-reading, the system creates several pseudo-color images of each parameter. For the measuring procedure, the TIVITA™ Tissue is placed approx. 50 cm above the subject.

About Advanced Oxygen Therapy (AOTI) and Topical Wound Oxygen (TWO₂) therapy

AOTI is dedicated to providing Advanced Wound Care products that utilize our patented non-invasive TWO₂ therapy. Our innovative products can help close all wound types, and are particularly effective in chronic (diabetic, pressure, and venous ulcers) and acute (post-surgical, cosmetic, and burn) wounds.

TWO₂ therapy is unique in that it can be applied at the patient’s home or in any healthcare setting and helps to address the fundamental reasons chronic wounds fail to heal, by; reversing wound tissue hypoxia, stimulating the underlying cellular mechanisms needed for tissue regeneration, creating non-contact sequential compression to reduce edema and promote perfusion, and creating an environment that destroys unwanted pathogens and combats infection.