

Anaesthetists' Survey Delivers Food for Thought

Creative Medical Research

A recent Europe-wide survey of Anaesthetists, delivered by UK medical device research firm Creative Medical Research, has revealed a range of issues affecting the profession in relation to existing and future technologies.

The 15 minute long survey of 104 anaesthetists from western, northern and southern Europe asked a number of pertinent questions concerning the nature of current technologies and those expected to come on stream in the near future with the answers providing a clear snapshot of priorities for medical device manufacturers.

The first question asked "In your view, what technologies in Anaesthesia are currently seeing the fastest growth, and why?"

Many themes emerged that are closely interlinked, with some mentioning specific types of devices and others mentioning methods with a wider range of potential applications. The feedback received can be summarised thus:

Cardiac output monitors were the most widely mentioned devices. Specifically, the hot topic for anaesthetists was the extensive recent growth in use of less invasive methods, which employ ultrasound as a measurement tool and so avoid the use of an arterial catheter.

Regional anaesthesia was top of mind for a large number, with developments in this area spontaneously noted by over a fifth of those interviewed. While general growth in the use of regional anaesthetic techniques was sometimes touched upon, the key hot topic was the rising use of ultrasound for nerve localisation.

Another significant trend observed was for depth of anaesthesia monitoring. Awareness in surgery is seen as the key concern for patients, and anaesthetists are keen to avoid under-dosing to prevent this. However, they are also mindful of giving higher doses than absolutely necessary due to the potential for post-op complications.

Airway technologies emerged as a key distinct area of focus within the top 5 overall trends. In particular, new developments in videolaryngoscopy allowing for enhanced visualisation of the glottic opening during intubation have been met with considerable excitement.

Anaesthetists were then invited to submit up to three areas in which device safety could be improved. Patient monitoring was the clear leader from responses garnered with airway management, general anaesthesia and peripheral nerve block proving to be three further priorities.

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When asked why they felt device safety needed improving in their three chosen areas anaesthetists provided a range of justifications. The area of patient monitoring uncovered concerns such as the high frequency of artefacts, false alarms, the need for more reliable non-invasive measurements and increased reliability in depth of anaesthesia monitoring.

To gain a more in-depth understanding of the issues surrounding non-invasive monitoring, Anaesthetists were also asked to explain where they felt further developments in non-invasive devices were most needed.

Several factors underline the demand for further development in Cardiac Output Monitoring, not least the growing number of high cardiac risk and elderly surgical patients requiring tighter levels of haemodynamic control.

In regard to depth of anaesthesia monitoring there is a clear demand for devices that are less prone to interference and enable anaesthetists to be more accurate. Specific issues relating to the growing use of TIVA (Total Intravenous Anaesthesia) were also expressed with the need for more reliable, 'real time' depth of anaesthesia.

A desire to make cerebral functioning more routine and a need for more understanding of how general anaesthetic drugs affect neurological function also registered highly.

When asked "What would be the main drivers for you to use wireless technologies?" the responses could be clearly defined as simplifying the transfer process, reducing clutter around the patient, enabling data capture for patients in remote locations and the mitigation of the risk of monitoring devices being pulled out or disconnected.

The follow up question concerned their views on which monitoring parameters they would most like to see develop wirelessly. Wireless SpO₂ monitoring was deemed the most desirable for three quarters of respondents. Wireless options for ECG and non-invasive blood pressure monitoring also featured for a significant number.

The final question "In your ideal world, what would wireless patient monitoring look like in the future?" elicited a number of constructive responses. The ideal system, it seems, would comprise of wireless, non-invasive probes on the patient reliably linked via wi-fi to display devices. Other clear 'visions' included portable 'iPad style' touch screen display devices and an 'online cloud' to which monitoring data could be uploaded.

Sarah Mackinnon, Anaesthesiology Expert at CMR explained: "This is certainly a very comprehensive example of Anaesthetist-focused market research and the answers we have received provide a lot of food for thought for medical device manufacturers when it comes to future developments and future proofing.

"The constructive nature of the respondents' input creates a very clear path forward and a vision of what anaesthesia will look like in years to come," added

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Sarah.

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