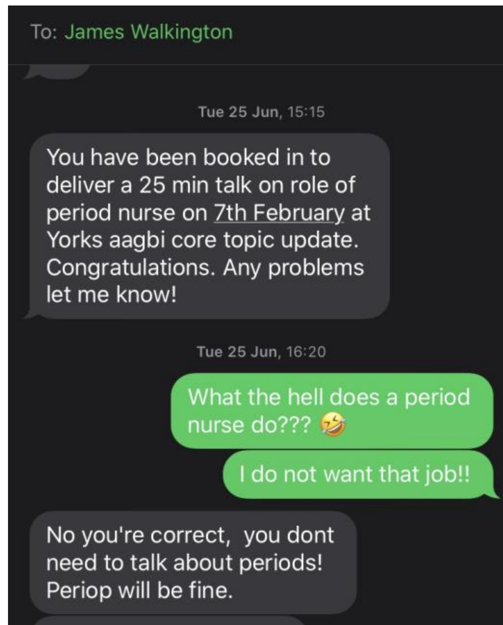
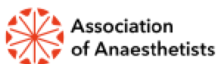
The Role of the Perioperative Nurse Specialist.

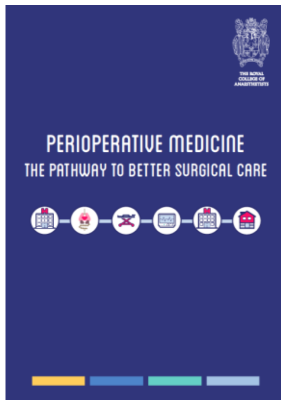
Zoë Murphy



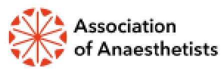


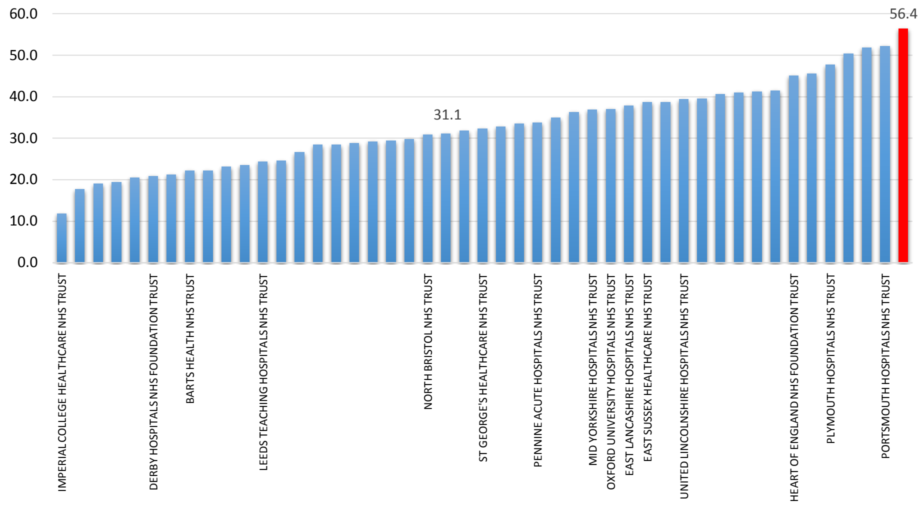
Background

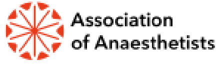
York Perioperative Medicine Service



Targeted major colorectal group
Age > 50







www.england.nhs.uk/statistics

Level 1 Care

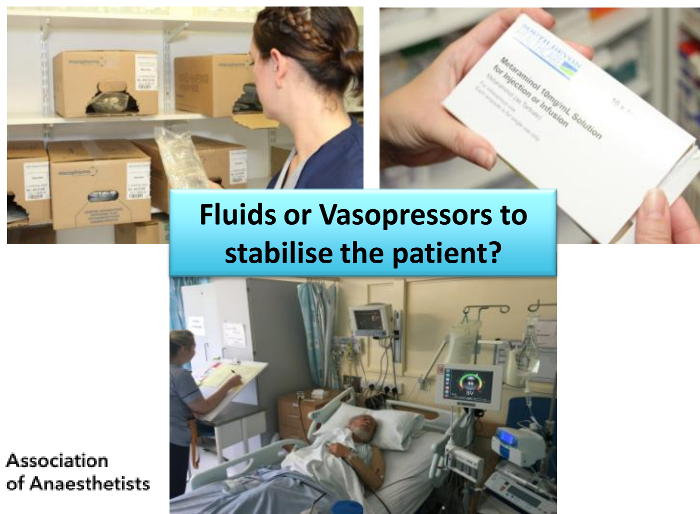
Association
of Anaesthetists

Level 1 Unit

What does it look like?

- Two 4 bedded bays located on the General Surgical ward
- Nursing ratio of 1:4
- Monitoring at most bedsides
- Intended to provide enhanced care to elective surgical patients
- ABG analyser on the ward
- Improves patient flow

Haemodynamic Optimisation Protocols



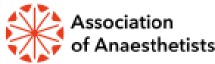
Risk Stratification

Post- Operative Protocols

Enhanced Pathway
- Highest risk
- 9.1% in-hospital mortality
- HDU

Enhanced Pathway
- Intermediate
- 3.1% in-hospital mortality
- Nurse NEU

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



York Teaching Hospital NHS
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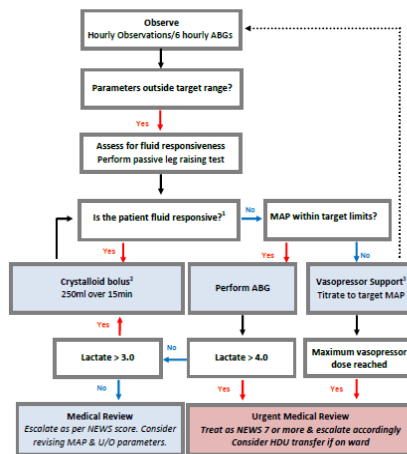
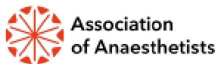
Enhanced Pathway



Semi-recumbent position

Passive leg raising

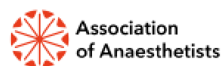


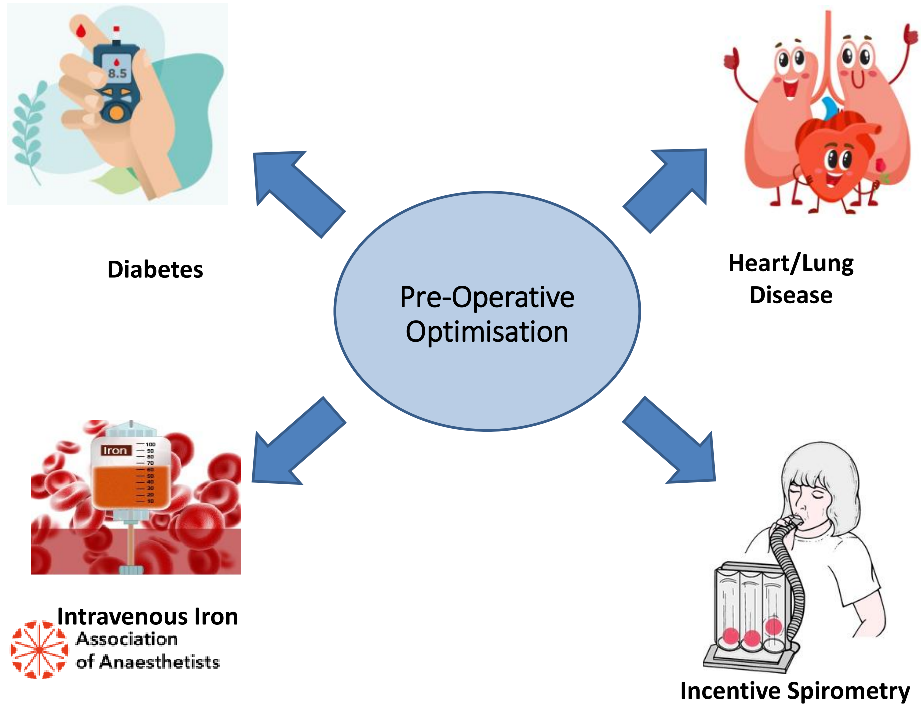
Pre-operative Input

Pre-operative

Pre op assessment clinic

- Support through their shared decision making process
- Stratification of patients according to risk
- Recruitment to perioperative research studies
- Review & interpret bloods from clinic
- Inpatient referrals to optimise patients for expedited surgery





Incentive Spirometry

	Year 1 n=132 patients	Year 2 n=182 patients
Postoperative pneumonia	**8 (6.1%)**	**3 (1.6%)**
Day 5 pulmonary POMS	**17 (12.9%)**	**18 (9.9%)**
HDU admission due to respiratory failure	**6 (4.5%)**	**1 (0.5%)**

	Year 1 No IS	Year 2 IS
Laparoscopic	2.3%	2.3%
Open	8.0%	1.5%

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H.A.P.P.Y Pathway

Haemodynamic optimisation And Perioperative Protocols at York hospital

Protocol ID	
CPET Date	
Surgical Consultant	
Planned Operation	
Date of Surgery	
Anaesthetist/Periop Consultant	

Preoperative comorbidities

Myocardial infarction	☐	Angina	☐	CABG	☐	Hypertension	☐
Renal insufficiency	☐	COPD	☐	Asthma	☐	Valvular disease	☐

Any other relevant conditions:

Cardiac risk factors

High Risk Surgery	☐	Ischaemic heart disease	☐	Score: 0 = 0.4-0.5%
CVA	☐	Heart Failure	☐	1 = 0.9-1.3% 2 = 4-7%
Diabetes	☐	Renal insufficiency (>170)	☐	>3 = 9-11%

Preoperative medications

Beta blockers	☐	Calcium channel antagonists	☐	Other anti-arrhythmic	☐	Digoxin	☐
ACE inhibitors	☐	Statin	☐	Clopidogrel	☐	Diuretics	☐
ATII blocker	☐	Aspirin	☐	Oral Hypoglycaemics	☐	Insulin	☐

Blood results

	Date:	Date:	Date:	
Haemoglobin (g/L)				For preoperative iron infusion (Hb<130g/l):Y/N
Ferritin ug/L				
Creatinine umol/L				Stable/worsening/unknown Renal Referral Y/N
eGFR mL/min/1.72m²				
HbA1C mmol/L				
CRP				

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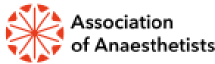
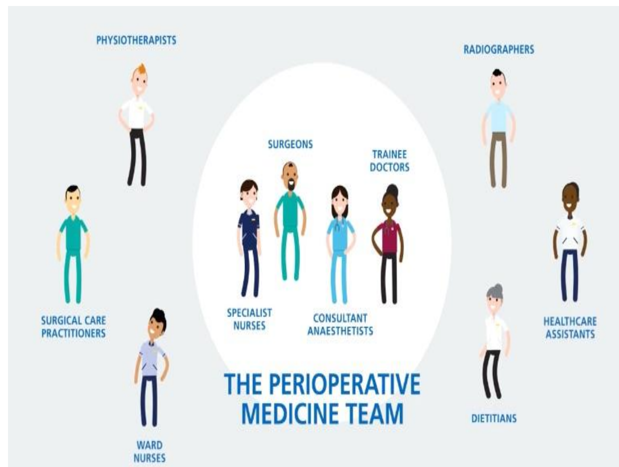
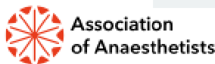


Communication





Intra-operative

Intraoperative

No Perioperative Nurse input required

- We have reduced the number of anaesthetists who are gassing the major cases to reduce variation
- I may get informed of a surgical complication/change in the patient condition
- Some of our research studies call for us to go to theatre

Surgical APGAR

Points	0	1	2	3	4
EBL	>1000	601-1000	101-600	≤100	
Lowest MAP	<40	40-54	55-69	≥70	
Lowest HR	>85	76-85	66-75	56-65	≤55

0-4 points = very high risk 14% mortality, 75% major complications, upgrade to enhanced pathway

5-6= high risk, 4% mortality, consider upgrading to enhanced pathway

7-8 = moderate risk, 1% mortality

9-10 Low risk 0% mortality

Association of Anaesthetists

Post-operative

Association of Anaesthetists

Post-operative

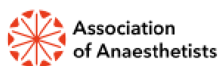
Day 0- Day 1

- Review patients in PACU
- Reassess for appropriate placement and protocol management
- Liaise with Matrons and managers to ensure safe staffing levels
- Work closely with other teams such as Acute Pain and Diabetes
- Oversight

Post-operative

Daily Consultant led ward rounds

- Critical Care style ward rounds for all patients in level 1 unit
- Monitoring of vital signs and pathology results
- Assessing deteriorating patients
- Arranging investigations as required



Ward round

- Usually consist of a consultant, a senior trainee, an FY1 and one or two nurses
- They run best when defined roles are allocated
- Either have a nurse from the ward with us or make a point of handing over at the end

Documentation

- A-E assessment done on every patient
- SBAR
- Checklist to reduce variation and aid memory
- Perioperative Medicine headed paper

POST- OP REVIEW SHEET

Periop Consultant	Procedure	Days post-op	Location	Periop Protocol
				ENHANCED/STANDARD

Operation Details / Surgical Plan

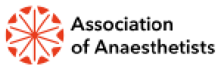
NEWS	
Time	
RR	
$SATS/O_2$	
Temp	
BP	
HR	
Pain	

Relevant Bloods		
Date:		

Clinical Examination/Plan

CHECKLIST	
Protocol Review	
Medication review	
Drug Chart	
Antibiotic Review	
Analgesia	
Thromboprophylaxis	
Oxygen	
ERAS	
Drinking	
Eating	
Mobilising	
Sleeping	
General Care	
Bowels	
Fluid Balance	
Glycaemic control	
Indwelling devices	
Teeth brushing	
Post op confusion	
Incentive Spirometry	
MDT Involvement/Referrals	

Signed: Date/Time:



Results

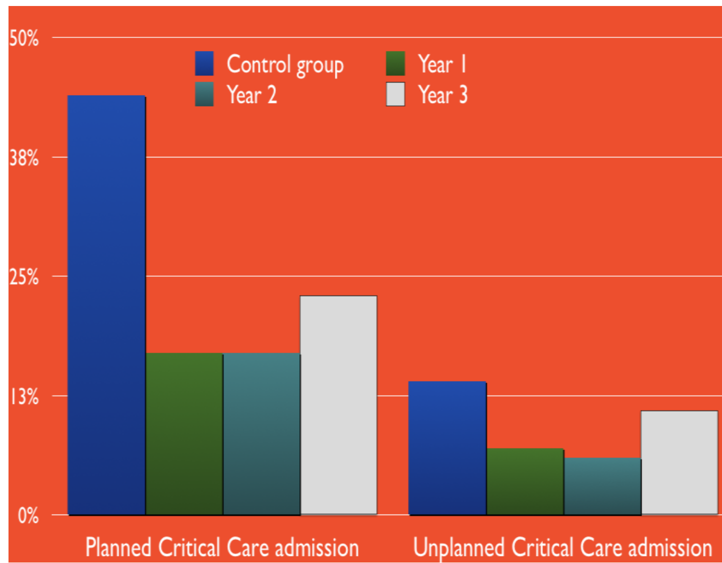
	Control Group n=202	Year 1 (Oct '15-Sept '16) n=107	Year 2 (Oct '16-Sept '17) N=117	Year 3 (Oct '17-Sept '18) n=106
Mean Age (years)	71	71	72	70
Laparoscopic	21%	31%	25%	43%
Mean Anaerobic Threshold (ml/kg/min)	10.8	11.3	10.7	10.8
Mean VE/VCO_2	33.8	34.8	35.3	34.7
Lee's RCRI Class II III IV V	 75% 22%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

RCRI, Revised Cardiac Risk Index; VE/VCO_2, minute ventilation/carbon dioxide production

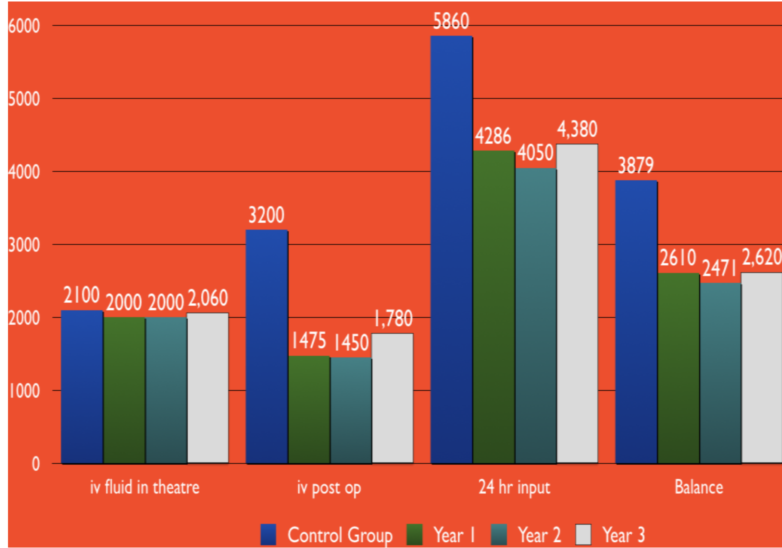
	Control Group n=202	Year 1 (Oct '15-Sept '16) n=107	Year 2 (Oct '16-Sept '17) n=117	Year 3 (Oct '17-Sept '18) n=106
Length of Stay (mean, SD)	12.2 days (±18.6)	9.4 days (±13.6)	9.3 days (±9.2)	7.3 days (±6.7)
Length of Stay (median, IQR)	8 (6–12)	7 (5–8)	7 (5–8.5)	6 (4-8)
Prolonged LoS (>12 days)	25%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

LoS, length of stay

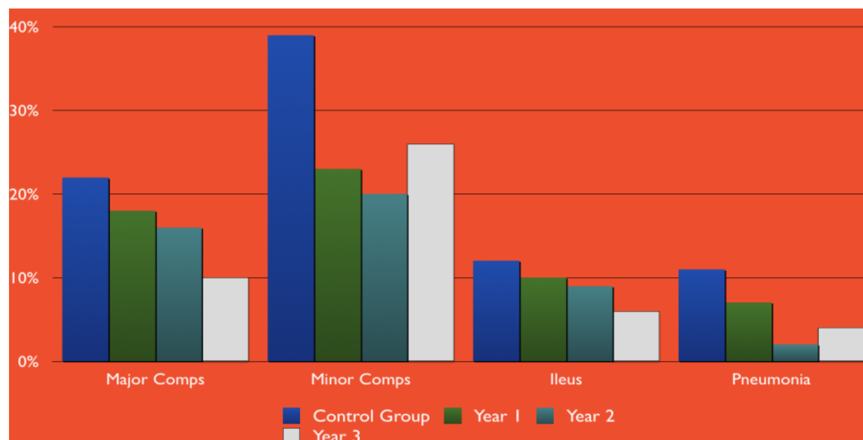
Resource Utilisation



Intravenous Fluids



Complications



Other duties

Training

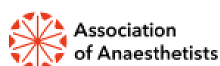
Nursing staff are given the following training

- Haemodynamic theory
- Passive leg raising
- Care of arterial lines
- Basic ABG interpretation
- Use of cardiac output monitoring

Operational

To establish a service we have had to engage with the trust on:

- Protected Nursing numbers
- Mixed sexes policy
- Business case for increased bedside monitoring
- Applications for grants and trust funding
- Design & review of all documents
- Engaging with junior doctors & med students
- Audit & Data collection for QI
- Hosting visits from other trusts



Website Development

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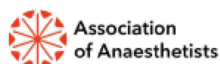

The future

Periop is an evolving practice

- New specialties
- Pre op clinics
- Independent practice
- E learning courses
- More engagement with primary care

Summary

Periop is a varied and very fluid role:

- Communication is key
- There is a lot of data to keep on top of
- Efficient and effective use of resources
- Training and knowledge sharing