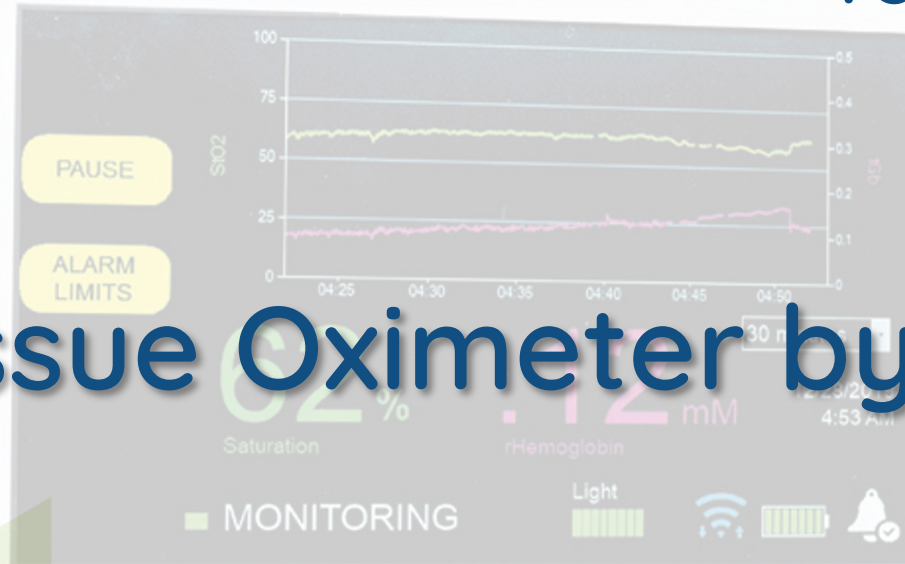


Presentation Prepared  
for VAC Product Review

# Tissue Oximeter by Spectros



T-Stat



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SURGICAL LTD

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2.0



# SPECTROS

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*Mission:*

*To aid in the proper care for post operative monitoring. Providing better outcomes, shorter hospital stays and satisfied patients.*



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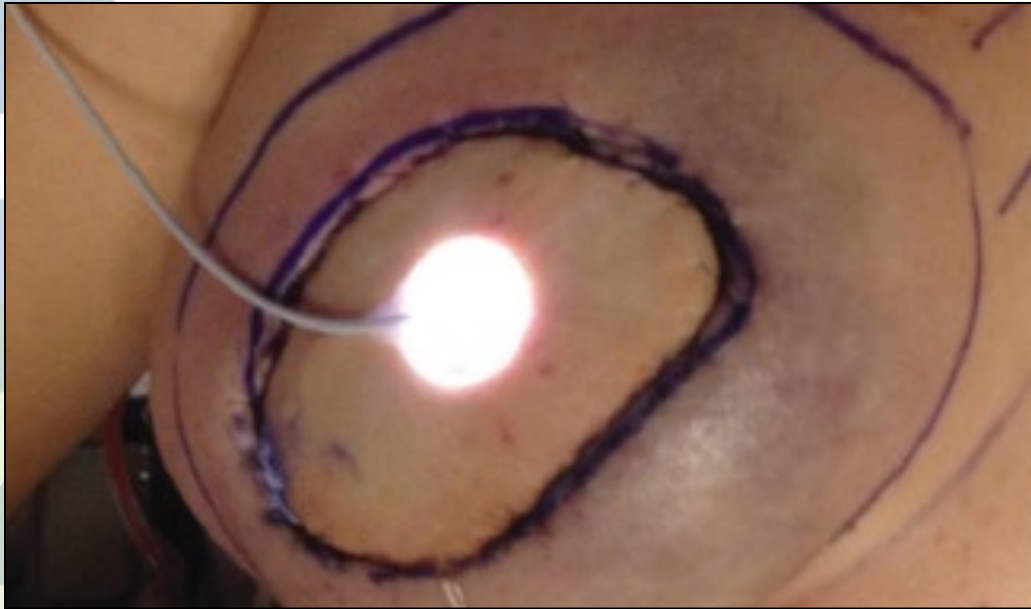
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# MICROVASCULAR TISSUE TRANSFER & FREE FLAPS

- Requires the use of a high-magnification operative microscope for reestablishment of vasculature.
- Newly positioned tissue is kept under constant observation.
- Most serious complication is **TISSUE NECROSIS**
  - Arterial thrombosis can result in complete flap failure within 4 hours of onset.
  - Venous thrombosis characterized by congested warm mottled flap that continuously oozes dark blood.



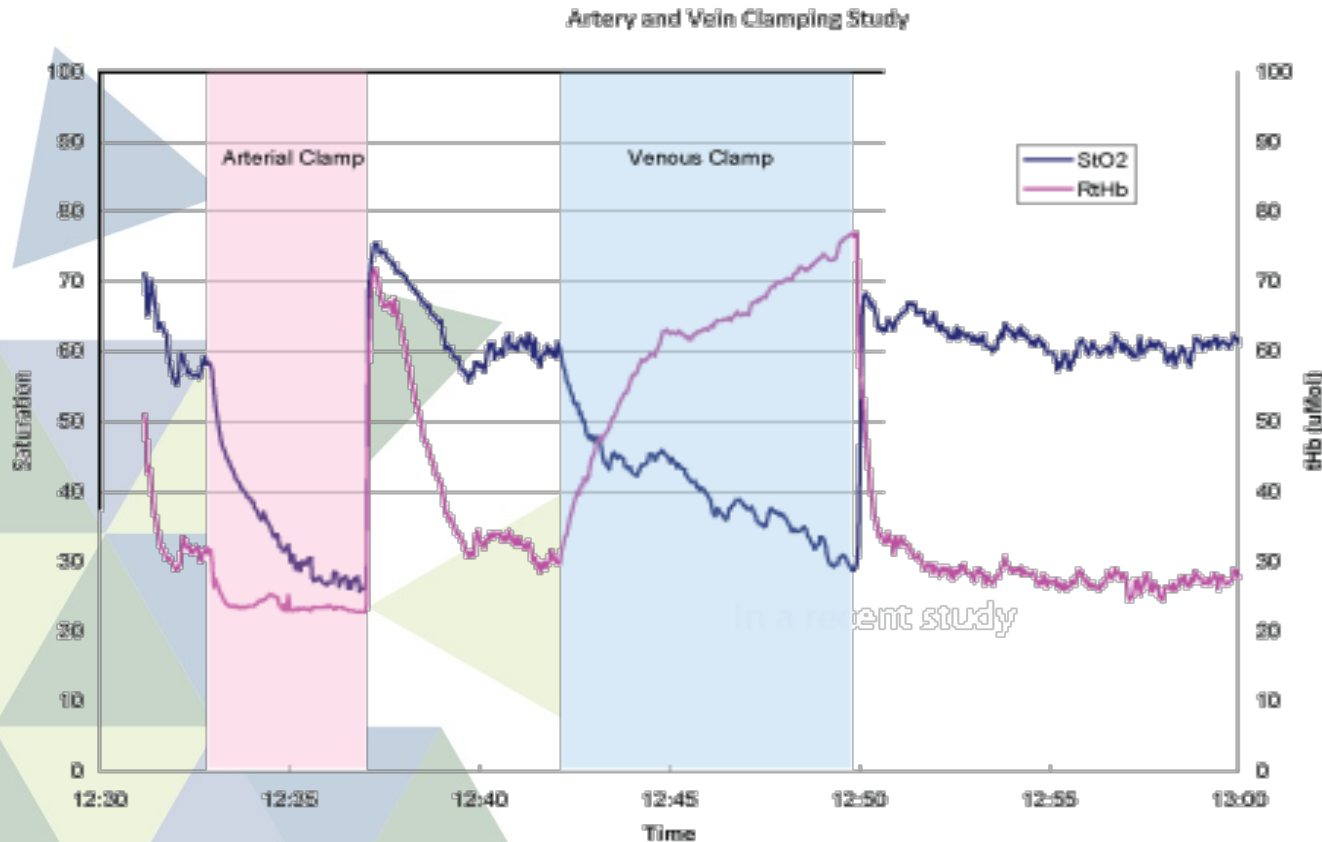
# FREE FLAP MONITORING with T-STAT



- T-Stat uses a small monitoring sensor that emits a cool white light that can be attached to the surface of the flap.
- Different spectroscopic properties of Haemoglobin are leveraged to measure the relative amounts of oxygenated and deoxygenated haemoglobin.
- StO<sub>2</sub>% is defined as the percentage of total haemoglobin in the oxygenated form.
- Tissue oximetry readings are displayed in real-time.



# ARTERIAL? or VENOUS?



## Arterial Occlusion:

Both StO2% and hemoglobin drop rather quickly. These cases tend to be easier to diagnose.

## Venous Occlusion:

StO2% declines and hemoglobin rises. This indicates pooling of blood in the flap. These cases are more difficult to diagnose because of late onset of symptoms.

*Pooling of blood in a venous occlusion is reflected in the rise in hemoglobin.*



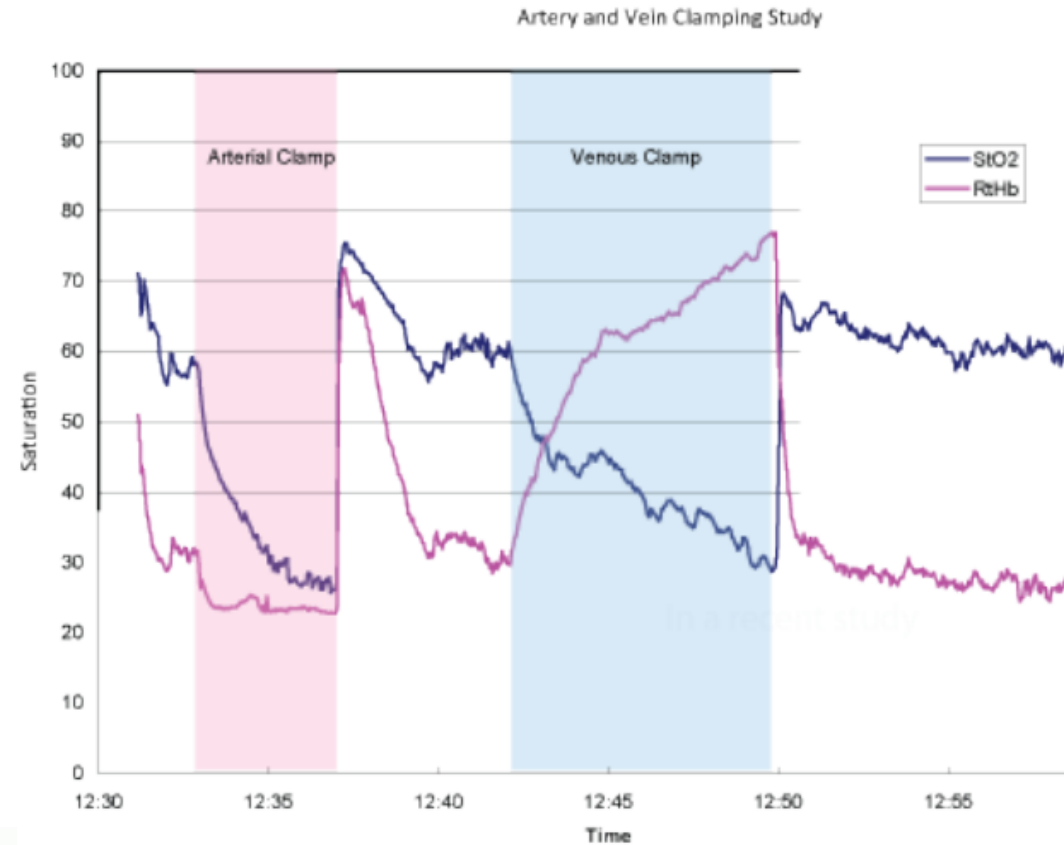
# OCCLUSIONS

## ARTERIAL VS VENOUS

Here you can see how T-stat is able to differentiate between venous and arterial occlusions.

**This is specific to T-Stat ONLY**

arterial vs venous



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# INDICATIONS/DESIRED OUTCOMES

## INDICATIONS:

- Indicated for post operative perfusion monitor for free tissue transfer.
- Systemic cardiac output in neonates with the ORAL sensor

## DESIRED OUTCOMES:

- Earlier intervention and detection of events leading to flap failure, resulting in flap salvage.

## CONTRAINDICATIONS:

- Contraindicated currently for BURIED flaps, must have a skin island for skin sensor.

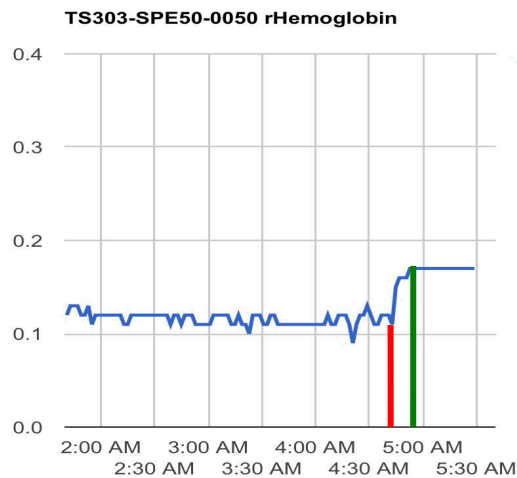
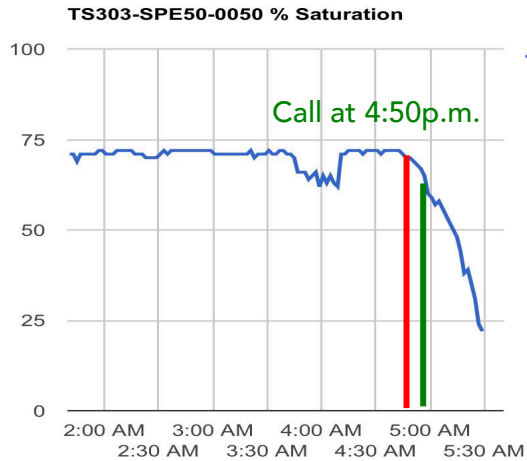


# INDICATIONS/DESIRED OUTCOMES

- Device is placed in operating room or upon arrival to PACU/PICU.
- Saturation and Hb values appear across the bottom of the screen.
- Graphs of StO<sub>2</sub>% and Hb are in the upper portion of screen.
- T-Stat has a built-in alarm system that surgeons can tailor to their patient needs.
- Alarms can be set bedside or in OnCall.
- Default alarm is set at 20%.



#FLAPSAVED



## Free Flap Salvage with Early Detection T-Stat Tissue Oximeter

The surgeon was alerted at 4:50 a.m. that the T-Stat tissue saturation values were dropping, and the HMG concentration was increasing. The patient was brought back to the OR, where the flap now had visible clinical signs of venous complication.

T-Stat early detection made the difference at a critical time, in salvaging the flap.

If floor personnel had waited until clinical signs were evident, there is a strong likelihood this flap would not have survived.

T-Stat tissue oximeter shows real-time concentrated trends of Sto2% before clinical signs are present, thereby allowing for the earliest intervention possible.



5:52 PM



Salvaged Flap

T-Stat 2.0 2 be sure

Location: San Antonio, TX  
PRMA, Advanced Breast Reconstruction  
Minas Chrysopoulou, MD FACS



# OnCall 2.0

## REMOTE ACCESS

- Remote monitoring is accessed by logging on to [www.oncall.spectros.com](http://www.oncall.spectros.com).
- Physicians have a secure log-in and password. No PHI is uploaded to the site.

The screenshot displays the OnCall 2.0 interface. At the top, there is a navigation bar with a monitor icon, the 'OnCall' logo with the tagline 'All the time', and the version number '2.0'. A user profile icon for 'robp' is visible in the top right. Below the navigation bar, there are filter buttons for 'All', 'Active', 'Inactive <7 days', and 'Inactive >7 days'. An 'Add device' button and a menu icon are also present. The main content area is a table with the following columns: S/N, Nickname, Alarm, Sat%, Hb, Last, and Reset. The table contains seven rows of device data.

S/N	Nickname	Alarm	Sat%	Hb	Last	Reset
T2-0008	SDMC -				> 7 days	
SPE11-0028	Payal left -				> 7 days	
TS2-0006	(None set) -				> 7 days	
SPE50-0074	Roberta left -				> 7 days	
T2-0016	Combs Lip -				> 7 days	
T2-0033	(None set) -				> 7 days	
SPE11-0028	(None set) -				> 7 days	

# OnCall 2.0

## REMOTE ACCESS

- The alarm will sound if the StO2% reaches a lower limit of 20% or a high of 95%, or as set by physician.
- For support you may contact your representative, call our technical support online 24/7 or you may check our website for more information.
- [www.spectros.com](http://www.spectros.com)
- 1 FIND-X-TSTAT





# T-Stat

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## BENEFITS OF USING T-STAT

- T-Stat Surface Sensors are NON-INVASIVE and come in two sizes:
  - 1 cm (small)
  - 2.5 cm (medium)
- Single use sensor may be used for up to 30 days.
- (Flaps are typically 3-5 days).
- The sensor may be placed quickly.
- T-Stat start up quickly and is intuitive to operate.
- PEACE OF MIND – For surgeon, staff and patient.

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# EARLY DIAGNOSIS + PREVENTION

*T-Stat cannot prevent a failure, however...*

*T-Stat can detect and diagnose complications earlier than any other device.*

*SAVING TIME.*

*IMPROVING OUTCOMES.*

*SAVING MONEY.*

With early diagnosis T-Stat can help prevent:

1. Flap loss (additional autologous donor site not always available).
2. Fat necrosis, hardening of tissue (poor cosmetic outcome).
3. Flap trimming (not enough coverage, affecting cosmetic outcome and needing additional tissue).
4. Additional OR time / subsequent surgeries.
5. Unnecessary patient discomfort and pain.
6. Longer hospital stay.



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T-Stat provides the  
earliest indication  
of flap compromise.

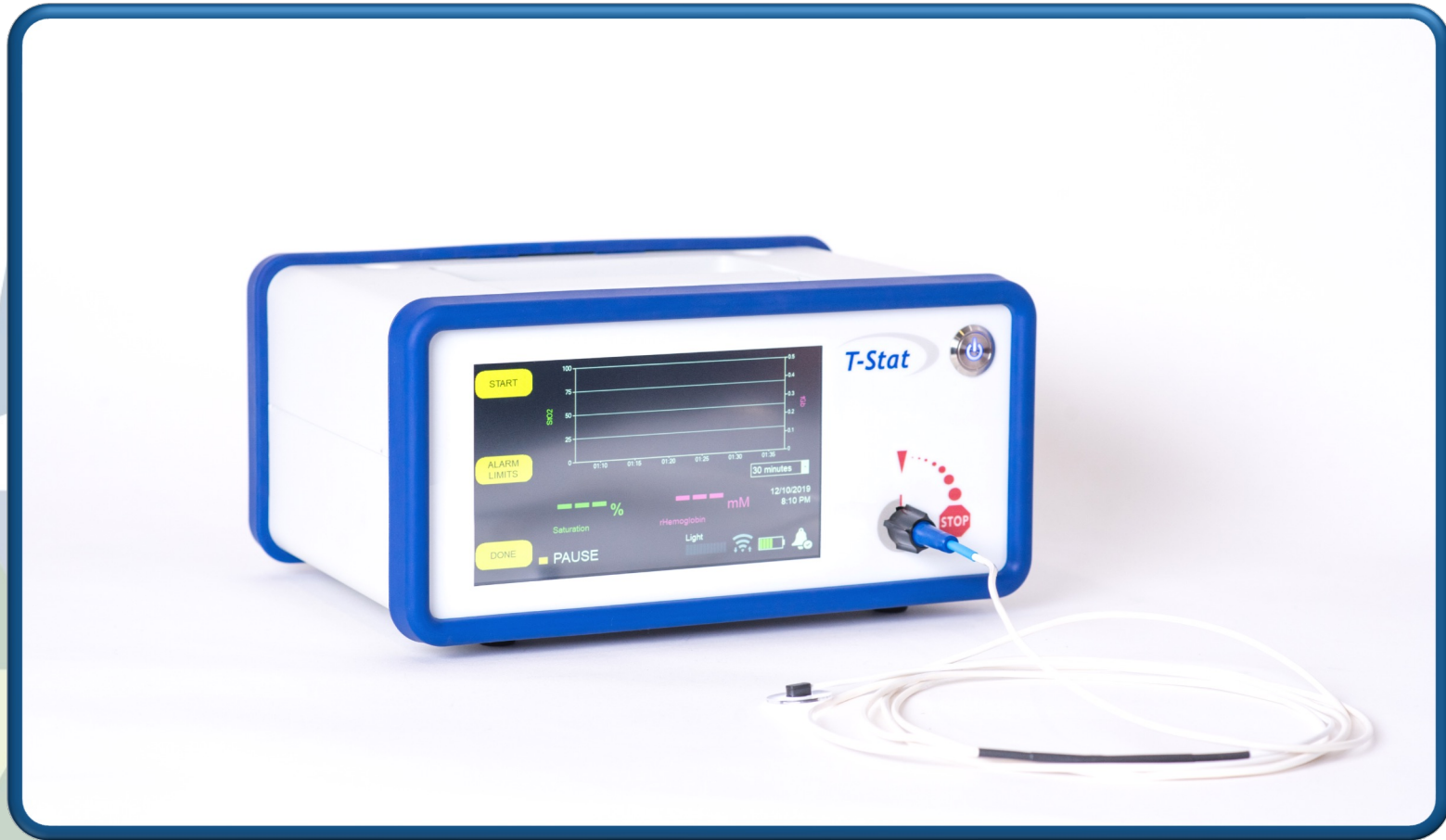
**PERIOD**

Security | Reliability | Accuracy



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T-Stat Monitor



T-Stat Surface Sensors



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