Anaesthesia and perioperative medicine team of the year

Shortlisted teams in this category are finding innovative ways to drive perioperative safety and efficiency, reports **Jacqui Wise**

REDUCING CANCELLATIONS

As a result of the project theatre session use rose from an average of 85% to 90%

Having an operation cancelled on the day is annoying and inconvenient for the patient and means that theatre time is not fully used.

Rebecca Barker, consultant anaesthetist and pre-op lead at Sherwood Forest Hospitals NHS Foundation Trust in Nottingham, analysed emails detailing on-the-day cancellations and thought they could do better.

"There were some common problems that we thought could be avoided—if patients had been unwell for a few days before the operation, for example, or if they had forgotten to stop taking their warfarin," she says.

The team remedied this by calling every patient five days before their scheduled operation to ask about their general health, check if they still needed the operation, and remind them of starvation and drug instructions. If a patient's operation had to be cancelled for any reason, then there was still time for the theatre slot to be backfilled from the waiting list.

As a result of the project, the on-the-day cancellation rate went down and session use in theatres rose from an average of 85% to 90%, leading to a projected saving of £250 000 over a year.

"Another advantage of the project was being able to identify near misses—if swabs had not been done, for example, or if something was missing on the paperwork," Barker says.

PERIOPERATIVE PHARMACY

Patients undergoing elective surgery often have existing comorbidities and are taking a number of drugs. The prescribing of routine drugs is often performed out of hours by on-call teams when the patient arrives on the ward post-surgery.

Wirral University Teaching NHS Hospitals Trust set up a dedicated pharmacy prescribing team to work alongside nursing staff, surgeons, and anaesthetists in the surgical elective admissions lounge. Tara Molloy, highly specialised pharmacist independent prescriber and team leader, says: "Previously, it was taking an average of 36 hours from drugs reconciliation to a proper prescribed drug chart. Now we can get prescriptions generated within 43 minutes so a patient doesn't miss any of their critical drugs."

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medicines, as well as those from a tertiary centre. It checks whether the patient is taking the drugs appropriately and if they are going to interact with the anaesthetic and are appropriate to take in the period after surgery.

They also assess whether a patient's own drugs can be used during the hospital stay, which has led to cost savings. The scheme also frees up beds as patients can be discharged earlier as they are not waiting for drugs to be dispensed.

ARTERIAL LINE SAFETY

Drugs must never be given into the arterial line. If it happens it can damage the blood supply to the hand and lead to ischaemia, tissue necrosis, and sometimes amputation.

Around 10 years ago a team from the Queen Elizabeth Hospital in King's Lynn designed a non-injectable arterial connecter which ensures

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that clinical staff can always take a blood sample but never inject into an artery (www.kipsuk.com). The connecter has been developed through the NHS Innovator Accelerator programme and hospitals are fully reimbursed for its use.

"It has been a long, slow process but it is now used in around a third of NHS hospitals," says Peter Young, consultant in intensive care medicine. "We believe it is the most evidenced widget ever to come into practice," he adds.

The team has shown that the connecter prevents bacterial contamination of the arterial line. Currently most UK hospitals change their arterial line transducer sets every three days, although a minority follow European every seven days guidance. The team demonstrated that using the connecter meant there was zero bacterial colonisation of the transducer set even at seven days. Extending the life of the transducer sets saved the hospital £10 000 a year and would save an estimated £10m for the NHS annually in equipment terms alone.

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FASCIA ILIACA BLOCK PROJECT

National guidelines recommend fascia iliaca blocks (FIBs) for patients with neck of femur fractures in order to minimise the need for opioids and non-steroidal anti-inflammatory drugs. The national Hip Fracture Database showed that the Queen Alexandra Hospital in Portsmouth was in the bottom half of the overall national rankings for performing these blocks.

The main problems identified were the time needed and a lack of trained staff, says Michael Apostolide, core surgical fellow in trauma and orthopaedics. A collaboration between the emergency and trauma and orthopaedic departments resulted in the development of a specially designed FIB trolley for use in the emergency department and a FIB bag for use on the wards. These contain all the equipment needed to perform a block including local

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anaesthetic, syringes, needles, and packs.

"Before, the average time taken to perform a block was 30 to 40 minutes because of the time taken to find all the equipment—now it's less than 10 minutes," says Apostolide. The bag and trolley also contain labels and guidelines so the process has helped to improve safety. The second aspect of the project was to organise regular training for junior doctors and nurse practitioners.

As a result of the project, the percentage of patients receiving a FIB has increased fourfold to 82%—30% higher than the national average.

PERIOPERATIVE TRAUMA CARE

The percentage of patients with no pain or mild pain after 24 hours went up from 78% to 94%

As the elderly population increases, so too do the number of patients presenting with hip fractures and who typically have multiple comorbidities. Disappointing results in the National Hip Fracture audit led the team at Sandwell and West Birmingham NHS Trust to start a seven day, consultant led "perioperative trauma care bundle" to improve outcomes in these patients.

Ahmed Gilani, specialty trainee in anaesthetics, says elderly patients with a neck of femur fracture are first seen by a dedicated perioperative anaesthetist who oversees the needs of each patient. Anaesthetic practice has been standardised to emphasise spinal anaesthesia with FIBs and avoid agents that cause delirium. All five trauma care practitioners have been trained to perform FIBs and a "Stop before you block" system was instituted to reduce the number of wrong sided nerve blocks.

As a result of the bundle of initiatives, the uptake of patients having FIBs increased from 28% in 2014 to 96% in 2018. The percentage of patients with no pain or mild pain between recovery and 24 hours postoperatively went up from 78% to 94%.

"We have managed to reduce postoperative delirium rates from 67% to 34% and reduced the length of stay in hospital from 19 to 15 days," says Gilani. "We also involve the family or carers early on to discuss risk, treatment, and resuscitative status."

POST AMPUTATION PAIN MANAGEMENT

Pain management after amputation is extremely challenging and is highly correlated with chronic pain problems, says Rita Singh, consultant anaesthetist at the Freeman Hospital in Newcastle. It is further complicated because patients tend to be elderly with significant comorbidities, such as diabetes or renal problems, and as a result are taking many

"Keeping the perineural catheters for seven days helps to avoid postoperative delirium"

drugs. The Acute Pain Service at the hospital was regularly requested to review patients with post amputation pain and felt that management could be improved.

In 2016 a new approach was initiated in which, following a lower limb amputation, patients were given a low dose local anaesthetic infusion for seven days through a perineural catheter. As a result of the initiative, mean movement pain scores over 72 hours dropped to 1.2 out of 10, compared with 4.48 out of 10 in the period 2014-2016. The mean length of stay decreased from 38 days to 28 days for above the knee amputation, and from 39 days to 30 days for below the knee amputation.

Singh says, "Keeping the perineural catheters for seven days helps the patients avoid chronic pain in the long term and avoids the need for opioids. It also helps to avoid postoperative delirium which can be a problem in this age group."

Feedback has been positive with ward nurses noticing that patients have improved mobility, more energy, and are more willing to partake in rehabilitation and limb fitting.