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New Uscom Measure of Heart Function

Patent for New Hypertension, Pre-eclampsia and Heart Failure Measure

SYDNEY, Australia, Thursday 21st June 2018: Uscom Limited (ASX code: UCM) (the **Company** or **Uscom**) has received an “intention to grant” notice from the European Patent Office for Uscom’s Combined Blood Flow and Pressure Monitoring System and Method; patent application number 14 738 050.5. The patent describes a new method for measuring the work the heart and vessels generate to deliver oxygen to the cells of the body, an improved predictor of outcome and guide for cardiovascular therapy.

The patent describes a new system and method for monitoring cardiovascular function which incorporates blood flow and blood pressure, and has a filing date of 14-1-2014 providing market competitive protection for a period of 20 years from this date. Current technologies for measuring cardiovascular function monitor either blood pressure or blood flow, or lesser measures such as bio-impedance. While prior studies have described methods for incorporating the BP and flow parameters, the new Uscom method improves on these by measuring the load on the heart more accurately. Cardiac work and power better predict cardiovascular events and survival than conventional monitoring, and the new Uscom system and method improves on these measures again.

The system and method was conceived and developed by Professor Brendan Smith and Professor Veronica Madigan and published in the British Journal of Anaesthesia using measures from the USCOM 1A device, and the patent has been assigned to Uscom Limited. The Smith Madigan Inotropy Index, as it is known, has since been validated and incorporated into the USCOM 1A software and is being used in adult, paediatric, neonatal and maternal cardiovascular monitoring of sepsis, hypertension, pre-eclampsia and heart failure.

Uscom CEO Associate Professor Rob Phillips said: *“Sector leading science is our business, and the Smith Madigan Inotropy Index is changing the way we diagnose and manage cardiovascular disease and may improve clinical care in diseases which account for 60% or more of all global mortality. This new measure of cardiovascular function is now an Uscom technology being used to improve outcomes in adults, children and mothers with pre-eclampsia. Patenting these technologies adds value to the Uscom IP portfolio and increases shareholder value.”*

References:

Smith BE, Madigan V. Non-invasive method for rapid bedside estimation of inotropy: theory and preliminary clinical validation. *Brit J Anaesth* 2013 doi:10.1093/bja/aet118.

He SR, Sun X, Zhang C, Jian Z, Sun YX, Zheng ML, Liu YM, Madigan VM, Smith BE. Measurement of systemic oxygen delivery and inotropy in healthy term neonates with the Ultrasonic Cardiac Output Monitor (USCOM). *Early Hum Dev* 2013;89:289-294

Phillips RA, Smith BE, Madigan VM. Stroke Volume Monitoring: Novel Continuous Wave Doppler Parameters, Algorithms and Advanced Noninvasive Haemodynamic Concepts. *Curr Anesthesiol Rep*. 2017;387-398. DOI 10.1007/s40140-017-0235-4



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About Uscom

Uscom Limited (UCM) is an ASX listed innovative medical technology company specialising in development and marketing of premium non-invasive cardiovascular and pulmonary medical devices. Uscom has a mission to demonstrate leadership in science and create noninvasive devices that assist clinicians improve clinical outcomes. Uscom has three practice leading suites of devices in the field of cardiac, vascular and pulmonary monitoring; the USCOM 1A advanced haemodynamic monitor, Uscom BP+ central blood pressure monitor, and the Uscom SpiroSonic digital ultrasonic spirometers. Uscom devices are premium resolution, noninvasive devices which deploy innovative and practice leading technologies approved or submitted for FDA, CE, CFDA and TGA regulatory approval and marketing into global distribution networks.

The USCOM 1A is a simple to use, cost-effective and non-invasive advanced haemodynamic monitor that measures cardiovascular function, detects irregularities and is used to guide treatment. The USCOM 1A device has major applications in Paediatrics, Emergency, Intensive Care Medicine and Anaesthesia, and is the device of choice for management of adult and paediatric sepsis, hypertension, heart failure and for the guidance of fluid, inotropes and vasoactive cardiovascular therapy.

The Uscom BP+ is a supra-systolic oscillometric central blood pressure monitor which measures blood pressure and blood pressure waveforms at the heart, as well as in the arm, information only previously available using invasive cardiac catheterisation. The Uscom BP+ replaces conventional and more widespread sub-systolic blood pressure monitors, and is the emerging standard of care measurement in hypertension, heart failure and vascular health. The Uscom BP+ provides a highly accurate and repeatable measurement of central and brachial blood pressure and pulse pressure waveforms using a familiar upper arm cuff. The BP+ is simple to use and requires no complex training with applications in hypertension, heart failure, intensive care, general practice and home care. The Uscom BP+ is supported by the proprietary **BP+Reporter**, an innovative stand alone software solution that provides a digital platform to archive patient examinations, trend measure progress over time, analyse pulse pressure waves and generate a summary report.

Uscom SpiroSonic digital ultrasonic spirometers are high fidelity, digital, pulmonary function testing devices based on multi path ultrasound technology. They are simple and accurate to use and provide research quality pulmonary function testing in small hand held devices that can be used in research, clinical and home care environments. The devices can be coupled with mobile phone applications and proprietary SpiroSonic software platforms with wireless interfacing to provide remote tele-monitoring of pulmonary disease. The devices are specialised for assessment of COPD, sleep disordered breathing, asthma, industrial lung disease and monitoring of pulmonary therapeutic compliance. The SpiroSonic devices are supported by the proprietary **SpiroReporter**, an innovative stand alone software solution that provides a digital platform to archive patient examinations, trend measure progress over time, analyse spirometry outputs and generate a summary report.

For more information, please visit: www.uscom.com.au

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