GLOBAL NON-INVASIVE REAL-TIME CONTINUOUS HEMODYNAMIC MONITORING PILOT

Zhejiang Shanshi Biological Medical Device (Shangqiu) Co., Ltd

Non-invasive, Continuous Hemodynamic Monitoring
University of Shanghai for Science and Technology:

According to the relevant agreement in the cooperation memorandum signed between your university and us, in order to further promote and implement the preparatory work for the One Belt One Road initiative National Cross-innovation Training Alliance for Medical Workers “and to speed up the implementation of the construction of the ” Hemodynamic Artificial Intelligence Big Data Center “, the board of directors of our company decided to donate 500 sets of non-invasive real-time arterial blood pressure and hemodynamic monitoring system equipment of T-Line series on the day of the establishment ceremony of One Belt One Road Initiative Alliance. At the same time, 500 sets of the above-mentioned equipment will all be donated to large-scale Third-class hospitals participating in the data collection and personnel training base construction of the "Hemodynamics Artificial Intelligence Big Data Center" through Red Cross Societies or charitable organizations all over the country, so as to actively respond to the national medical reform policy with practical actions and provide innovative medical materials assistance to primary medical institutions of their medical associations or medical complexes to Third-class hospitals participating in the construction of the "Hemodynamics Artificial Intelligence Big Data Center". The total value of the above 1000 sets is about RMB 370 million.

I hereby write to you regarding the above matters.

Zhejiang Shanshi Biological Medical Device (Shangqiu) Co., Ltd.

July 1st, 2019
Shanshi Medical History

2009
The foundation of Shanshi

2011
Shanshi teamed up with Tensys in the U.S. for noninvasive real-time arterial blood pressure monitoring study

2012
Tensys TL300 obtains FDA product registration approval

2013
Shanshi TL300 equipment supplies were approved by CFDA product registration

2014
Shanshi non-invasive real-time monitoring software obtains software copyright registration certificate

2017
Shanshi successfully completes Round A financing; Shanshi TL300 Continues Registration; Shanshi’s Successful Acquisition of the United States Tensys

2018
Shanshi TL400 equipment and consumables received CFDA product registration approval respectively
About us

✓ Global Leader Non-invasive Real-Time Continuous Hemodynamic Monitoring Core Technology

✓ More than 115 invention patents at home and abroad

✓ International research and development team, set up research and development institutions in California, Shenzhen Qianhai, Zhejiang Hangzhou, Taipei, Taiwan
Products

Non-Invasive Continuous Radial Arterial Blood Pressure and Advanced Hemodynamics

**TL-300/TL-400**

**Technology**
The TL-400 uses a unique and proprietary combination of advanced signal processing algorithms and pressure-sensing technology to accurately detect, measure, and display the beat-to-beat arterial pressure wave. Using the principle of tonometry, the wrist motor driven wrist actuator (brancist) automatically searches and detects the radial artery and auscultation after input of the patient's demographic data. If preferred, adjustment to an external reference measurement is also possible, making it an immediate trending device.

**Parameters**
The TL-400 directly measures systolic, diastolic, and mean arterial blood pressure and heart rate. Using a newly developed, advanced, non-linear mathematical model linking physiological data vectors of the patient, the TL-400 computes COO, CPO, DVO, SV0, SV1, SV2, SVR, SVR, and SVR.

**Economics**
Patient monitoring is essential for healthcare providers. Through a unique sensor and disposable system, the TL-400 allows measuring continuous blood pressure at a price comparable to an invasive line, and - at any given time - one can add advanced hemodynamic parameters for an additional charge. With a quick setup and turn-around of typically less than 2 minutes, the TL-400 easily integrates into any effective and economic workflow.
Products

Accurate Monitoring: Provides the Consistent Hemodynamic Parameters Compared with Picco

AT-CO VS. PC-CO

Comparison of pulse contour cardiac output and radial artery applanation tonometry-derived cardiac output. In this Bland-Altman plot accounting for repeated measurements, we compare cardiac output measurements (L/min) obtained using pulse contour analysis (PC-CO) with cardiac output measurements based on the analysis of an arterial pressure waveform recorded using radial artery applanation tonometry (AT-CO). The black continuous horizontal line and the black dashed horizontal lines indicate the mean difference (bias) between the two methods and the 95% limits of agreement (i.e., mean difference ± 1.96*standard deviation), respectively. The percentage error according to Critchley and Critchley [10] was 23%. [1]

Precision Monitoring Provides a Consistent Blood Pressure Value with A-Line

Products

Drive Safe, Avoid Driving Blind!

tensys™ homopath (TM) is a new fresh look into a patient’s current hemodynamic status. At a quick glance, without even reading numbers, homopath signals if a parameter is within its predefined range.

The TL-400 closes the gap between the accurate, but invasive A-Line and the easy, but discontinuous sniff. Operating blind, without accurate and constant information about blood pressure and/or cardiac output, is now a matter of the past.

Proven Accuracy


Medlert et al: Radial artery applanation tonometry for continuous non-invasive arterial pressure monitoring in intensive care unit patients: Comparison with invasively assessed radial arterial pressure. BJU 2013


United States GTM Medical Devices
3461 Tripp Court, San Diego, CA, United States
E-mail: sales@tensysmedical.com