



THE BMJ AWARDS 2016

Anaesthesia

The teams nominated for this year's award have been enabling research as well as putting evidence into practice to improve quality, **Nigel Hawkes** reports

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South West Anaesthesia Research Matrix

"Anaesthetists think of research as dry and on the side, done at the lab bench by geniuses," says Gary Minto, consultant anaesthetist at Plymouth Hospitals NHS Trust. "We wanted to change that, so they see it as something everybody should be doing as part of their job of looking after patients in theatre."

But outside the highly academic stream provided by the National Institute for Health Research, there has historically been little opportunity for anaesthetists—or perioperative physicians, the term Minto prefers—to engage in research. Those at registrar level were concentrating on their careers, with short duration posts and a lack of credibility to lead a large project holding them back.

The solution was to set up a regional network to carry out research and audit across six centres in south west England—the South West Anaesthesia Research Matrix (SWARM). Over the past four years the network has run 10 high quality collaborative projects, held annual research training meetings, and widely presented and published its results. Results are published under the group name SWARM rather than as individual authors.

"We're still poor in the UK at collecting outcomes," says Minto. "Things like complication rates, patient experience, and finding out a year down the line if the patient is better off for the operation." He cites the example of a SWARM telephone follow-up survey of 159 women a week after caesarean section that found pain relief had been inadequate, with 64% of them buying additional over-the-counter painkillers. A randomised controlled trial has been launched to discover if brushing teeth before surgery reduces the chances of pneumonia afterwards.

The network relies on voluntary participation so costs very little, and the majority of local trainees have led or been involved in a project.

Comprehensive quality improvement in intensive care

Doctors often know what the evidence shows, but incorporating evidence into practice can be more hit and miss. "You can have the best will in the world but still fall short," says Malcolm Daniel, intensive care consultant at Glasgow Royal Infirmary.

The answer is to make quality improvement systematic, using formal disciplines common in many manufacturing processes but relatively new in medicine. Initially the Glasgow team targeted four projects: controlling sedation to the minimum needed; improving control of sepsis; mobilising patients as early as possible; and medicines reconciliation.

"It's common for all intensive care units to titrate sedation daily," says Daniel. "But we decided to do it right from the moment of admission. That's much more challenging because it means you're doing it not during the ward round in the morning but whenever the patient is admitted—even if they're admitted at 1.00 in the morning, at some time in the next four hours they'll have a sedation hold." (This involves interrupting sedation for a time to assess the patient's condition.)

When the programme started only 10% of patients had a sedation hold within four hours of admission. Now it is 100%. Improvements have also been made in the other three targets. "Almost more important is that everybody in the team has bought into the quality improvement approach," Daniel says. "That means that we can extend it over time to other targets. Outcomes are better—mortality and length of stay are down—and staff are noticing that it makes their working lives easier."

Improving tracheostomy care

Tracheostomy was once the preserve of ear, nose, and throat surgeons, but today around two thirds are introduced by anaesthetists and intensivists. The procedure does not always end well: "Everybody has a horror story," says Brendan

McGrath, consultant at University Hospital South Manchester. He began to think seriously about improving safety after a patient died. “I thought to myself afterwards: ‘that shouldn’t have happened.’”

Patients who need tracheostomies are usually very sick so deaths are not unexpected; nor can all be avoided. But the risks can be diminished by relatively small changes, which he summarises as “staff, equipment, and location.” Staff must be properly trained and have access to the right equipment fast in an emergency—“When things go wrong, they can go wrong very quickly”—and patients must be located in the right areas to get better care.

Best practice is enshrined in the Global Tracheostomy Collaborative (GTC), established in 2012. With funding from the Health Foundation, GTC principles were introduced into four Manchester hospitals in 2014-15. This produced substantial reductions in the severity of harm as well as shorter stays in intensive care units and hospital.

One of the changes was to conduct anaesthesia led ward rounds in which a team comprising specialist nurses, respiratory and head and neck clinicians, speech and language therapists, and physiotherapists visit patients who have had a tracheostomy. “We make decisions together, we make clear plans, we do a bit of education and talk to patients and their families. As well as reducing the harm, which was our primary objective, we can also reduce length of stay and improve patient and staff satisfaction.”

Day case shoulder surgery initiative

Shoulder surgery can be extremely painful. Patients treated as day cases are given highly effective regional anaesthesia and

sent home with painkillers including opioids to manage the pain when the nerve block given at the time of the operation wears off.

“Many patients find this isn’t enough,” says Mritunjay Kumar Varma, consultant anaesthetist at Newcastle upon Tyne Hospitals NHS Trust. A telephone follow-up of 92 patients who had had major shoulder surgery found that half of them experienced severe pain when the block wore off in the early hours of the next morning.

To bridge the gap between the block wearing off and the pain diminishing naturally—roughly 12 to 72 hours after the operation—the decision was made to send patients home with catheters in their necks fitted with a pump to deliver nerve block at a rate preset at the time of the operation.

“It works well, and the patients are very happy with it,” says Varma. “There were no readmissions or catheter related complications. We collected pain scores daily and they were always below three” (on a scale running from 0 to 10). “Suitable patients are given the choice of whether to take this option. If they say yes they come to me three to four weeks before the operation and I go through the procedure and give them a leaflet. They can still change their minds—it’s their freedom to decide.”

An extra benefit of setting up a “block room” to place the catheters in advance of the operation has been to improve throughput in the operating theatre so that an extra patient can be fitted into each session.

The awards ceremony takes place on 5 May at the Park Plaza Hotel, Westminster. To find out more go to thebmjawards.com.

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