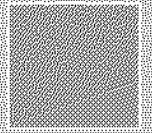


**USCOM**

ABN: 35 091 028 090



# U.S. Journal Publishes ED Evidence

## 26<sup>th</sup> Study Since July

*"5 to 10 minutes training"*

*"Less than 10% variance between users"*

*"Clinical application extensive"*

Monday 20 November, 2006: USCOM Limited (ASX Code: UCM) today announced the publication of further significant USCOM evidence in the prestigious American Journal of Emergency Medicine.

The peer-reviewed paper revealed the results of a 9-month study of the reliability of the USCOM non-invasive cardiac output monitor when used by a wide variety of operators after just 5 to 10 minutes training.

The study was conducted at the Department of Emergency Medicine at the Loma Linda University Medical Center in California by Dr Bryant Nguyen, an internationally recognised emergency physician who co-authored the famous Rivers paper on Early Goal Directed Therapy. Dr Nguyen's team tested inter-rater reliability of USCOM among more than 200 operators, including medical students, emergency medicine residents, and attending physicians, taking measurements of Cardiac Index (CI) and Stroke Volume Index (SVI) from 107 patients.

The study found that for most patients, there was a difference in results between operators of less than 10% in both CI and SVI measurements. This compares to a variation in the "gold standard" Pulmonary Artery Catheter (PAC) method of up to 25%. The paper states, *"An interrater difference of less than 10% as observed in this study would suggest that the static measurements obtainable by Doppler ultrasound are reliable between different raters and of clinical relevance."*

Dr Nguyen's paper states, *"A requisite in hemodynamic optimization is the usage of appropriate monitoring tools. The PAC has been traditionally the standard criterion in hemodynamic monitoring in the ICU. However, inserting a PAC in the ED setting is not practical nor feasible, especially when multiple studies have shown that the usage of PAC results in questionable outcome benefit."*

*"On the other hand, parameters traditionally available in the ED, such as vital signs and physical exam, poorly correlate with more acceptable signs of hypovolemia, cardiac dysfunction, organ failure, and shock. In fact, only 56% of intensivists can reliably predict the hemodynamic profile of critically ill patients before catheterization."*

***"The clinical application for noninvasive measurement of cardiac function in the ED is extensive."***

Dr Nguyen's paper concludes, *"Our study showed that transcutaneous Doppler ultrasound may be used to measure CI and SVI with acceptable interrater agreement by a varied group of ED personnel. The heterogeneous patient population with a wide range of CI and SVI also suggests that cardiac output may be measured noninvasively in the ED setting. Furthermore, Doppler ultrasound does not require user calibration, as needed by the central venous or PACs, adding to its potential ease of use."*