Enhanced Care in York.

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The Perioperative Medicine Service at York was set up in 2015 and comprises anaesthetists, Specialist Nurses, ward nurses and the wider multidisciplinary team. It primarily focuses on improving outcomes for patients undergoing major elective colorectal surgery. The service has introduced pathways and treatment algorithms for the immediate postoperative management of these major surgical patients on a pre-existing Enhanced Care Unit- the ‘Nurse Enhanced Unit’. Like many hospitals around the country York was struggling with day-of-surgery cancellations due to lack of Critical Care capacity. Our management plans and pathways were designed to move patients out of Critical Care and onto the 1:4 nursed, Nurse Enhanced Unit whilst still providing them with optimal postoperative care with regards haemodynamic and medical management.

The pathways essentially enabled postoperative goal directed fluid and vasopressor therapy in an enhanced ward setting, whilst ensuring appropriate escalation of the deteriorating patient when necessary. We introduced arterial line monitoring, cardiac output monitors, vasopressor infusions and blood gas analysis to the ward staff in an area previously naive to these interventions. Details of the pathways, algorithms and the necessary training that went with them can be found on our website: [www.yorkperioperativemedicine.nhs.uk](http://www.yorkperioperativemedicine.nhs.uk)

The website also contains information about how and why we set the service up as well as information for patients and professionals.

The main challenges we identified and sought to address were:

* Limited HDU access/high critical care occupancy rates/on day cancellations
* Delayed discharges and long length of stay
* Potential harm to patients with excessive fluid therapy in the perioperative period
* Junior staff managing patients at their most vulnerable point in the surgical journey and subsequent variation in post-operative management
* Failure to rescue deteriorating patients
* Postoperative functional decline/ increased dependency

We aimed to:

* Reduce complication rates,
* Improve the utilisation of the resources already available to us including using the limited critical care resources for the acutely unwell patients.
* Prevent cancellations of surgery due to a lack of critical care beds.
* Reduce variation in practice.
* Provide goal directed fluid therapy and cardiac output monitoring to patients in the perioperative period.

We collected a lot of data to explore the impact of our service on patient outcomes.

Data were compared to a similar cohort who underwent surgery prior to introduction of this service. We have seen a steady reduction in length of stay, Critical Care utilisation and complication rates. Control Group data (Control, n=202) and data from the 3rd year following introduction of the Perioperative Medicine Service (POM3, n=106).

* Length of hospital stay (mean)- Control 12.2 days; POM3 7.3 days
* Length of hospital stay (median)- Control 8 (6-12); POM3 5 (5-9)
* Reduced variation in length of stay e.g. interquartile ranges of length of stay: control group: 6-12 days, year 1: 5-8days, year 2: 5-8.5 days, year 3: 4-8 days
* Major Complications Control 22%, POM3 16.2%
* Minor Complications Control 39%, POM3 19.7%
* Post op pneumonia Control 6.1%; POM3 1.6%
* HDU admissions for respiratory failure Control 4.5% to POM3 0.5%

Feedback from nursing staff and patients suggest that the introduction of the Perioperative Medicine Service has improved patient care throughout their surgical journey and recovery through more thorough and consistent reviews by senior Anaesthetists who rotate through a ‘POM Week’. Furthermore, when interviewed, ward nursing staff report feeling empowered by the protocols. They feel that they allow them to deal with post-operative hypotension and hypovolaemia autonomously and the incorporation of escalation plans into the protocols has facilitated swift access to Critical Care for the very few patients who have required it.

Some of the pathways necessitated the introduction of arterial lines and vasopressors for the first time on the Enhanced Care Unit and the Perioperative Medicine Team was responsible for the training and assessment of competency for all the nursing staff across the Post Anaesthetic Care Unit and the Enhanced Care Unit. The training of staff was/is incredibly time consuming and is a challenge for the POM Specialist Nurses to keep a wide team up to date. To address this, we are developing an e-learning package, which will allow nurses to update their knowledge on an annual basis.

We now have an FY1 doctor attached to the team on a 6-week rotation to gain experience in the perioperative management of patients presenting for major surgery.

Funding for the project initially came from a £75000 Health Foundation Innovation for Improvement Grant in July 2015. The results of the first year of activity of the POM Service allowed us to successfully bid for ongoing funding from our Trust to embed and expand the service. A second business case is in place to expand the existing service and open a second enhanced care area for patients undergoing major vascular surgery.