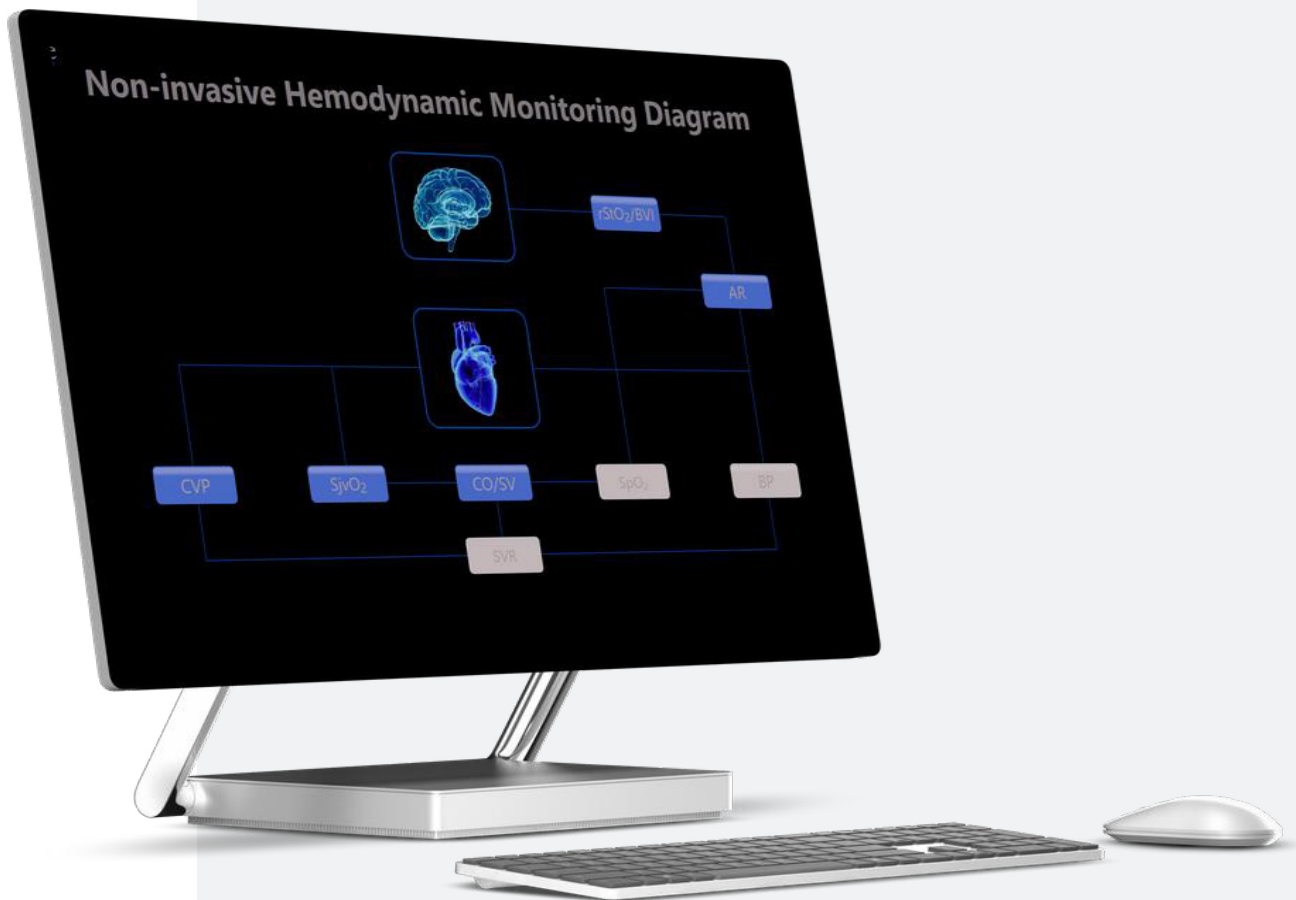


PRODUCT INFORMATION

ADVANCED NONINVASIVE HEMODYNAMIC MONITORING



2021

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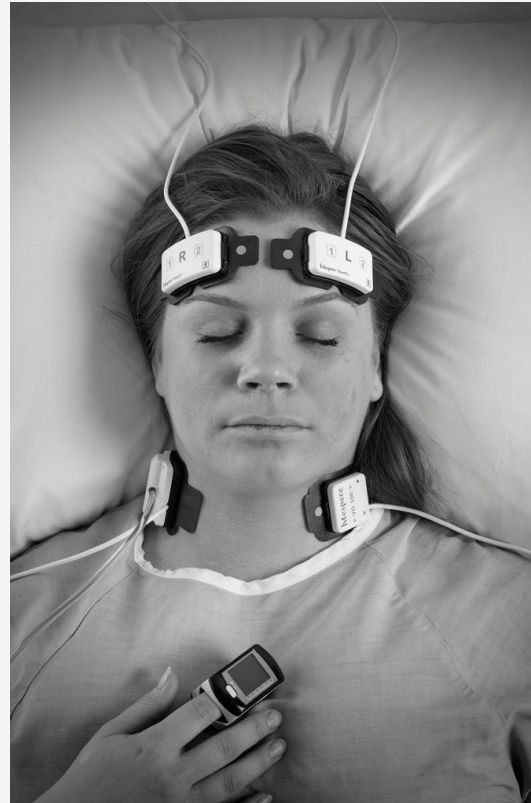
PRODUCT FEATURES & SUMMARY

- > **VENUS 2000 Central Venous Pressure -**
Noninvasive Central Venous Pressure Monitoring
- > **VO 100 Venous Oximetry -**
Noninvasive Jugular Venous Oxygenation and Distention Monitoring
- > **VenArt Cardiac Output -**
Fick Principle based Cardiac Output and Stroke Volume Monitoring
- > **VO200 NeurOs Cerebral Oximetry -**
Cost effective, most accurate cerebral oximetry system with Blood Volume
- > **Exceptional Quality and Value -**
Reusable sensors which offer exceptional value with superior signal quality at a fraction of the cost compared to the traditional one time use sensors
- > **OEM Compatible -**
Flexible to be used with a wide range of patient monitors and third party computers
- > **Technology Innovation-**
Noninvasive monitoring solutions, including proprietary sensors, algorithms, and integrative software applications

OUR GOALS AND OBJECTIVES

Our mission is to provide integrated, noninvasive, multi-organ hemodynamic monitoring solutions. All of our product development targets to overcome the technical hurdles or limitations of the existing methods and to provide solutions to unmet critical clinical needs.

We focus on the design of highly integrated, digitized sensors, with user friendly software applications, which are ready to be used with a wide range of third party patient monitoring platforms to combine leading edge innovation in order to meet doctors needs.



SENSOR APPLICATION & OVERVIEW

NeurOs Cerebral Oximetry

- Regional Tissue Oxygen Saturation (StO₂)
- Blood Volume Index (BVI)
- Cerebral Blood Flow (CBF)
- Autoregulation Index (AR)

VENUS 2000 Central Venous Pressure

- Central Venous Pressure (CVP)
- Blood Volume Index (BVI)



VO 100 Venous Oximetry

- Jugular Venous Oximetry (SjvO₂)
- Blood Volume Index (BVI)
- Jugular Vein Distention Index (JVD index)

VenArt Cardiac Output

- Jugular Venous Oximetry (SjvO₂)
- Arterial Oximetry (SpO₂)
- Blood Volume Index (BVI)
- Cardiac Output (CO) and Index (CI)
- Stroke Volume (SV) and Stroke Volume Variation (SVV)



Chronic Disease Management - Renal and Heart Failure Outpatient Monitoring

Early detection of venous congestion



Intensive Care - Cardiac and Neuro Function Management

Cardiac and Neuro function monitoring in critical care



Emergency Room - Sepsis and Heart Failure Management

Fluid Overload and Tissue Reperfusion



Operating Room -

Cardiac, Vascular, and Orthopedic Surgery

Coronary artery bypass, deep hypothermic circulatory arrest, and carotid endarterectomy

VENUS 2000 CVP

THE FIRST AND ONLY NONINVASIVE AND CONTINUOUS CENTRAL VENOUS PRESSURE MONITORING SYSTEM

PRODUCT HIGHLIGHTS

- > **Accuracy**
High accuracy of $\pm 2.16\text{mmHg}$
- > **Noninvasive and Continuous**
Completely noninvasive therefore eliminates the need for invasive heart catheters and provides continuous measurements unlike ultrasound
- > **Additional Parameters**
Blood Volume Index to monitor fluid volume status
- > **Placement**
The right external jugular vein
- > **Efficient**
Measurements achieved in minutes versus hours by any healthcare professional

KEY CLINICAL APPLICATIONS



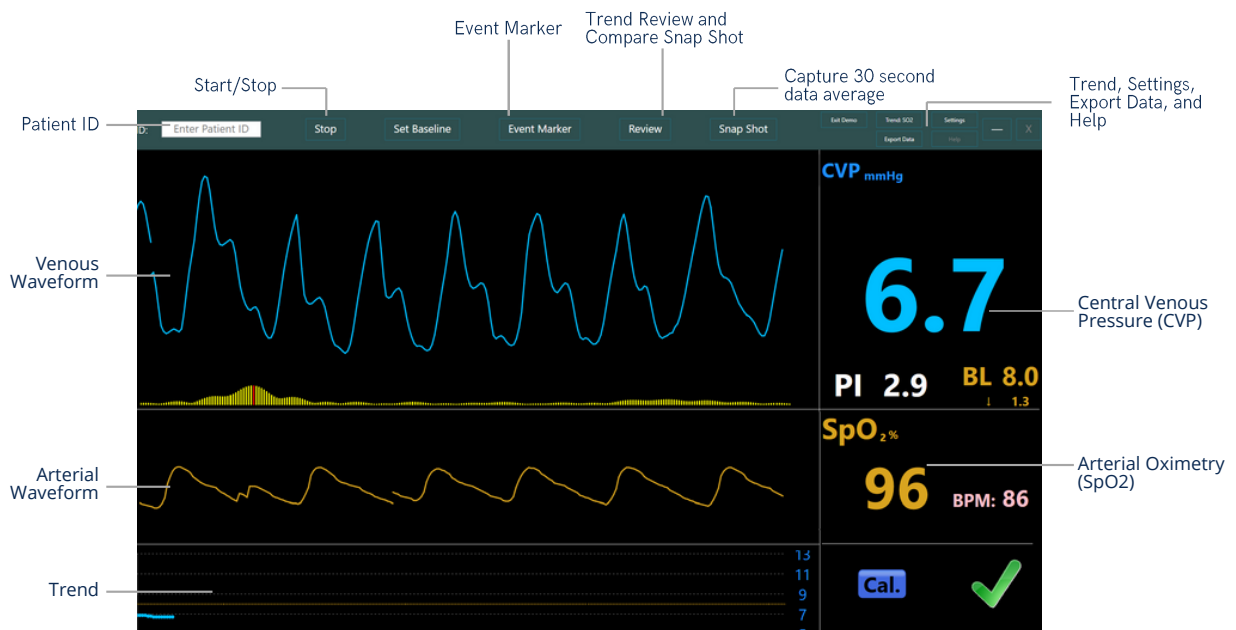
Sepsis and Shock Management - Fluid Overload and Tissue Reperfusion
ED and ICU



Heart Failure Management - Early Venous Congestion Detection
Heart Clinics, LTC, ED, and ICU



Remote Heart Failure Management - Telemedicine application to monitor venous congestion from remote settings
Heart Clinics, and LTC



VO 100 VENOUS OXIMETRY

THE FIRST AND ONLY NONINVASIVE AND CONTINUOUS VENOUS OXIMETRY AND DISTENTION MONITORING SYSTEM

PRODUCT HIGHLIGHTS

- > **Accuracy**
High accuracy of $\pm 2\%$
- > **Noninvasive and Continuous**
Completely noninvasive therefore eliminates the need for invasive fiberoptic or right heart catheters for blood gas analysis
- > **Additional Parameters**
Jugular Vein Distention Index to monitor fluid volume status
- > **Placement**
The left or right, internal or external jugular vein
- > **Efficient**
Measurements achieved in minutes versus hours by any healthcare professional

KEY CLINICAL APPLICATIONS



Sepsis and Shock Management - Fluid Overload and Tissue Reperfusion
ED and ICU



Neurosurgery or Head Trauma - Cerebral hyperemia or hypoxia monitoring
ICU and OR



ECMO & Mechanical Ventilation Guidance - Monitor venous saturations and JVD to guide and wean patients off of ECMO
ICU



Heart Failure Management - Early Venous Congestion Detection
Heart Clinics, LTC, ED, and ICU



VENART CARDIAC OUTPUT

NONINVASIVE BEAT BY BEAT FICK PRINCIPLE BASED CARDIAC OUTPUT AND STROKE VOLUME MONITORING

PRODUCT HIGHLIGHTS

> Accuracy

High accuracy of ± 0.71 L/min and ± 7 mL

> Noninvasive and Continuous

Noninvasive therefore eliminates the need for invasive pulmonary artery or Swan Ganz catheter and provides continuous measurements unlike ultrasound

> Additional Parameters

Venous and Arterial Oximetry are monitored providing a complete hemodynamic assessment

> Placement

VO 100 on left or right, internal or external jugular vein and a pulse oximeter

> Technologically Sound

Follows the Fick Principle which is considered a gold standard

KEY CLINICAL APPLICATIONS



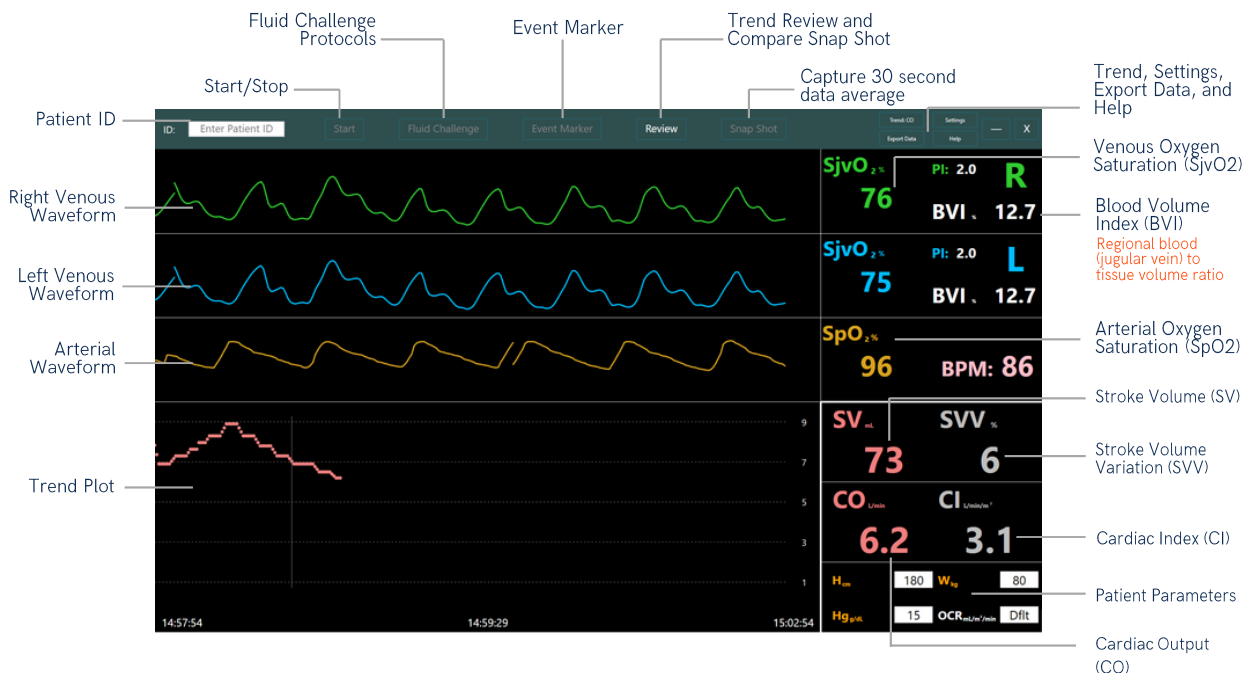
Sepsis and Shock Management -
Guidance to improve oxygenation and cardiac functions
ED and ICU



Acute Respiratory Distress Syndrome -
Guidance to improve oxygenation and cardiac function
ICU



Cardiac Function Management -
Fluid Challenge Responsiveness and Cardiac Hemodynamics during surgery and critical care
ED, OR, and ICU



NEUROS CEREBRAL OXIMETRY

THE ONLY CEREBRAL OXIMETER WITH BOTH REGIONAL OXYGENATION AND BLOOD VOLUME

PRODUCT HIGHLIGHTS

- > **Accuracy**
Highest approved absolute trending accuracy of $\pm 1.5\%$
- > **Exceptional Value and Signal Quality**
Reusable sensors which offer exceptional value with superior signal quality at a fraction of the cost compared to the traditional one time use sensors
- > **Additional Parameters**
New Blood Volume Index which correlates closely with blood vessel dilation and constriction
- > **Placement**
Forehead or Tissue

KEY CLINICAL APPLICATIONS



Cerebral and Tissue Hypoxia - Monitor cerebral and tissue oxygen saturation and blood flow
OR, ICU, and Heart Clinics



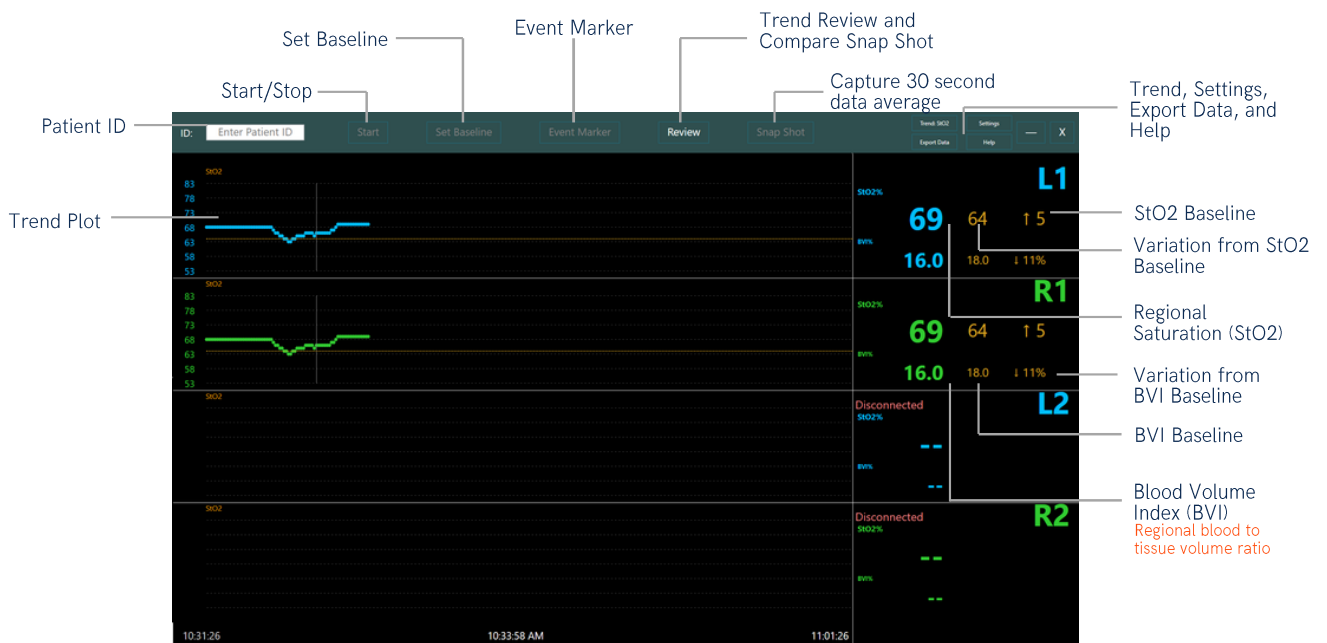
Cardiac and Vascular Surgery - Coronary artery bypass, deep hypothermic circulatory arrest, carotid endarterectomy, and hyperperfusion syndrome
OR and ICU



Beach Chair Position Surgery - Orthopedic Shoulder Surgery
OR, ICU, and Rehabilitation



Acute Respiratory Distress Syndrome - Guidance to improve oxygenation
ICU



AR CEREBRAL AUTOREGULATION

THE ONLY NONINVASIVE AND CONTINUOUS CEREBRAL AUTOREGULATION MONITORING PLATFORM

PRODUCT HIGHLIGHTS

- > **Exceptional Value and Signal Quality**
Reusable sensors which offer exceptional value with superior signal quality at a fraction of the cost compared to the traditional one time use sensors
- > **Noninvasive and Continuous**
Noninvasive therefore eliminates the need for invasive intracranial monitoring and continuous unlike transcranial doppler
- > **Additional Parameters**
Cerebral Blood Flow and Autoregulation Monitoring
- > **Placement**
Forehead

KEY CLINICAL APPLICATIONS



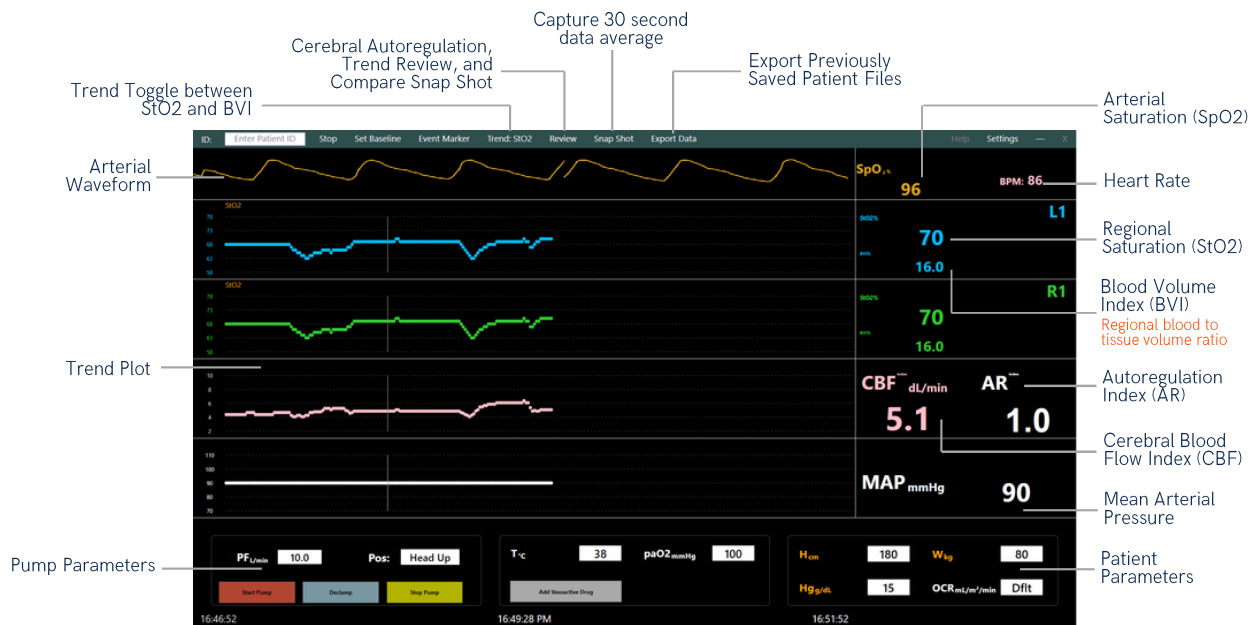
Cerebral Blood Flow and Autoregulation - Monitor cerebral oxygen saturation, blood flow and autoregulation
OR, ICU, and Heart Clinics



Neuro Trauma and Stroke - Large Vascular Occlusions and Subarachnoid Vasospasm Neuro Monitoring
OR and ICU



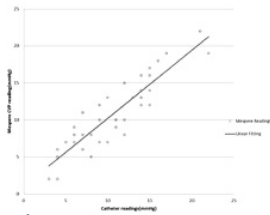
Acute Respiratory Distress Syndrome - Guidance to improve oxygenation and positioning
ICU



PROVEN ACCURACY

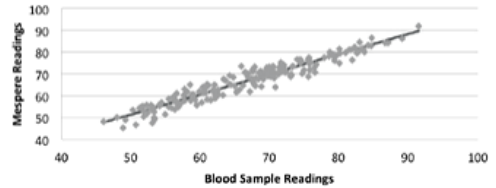
OUR TECHNOLOGY HAS BEEN VALIDATED AGAINST THE CURRENT GOLD STANDARDS PROVING TO BE CLINICALLY USEFUL SUBSTITUTES

CENTRAL VENOUS PRESSURE (CVP)



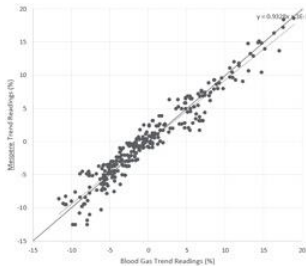
- > **Location:** University of Michigan
- > **Comparison:** Right Heart Catheter
- > **Results:** ± 2.2 mmHg

VENOUS OXYGEN SATURATION (SJVO2)



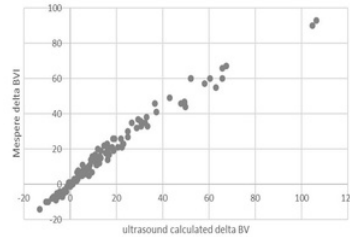
- > **Location:** University of California San Francisco (UCSF)
- > **Comparison:** Invasive blood samples compared by co-oximeter
- > **Results:** $\pm 2\%$

REGIONAL OXYGEN SATURATION (STO2)



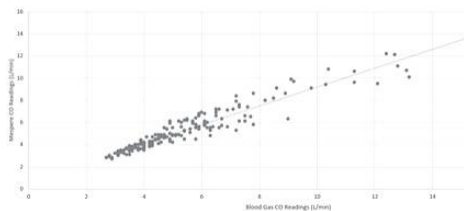
- > **Location:** University of California San Francisco (UCSF)
- > **Results:** Trending Accuracy $\pm 1.5\%$
Absolute Accuracy $\pm 4.9\%$

BLOOD VOLUME INDEX (BVI)



- > **Location:** Wayne State University
- > **Comparison:** CSA determined by ultrasound
- > **Results:** $\pm 4.3\%$, where % = ml/dl

CARDIAC OUTPUT (CO)



- > **Location:** University of California San Francisco (UCSF)
- > **Results:** ± 0.71 L/min



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