ICU
MANAGEMENT & PRACTICE

ICU Study Shows Significant Reduction in Time to Blood Gas Result using Sphere Medical's Proxima™

University Hospital Southampton presents ABG time and motion study results at key critical care conferences

University Hospital Southampton demonstrates time saving potential of Proxima™ bedside blood gas monitoring system

Sphere Medical, an innovative company in critical care monitoring and diagnostics equipment, announces that a recent time and motion study by University Hospital Southampton demonstrated a 1.5 minute (>20%) reduction in time to blood gas results when using the Proxima™ bedside blood gas monitoring system [1]. The study also found that conventional blood gas measurement took critical care nurses away from their patient for nearly 30 minutes/day, whereas time away was zero when using Proxima, as it is a patient-dedicated in-line analyser. This eliminated the need for a nurse to find cover to monitor ICU patients at risk of adverse events, such as self-extubation or developing an acute physiological disturbance.

The significant results were presented at both the British Association of Critical Care Nurses conference and Intensive Care Society State of the Art Meeting as a scientific poster entitled, "*Time and motion study of Proxima arterial blood gas (ABG) sampling* ."

During routine ABG sampling in intensive care units (ICU), nurses have to leave their patient to use an ABG analyser for processing; this then requires another care giver to step in to observe the critically ill patient to maintain safety. There is also risk of blood splash when taking, transporting and processing the sample. As a point-of-care analyser that enables blood gas analysis directly at the patient's bedside, Proxima overcomes all of the aforementioned issues. Southampton's research study was undertaken to compare workload associated with using Proxima versus standard ABG sampling, including safety aspects.

For the comparative study, independent data collectors continuously observed ICU nurses to ensure the accurate capture of all ABG sampling episodes of 20 cardiac ICU patients over 24 hours (10 connected to Proxima and 10 to a standard ABG sampling system). A significant difference in time to result using Proxima compared to a standard BGA system was observed, with Proxima saving an average 1.5 minutes. Proxima also required no time away from a patient's bed-space, whereas a standard system was 3 minutes on average - long enough for a patient to self-extubate or develop an acute physiological disturbance. Time to result using a standard ABG system could also be prolonged for a number of reasons, for example if there was no one available to watch the patient or there was a queue to use it.

As Proxima operates as a patient-dedicated closed system attached to a patient's arterial line, there is no risk of blood splash during sampling. Blood is drawn directly from the patient and over the Proxima sensor; following analysis, all blood is safely returned to the patient with zero blood loss. The study noted that in ABG sampling systems without a captive syringe, blood loss could total >60 mLs over 24 hours.

Kay Mitchell, Senior Research Manager, University Hospital Southampton, also presented the results from this research study at a recent Proxima user group meeting. This is available to view at www.spheremedical.com/working-proxima-kay-mitchell-video [2]. In addition to noting the significant time saved by Proxima, she also observed that the nurses involved in the study found the Proxima very easy to use.

Professor of Anaesthesia and Intensive Care Medicine, Mike Grocott, University of Southampton, also commented, "The recent time and motion study we conducted at University Hospital Southampton clearly highlighted the workflow benefits of using Proxima on critically ill, unstable patients."

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For further information on the Proxima bedside blood gas monitoring system, or to read the time and motion study poster, or view Kay Mitchell's video presentation discussing the research study, please visit www.spheremedical.com/working-proxima-kay-mitchell-video

References:

1. Mitchell K, Salmon K, Troughton G, Egbosimba D, Grocott MPW. *Time and motion study of Proxima™ arterial blood gas (ABG) sampling* . British Association of Critical Care Nurses annual conference, September 2016. (available to download at www.spheremedical.com/arterial-blood-gas-time-and-motion-study).
2. Mitchell K. *Working with the Proxima point-of-care ABG machine*. Proxima user group meeting, November 2016. (available to view at www.spheremedical.com/working-proxima-kay-mitchell-video).

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