

# The Vascular Lab

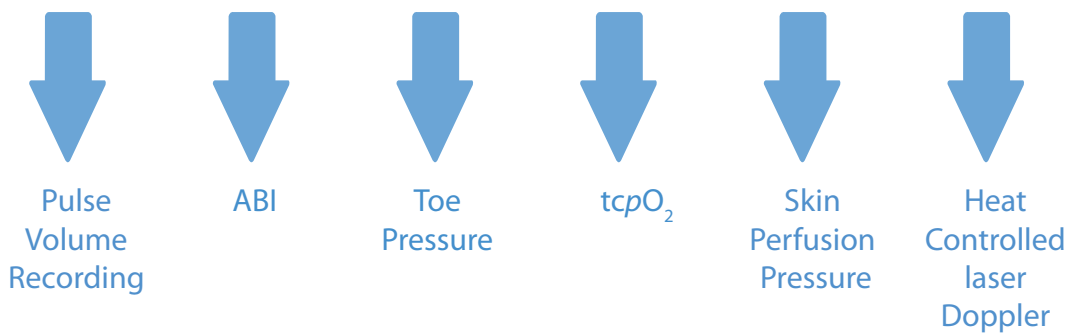
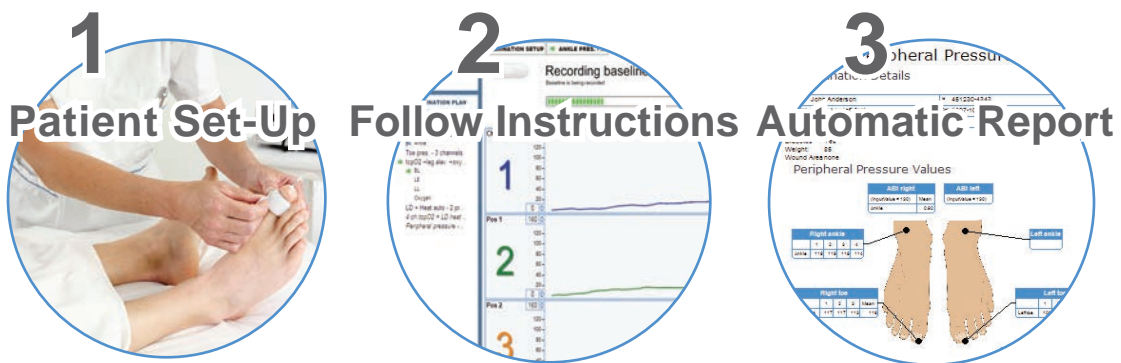
## Vascular Assessment Made Simple

What Do You Diagnose at Your Vascular Lab?

The **Vascular Lab – PeriFlux System 5000** provides a streamlined, all-in-one solution for high-quality assessment of the vascular status in Your patients. Combining different technologies in the same modular solution, the **Vascular Lab – PeriFlux System 5000** gives You the tools to perform several objective tests using the same equipment and software.

- All diabetic patients with an ulceration should be evaluated for Peripheral Arterial Disease using objective tests.  
*Recommendation 18. - TASC II*
- Critical Limb Ischemia is a clinical diagnosis but should be supported by objective tests.  
*Recommendation 19. - TASC II*

## The Vascular Lab - PeriFlux System 5000



Precise and Objective Diagnosis  
with Several Tests in One Instrument

### Inter-Society Consensus for the Management of PAD International Consensus on the Diabetic Foot

The Inter-Society Consensus for the Management of Peripheral Arterial Disease (PAD) - TASC II<sup>1</sup> recommends all stages of PAD to be verified and confirmed using objective tests such as ankle/brachial index (ABI), toe pressures,  $tcpO_2$  and microcirculatory evaluations. This is particularly important in patients with diabetes, as falsely elevated ABI values, due to calcified vessels, and as neuropathy complicates the clinical assessment.<sup>1</sup>

It is well known that foot ulcers are a serious and costly complication of diabetes. 85% of all amputations are preceded by a foot ulcer. The International Consensus on the Diabetic Foot 2007<sup>2</sup> stresses the importance of additional tests, such as toe pressure and  $tcpO_2$ , to the commonly used ABI for evaluation of wound healing potential.



#### Pulse Volume Recording - PVR

Based on air plethysmography, PVR measures changes in pressure reflecting arterial pulsatility. PVR can aid in localizing significant occlusive lesions in limbs.<sup>1</sup>

#### Peripheral Pressures - toe, ankle, limb, finger, ABI / TBI

Toe and ankle pressures, including toe/ankle-brachial index, are well established, objective tests for the diagnosis of Peripheral Arterial Disease (including Critical Limb Ischemia). Toe pressures are of particular importance in patients suffering from arterial calcification, resulting in falsely high ankle pressure values and under-diagnosis of disease.<sup>1,2</sup> Laser Doppler technology is used for detection, which has proved to be more sensitive than photoplethysmography in the low pressure range and does not require pulsatility.<sup>4</sup>

#### Transcutaneous Oxygen - $tcpO_2$

A non-invasive method routinely used by clinicians for wound healing prediction and qualification for hyperbaric oxygen therapy, aggressive wound management or revascularization.  $tcpO_2$  measures local  $O_2$  released from the skin through the capillaries, reflecting the nutritive flow.<sup>3,5,6</sup> Remote panel systems facilitate use in a hyperbaric chamber.

#### Skin Perfusion Pressure - SPP

SPP reflects the local pressure in the microcirculation. A laser Doppler probe is used to detect the return of flow and is positioned underneath a pressure cuff.<sup>7</sup>

#### Heat-controlled laser Doppler

Heat combined with laser Doppler can be used to determine the viability of tissue and the degree of microcirculatory impairment. A thermostatic laser Doppler probe induces local heating at the measurement site, triggering vasodilation. The increase in blood perfusion indicates tissue reserve capacity and endothelial function, important parameters for healing prediction and amputation level determination.<sup>3</sup>

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#### References:

1. Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASCII). Eur J Vasc and Endovasc Surgery, Vol 33 suppl 1 2007
2. International Consensus on the Diabetic Foot and Practical Guidelines on the Management and Prevention of the Diabetic Foot, International Working Group on the Diabetic Foot, 2007
3. Wound Care Practice. Edited by P.J Sheffield et al, Best Publishing Company, 2004, p117-156
4. The Usefulness of a laser Doppler in the measurement of toe blood pressures. Graaf et al J Vascular Surg 2000;32:1172-9
5. The use of transcutaneous oximetry in the noninvasive vascular laboratory. Rooke Int. Angiology vol 11 no 1, 1992
6. Transcutaneous Oxygen Tension and Toe Blood Pressure as Predictors for Outcome of Diabetic Foot Ulcers. Kalani et al. Diabetes Care vol 22 no 1, 1999
7. The correlation between three methods of skin perfusion pressure measurement: Radionuclide washout, laser Doppler flow, and photoplethysmography. Trivino et al. J Vasc Surg, 15::823-30, 1992

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