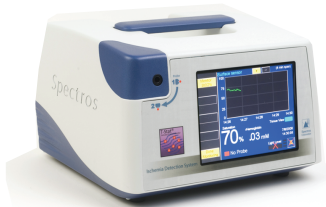


Free Flap Monitoring with T-Stat

PLASTIC SURGERY

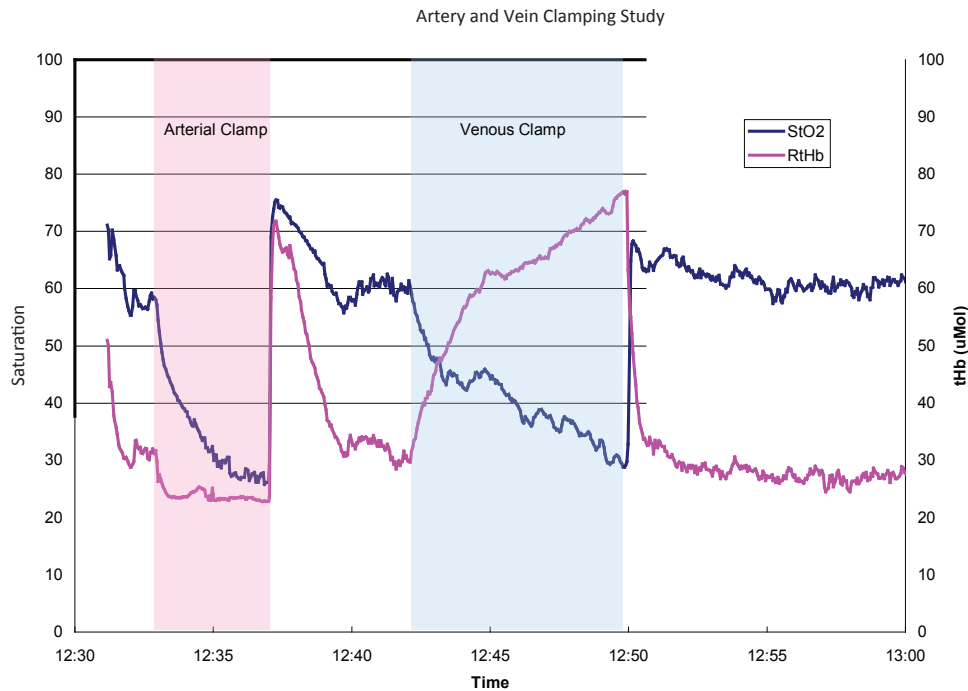
*Measuring StO₂
will give you an
early indication
of change.*



The T-Stat VLS Tissue Oximeter continually monitors the saturation of tissue at a microvascular level, just a few millimeters deep within the capillary bed. The saturation values correlate to venous saturation, not arterial, providing a better understanding of how much oxygen the tissue is actually using and whether or not there is a threatening occlusion that is not visible to the eye.

Noninvasive monitoring is made simple and safe with the use of the VLS (Visible Light Spectroscopy) white light T-Stat disposable probe that is FDA approved for up to 30 days per patient. The selection of T-Stat probes ensure the right fit for each flap or location that is being monitored, whether it is a smaller intra-oral flap or a larger DIEP free flap, there are probe sizes to choose from that suit each procedure.

The T-Stat probes are placed post operatively on the surface of the tissue to provide a real-time saturation value that is updated every second. This continual monitoring will provide an accurate and absolute history of how well the tissue is being perfused. With this immediate feedback the surgeon and bed side staff will be able to assess if a flap may be in need of a take-back for vascular correction. The sooner this is diagnosed, the greater the chances are that the flap will survive without compromise. The noninvasive probe is left on for the duration of the patient stay. If the probe needs to be temporarily removed it can be replaced easily without interfering or disrupting the monitoring. The probe is not sensitive to ambient or operating room light, nor is the probe reading sensitive to low or no blood flow.



How it works:

Visible white light is emitted and is scattered and absorbed in the tissue. By analyzing the returned light at over 260 discrete wavelengths, from 475 to 600 nanometers, the T-Stat is able to accurately determine the relative amount of oxy- and deoxy-hemoglobin contained in the microvasculature. The T-Stat displays the oxygen saturation of the capillary hemoglobin, and the relative total hemoglobin in the tissue at the measurement site. This combination of displayed values allows the clinician to not only assess the adequacy of perfusion, but also to differentiate arterial occlusions, which will show a drop in both saturation and total hemoglobin, and venous occlusions, which will also show a drop in saturation but will show a stable or rising total hemoglobin value. No other device gives both of these critical values.

In a recent study

What happens when there is a problem?

In a recent study both the artery and vein were separately clamped before the flap was lifted from donor to recipient location. The blue line (StO2) clearly shows a dramatic drop of tissue saturation within minutes. These minutes are critical when looking for early detection of flap compromise.

Early detection means early intervention, and that is what makes the difference between saving a flap and losing a flap.

Advantages with VLS:

- Absolute monitoring
- Objective values
- Early detection
- Variety of probe sizes
- Probe not sensitive to placement
- Probes are single-use per patient up to 30 days