PQIP Perioperative Quality Improvement Programme

NHS York Teaching Hospital NHS Foundation Trust

Perioperative Medicine at York Hospital

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Periop Medicine – Why bother?

Increasingly complex surgical procedures and population

Critical Care capacity/Cancellations

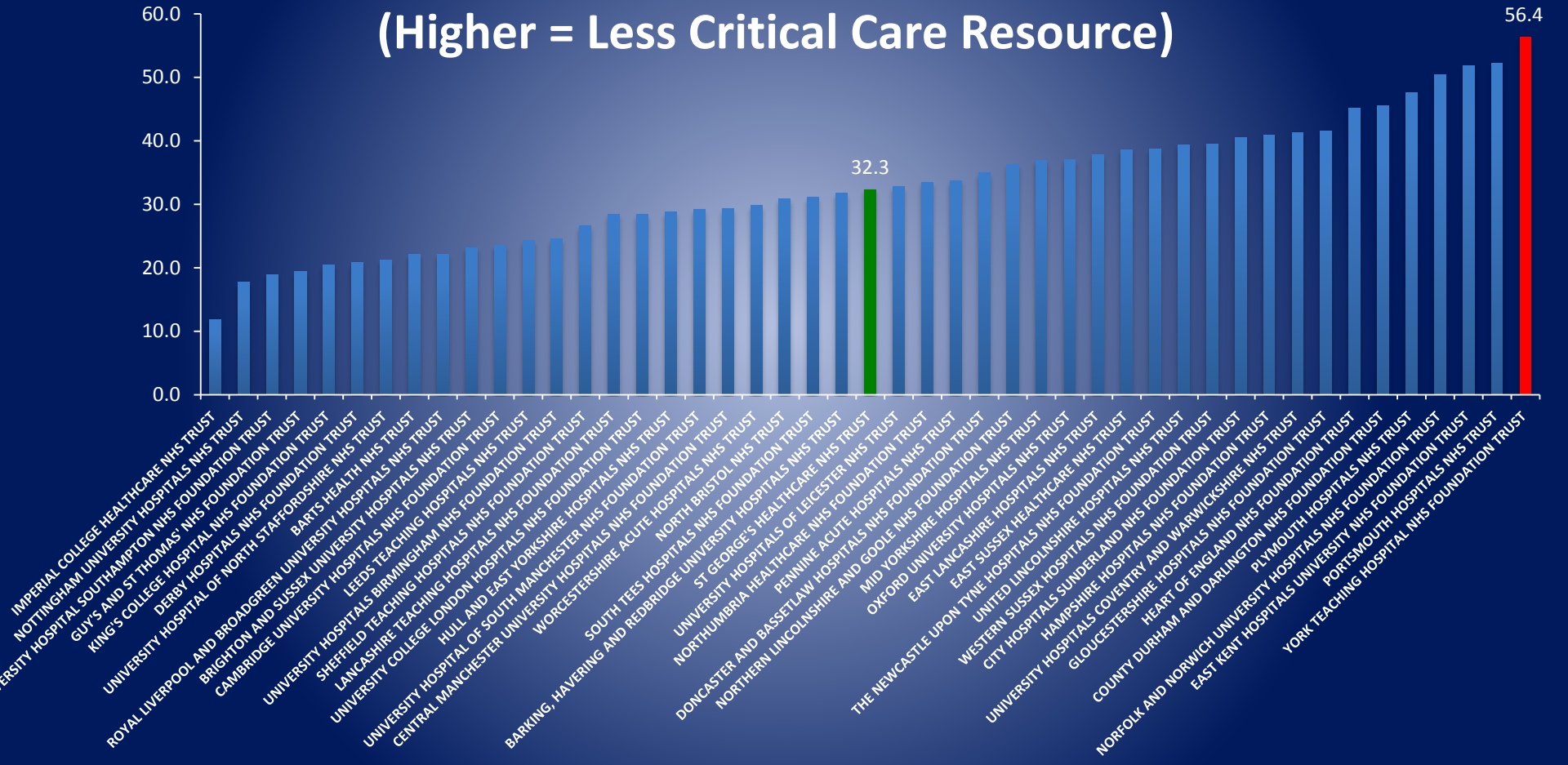
Variation in postoperative management

‘Failure to rescue’

Complications and prolonged hospital stay

www.england.nhs.uk/statistics

Acute Hospital Beds Per Adult General Critical Care Bed
(Higher = Less Critical Care Resource)



Aims of a Perioperative Medicine Service

- Reduce complication rates
- Improve resource utilisation
- Ensure co-ordinated care throughout surgical journey
  - Reduce variation in practice...

Avoiding common problems associated with intravenous fluid therapy

Andrew K Hilton, Vincent A Pellegrino and Carlos D Scheinkestel

MJA 2008; 189: 509–513

Waterlogged in hospital

TO THE EDITOR: I am an 81-year-old retired medical practitioner; in 2006, I underwent resection of the sigmoid colon. At the time of surgery, before I used the bowel flushing preparation, my weight on my bathroom scales was 72.5 kg. After I used the flushing preparation, on the morning of the operation, my weight on the same scales was 70.5 kg and, on my return home on Day 8 after the operation, it was 81 kg.

About Day 4 of my hospital stay, my legs, scrotum and chest became oedematous. From my weight at home on Day 8, the extent of this oedema was about 10 kg, equivalent to about 10 L. While in hospital, I received a continuous saline infusion. When I asked for an explanation of my waterlogged condition, I was told that the drip interacted with the body's fluid balance, so that a balance should have been maintained.

I am comparatively well, but I am concerned that when the oedema first appeared my medical attendants accepted it as a usual occurrence. Despite it causing considerable discomfort and mild breathlessness, they saw no need to investigate further. A recently graduated surgeon confirmed that, in the hospital where he worked, he has seen similiar oedema, which he maintains was necessary to sustain blood pressure and life.

Does my case represent a current clinical problem that is yet to be aired?

Retired Medical Practitioner
(name and address supplied)

- Improve preassessment
- (Standardise intra-operative care)
- Protocolise blood pressure and fluid management in the immediate post-op period
  - Nurse delivered algorithms
- Perioperative nurse specialist
- Daily anaesthetic-led ward rounds on pre-existing Surgical Level 1 Unit

Protocol Assignment

Patients assigned to one of two protocols in perioperative clinic

Highest risk
Enhanced Pathway
10% of patients
9.1% in-hospital mortality
Critical Care post-op

Low risk
Standard Pathway
70% of patients
~1% in-hospital mortality

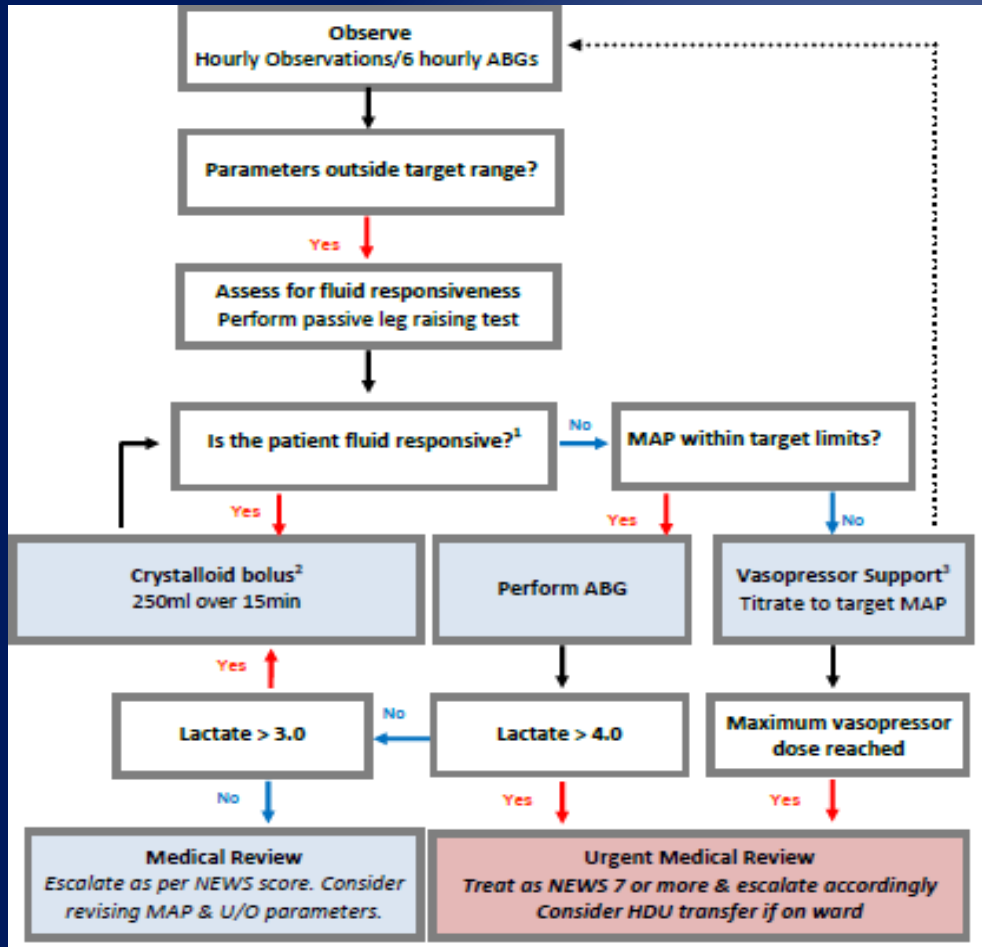
Intermediate risk
Enhanced Pathway
20% of patients
3.1% in-hospital mortality

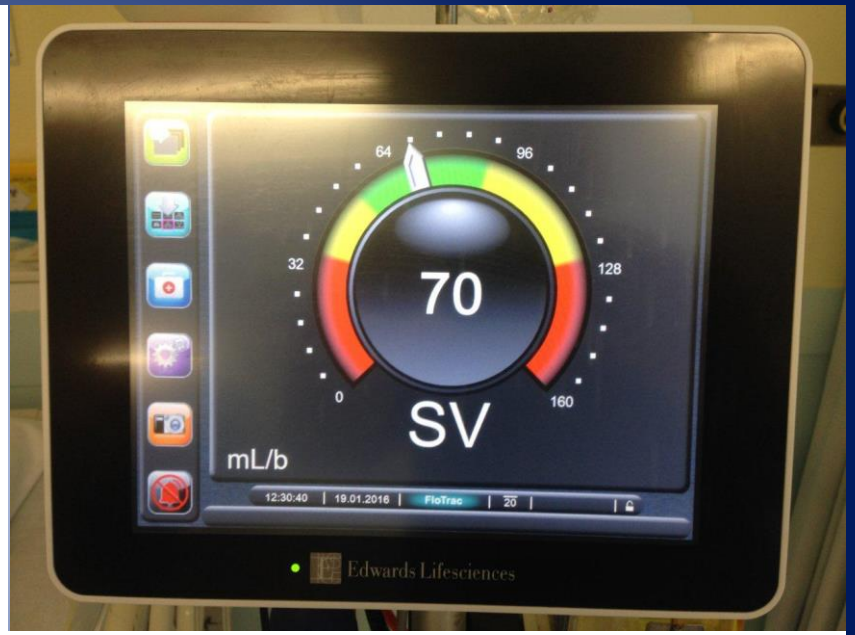


Protocolised Care



Permissions obtained

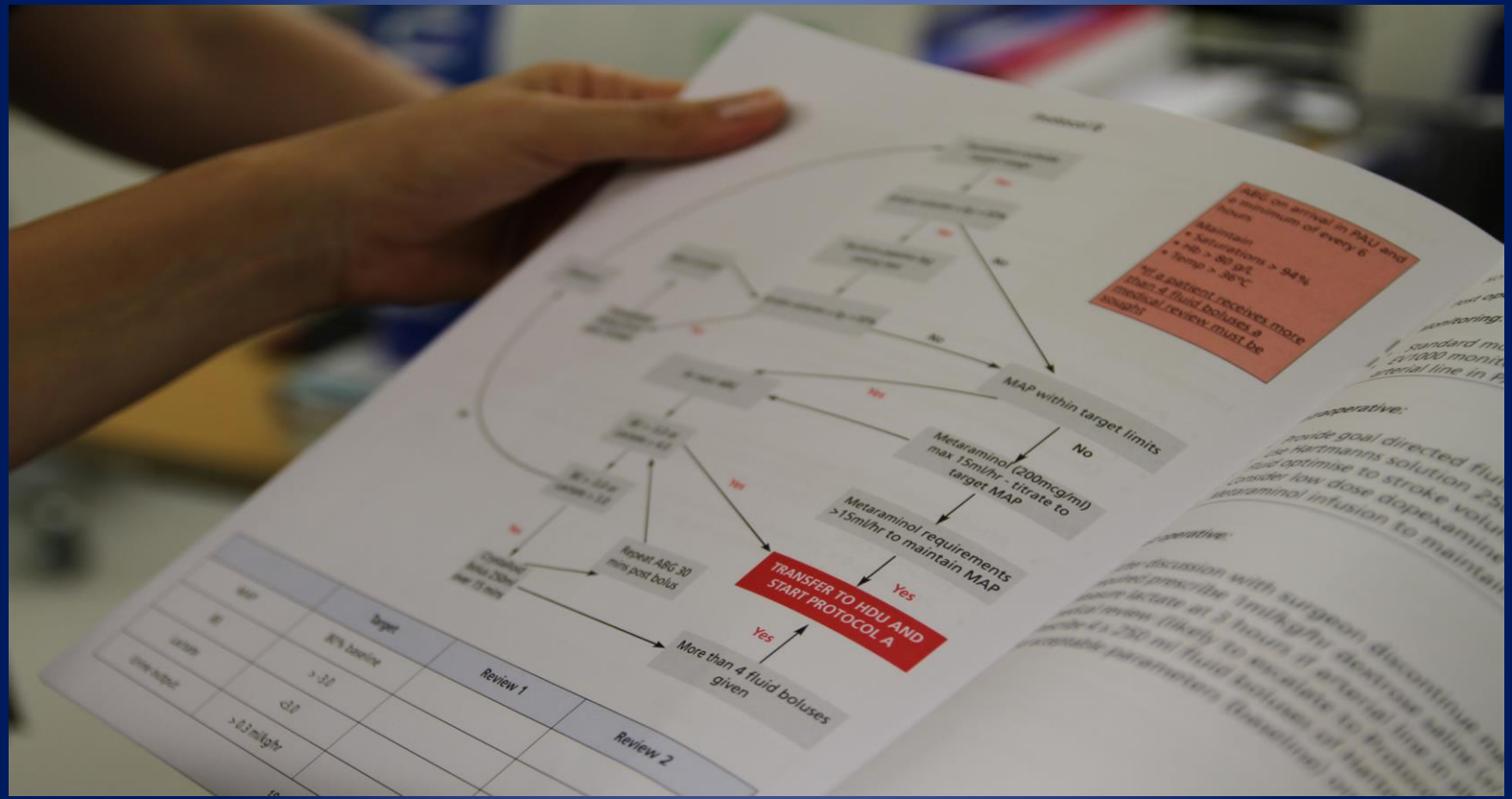




Semi-recumbent position

Passive leg raising

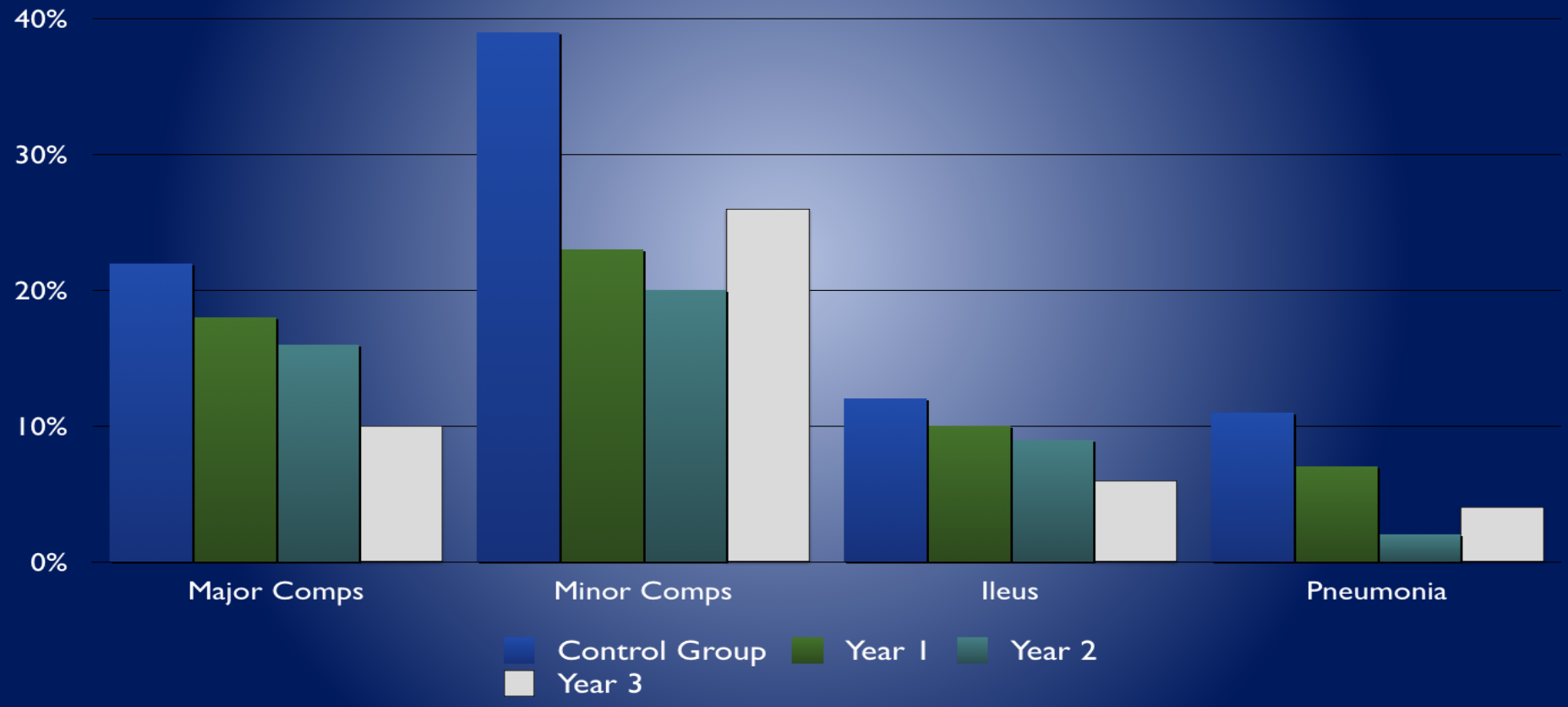
QI Outcomes


MAP within target limits
No
Metaraminol (200mcg/ml) max 15ml/hr - titrate to target MAP
Metaraminol requirements >15ml/hr to maintain MAP
Yes
TRANSFER TO HDU AND START PROTOCOL A
Repeat ARC 30 mins post bolus
More than 4 fluid boluses given
Yes
Review 1
Review 2

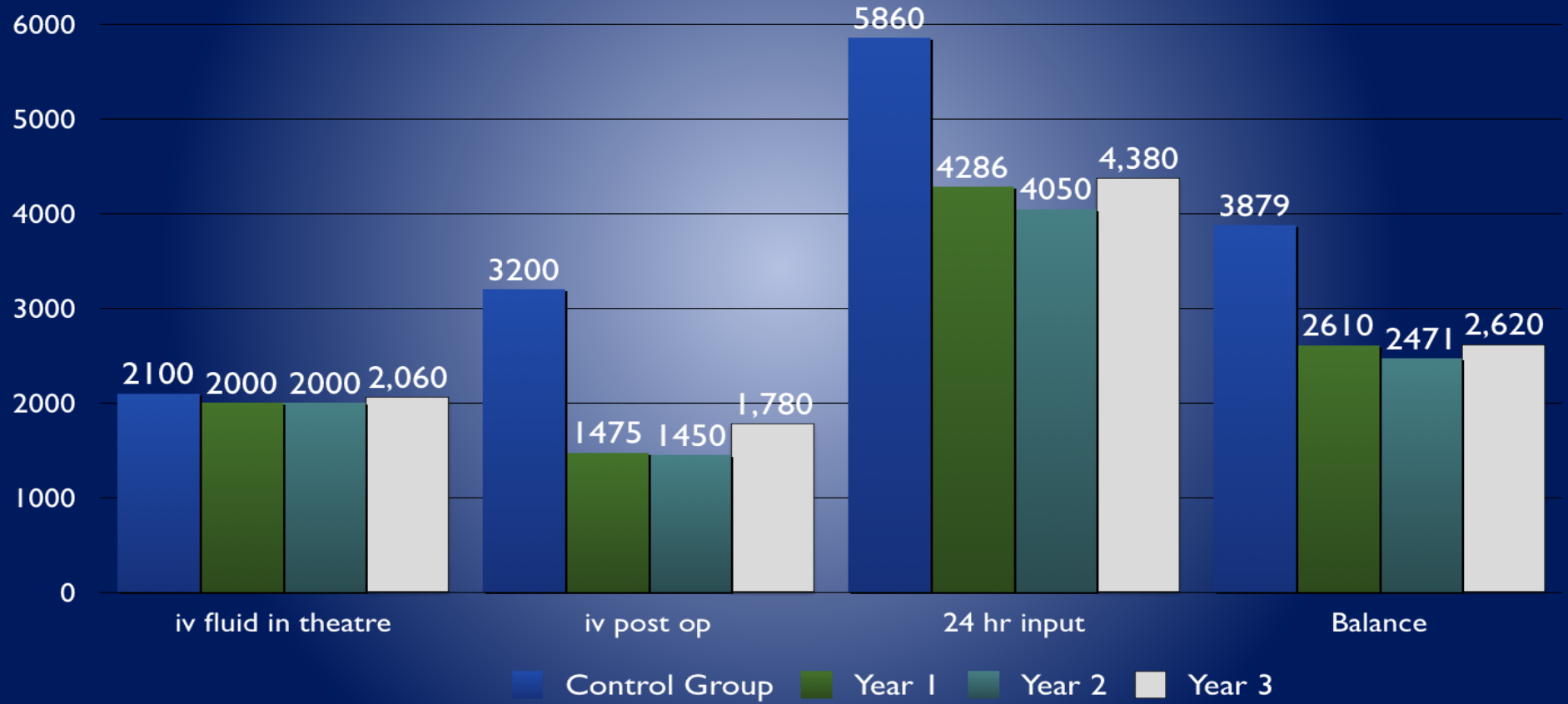
	Control Group n=202	Year 1 (Oct ‘15-Sept ‘16) n=107	Year 2 (Oct ‘16-Sept ‘17) N=117	Year 3 (Oct ‘17-Sept ‘18) n=106
Mean Age (years)	71	71	72	70
Laparoscopic	21%	31%	25%	43%
Mean Anaerobic Threshold (ml/kg/min)	10.8	11.3	10.7	10.8
Mean VE/VCO_2	33.8	34.8	35.3	34.7
Lee’s RCRI Class II III IV V	 75% 22% 3% 0%	 74% 18% 8% 0%	 76% 21% 2% 1%	 74% 22% 4% 0%

	Control Group n=202	Year 1 (Oct ‘15-Sept ‘16) n=107	Year 2 (Oct ‘16-Sept ‘17) n=117	Year 3 (Oct ‘17-Sept ‘18) n=106
Length of Stay (mean, SD)	12.2 days (±18.6)	9.4 days (±13.6)	9.3 days (±9.2)	7.3 days (±6.7)
Length of Stay (median, IQR)	8 (6–12)	7 (5–8)	7 (5–8.5)	6 (4-8)
Prolonged LoS (>12 days)	(25%)	16%	16%	9%
In-Hospital Deaths	7 (3.5%)	3 (2.8%)	2 (1.8%)	0

Complications



Intravenous Fluids



Lessons Learnt

- High-risk patients can be successfully cared for in the ward environment (rather than Critical Care)
- Ward care is not always of an optimal standard
  - Attention to detail
- ‘Critical Care style’ reviews for all are beneficial
- Perioperative Nurse Specialist key link

www.yorkperioperativemedicine.nhs.uk