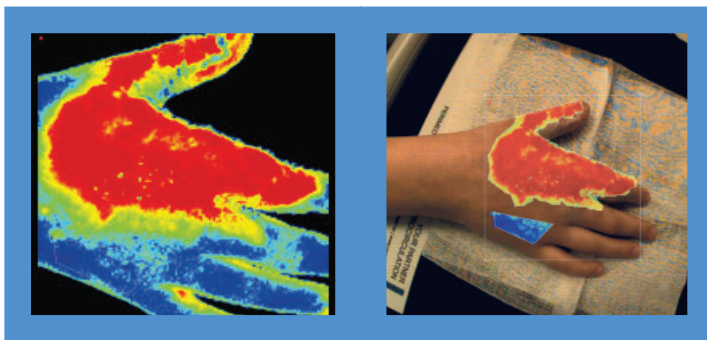


# Objective Burn Evaluation

## Assessment of Burn Wound Depth Using Blood Perfusion Imaging

Burn wounds are not always straight forward to judge clinically. In many cases it can be difficult to decide whether or not there is a need for surgical excision and grafting. Accurate assessment of burn depth at an early stage is crucial in order to make the correct decisions and avoid unnecessary surgery or potential hypertrophic scarring.

It is clinically proven that the status of the skin microcirculation can be used to estimate the burn depth. Superficial dermal burns will show a significantly higher skin perfusion as compared to normal skin, whereas the perfusion is compromised in deeper dermal burns. Increased activity in the skin blood flow indicates that the microcirculation is functioning and that there is a higher degree of wound healing potential.

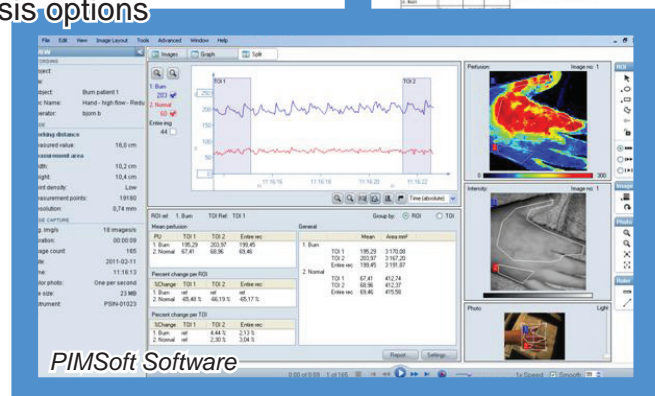
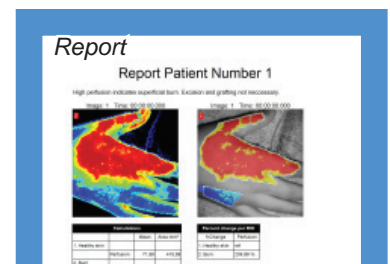


Burn wound hand:  
 Blood perfusion image, left  
 An overlay feature places the blood perfusion ROIs (Regions Of Interest) on the color photo, right

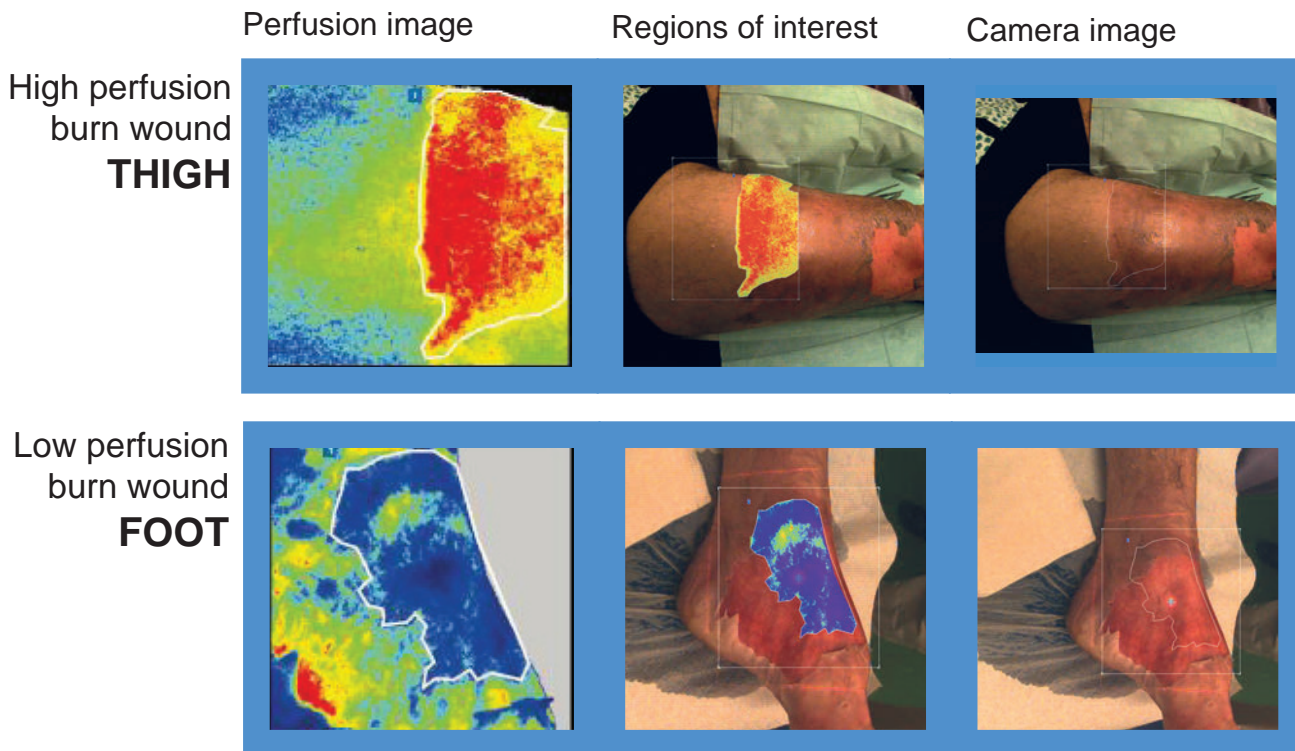
**Blood perfusion imaging** has been recognized as an excellent tool for estimating burn depth and reinforcing the clinical judgement of a burn wound. The **PeriScan PIM 3 System** (based on laser Doppler technology) and the **PeriCam PSI System** (based on laser speckle technology) are two blood perfusion imaging systems that provide the user with an easy-to-use tool to assess healing potential of a burn wound.

### Features:

- ✓ “Live” image indicating burn wound depth and area within seconds
- ✓ High-resolution blood perfusion images
- ✓ User-friendly software with extensive analysis options
- ✓ Automatic calculation of wound area
- ✓ Patient database and customized reports
- ✓ Non-contact and non-invasive
- ✓ Easy to maneuver and (re)position
- ✓ No need for protective eyewear
- ✓ CE marked



## Burn Wound Examples:



### The laser Doppler technique

When a laser beam enters tissue it will become scattered. If this scattered light hits moving blood cells, the light will change frequency due to the Doppler effect. The proportion of shifted to non-shifted light is related to the number of moving objects within the path of light. These properties are analyzed and used to calculate the blood perfusion.

### The laser speckle technique

Tissue illuminated by laser light produces an interference pattern, or speckle pattern, on the tissue surface. When the illuminated object is static, the speckle pattern is stationary. However, when moving particles, such as blood cells, are present, the speckle pattern will fluctuate over time. By analyzing these intensity fluctuations, information about the blood perfusion in the tissue is obtained.

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