A Perioperative Physician's Perspective

SAAPM

25th October 2016

“Avoid hypoxia,
Avoid hypotension
Consider a spinal!”

What is a Perioperative Physician

- A physician who addresses the medical care of the surgical patient and focuses on the patient's status before, during and after the actual procedure

What do I do?

- Two clinics a week
  - Referrals mainly from surgeons
  - Occasionally from anaesthetists
  - Reasons for referral:
    - Risk
    - Optimisation
    - Others (eg for symptoms that need sorting out)
- Ward consults, assisted by one registrar
  - Preop risk and optimisation
  - Post op medical complications
- Develop relationships
- Teach
- I am a gatherer of information and put the “whole patient” together
- I am a patient advocate

Relevance of a Perioperative Physician

- It has been shown in 1954 that:
  - Up to 80% of perioperative deaths on the surgical service were attributable to underlying medical conditions
  - 20% of deaths are due to surgery or anaesthesia
- Since then it has been repeatedly shown that deaths mainly occur, not because of anaesthetic and surgical issues, but because of medical complications and exacerbations of known medical co-morbidities

Health Quality & Safety Commission New Zealand
Kupu Taurangi Hauora o Aotearoa

POMRC
Perioperative Mortality Review Committee

Perioperative Mortality in New Zealand:

Fifth report of the Perioperative Mortality Review Committee

Report to the Health Quality & Safety Commission New Zealand

June 2016

POMRC

- Significantly increased risk of Death after GA for Elective > Acute admission on the weekend
- Improvements to care
  - Non-operative treatment for patients who are assessed as having an ASA status of 5 must be considered.
  - The risk of dying perioperatively should be discussed with all patients contemplating an operation with a significant risk.
- Better documentation
  - All patients should have their ASA status recorded in their clinical anaesthetic record.

Risk

- ACS-NSQIP
  - http://riskcalculator.facs.org/RiskCalculator/
- POSSUM
  - Physiological and Operative Severity Score for the enumeration of Mortality and Morbidity
  - http://www.riskprediction.org.uk/index-pp.php
- SORT
  - Surgical Outcome Risk Tool
- ASA
- Lee / RCRI
- Arozullah (for men only)
- 7 step walk
- CPET or 6MWT
  - Cardio pulmonary Exercise Testing (CPET) is a non-invasive simultaneous measurement of the cardiovascular and respiratory system during exercise to assess a patient's exercise capacity

ACS NSQIP

Surgical Risk Calculator

American College of Surgeons
Improving Quality: Highest Standards, Better Outcomes

Press F11 to exit full screen

Risk Calculator Home Page | About | FAQ | ACS Website | ACS NSQIP Website

Enter Patient and Surgical Information

Procedure

Clear

Begin by entering the procedure name or CPT code. One or more procedures will appear below the procedure box. You will need to click on the desired procedure to properly select it. You may also search using two words (or two partial words) by placing a '+' in between, for example: "cholecystectomy + cholangiography"

Reset All Selections

Are there other potential appropriate treatment options? Other Surgical Options | Other Non-operative options | None

Please enter as much of the following information as you can to receive the best risk estimates.
A rough estimate will still be generated if you cannot provide all of the information below.

Age Group: Under 65 years

Sex: Female

Functional Status: Independent

Emergency Case: No

ASA Class: Healthy patient

Steroid use for chronic condition: No

Ascites within 30 days prior to surgery: No

Systemic Sepsis within 48 hours prior to surgery: None

Ventilator Dependent: No

Disseminated Cancer: No

Diabetes: No

Hypertension requiring medication: No

Congestive Heart Failure in 30 days prior to surgery: No

Dyspnea: No

Current Smoker within 1 Year: No

History of Severe COPD: No

Dialysis: No

Acute Renal Failure: No

BMI Calculation:

Height: in / cm

Weight: lb / kg

Back | Continue

Step 2 of 4

Physiological Parameters	
Age	< 61 yrs old
Cardiac	No cardiac failure
Respiratory	No dyspnoea
ECG	ECG normal
Systolic BP	110 - 130 mmHg
Pulse Rate	50 - 80 bpm
Haemoglobin	13 - 16 g/dl
WBC	4 - 10
Urea	<7.6
Sodium	>135 mmol/l
Potassium	3.5 - 5 mmol/l
GCS	15

lating risk in a preoperative patient you will need to estimate the parameters below. You can return and modify the parameters post-
vely if required.

Operative Parameters	
Operation Type	Minor Operation
Number of procedures	one
Operative Blood Loss	<100 mls
Peritoneal Contamination	No soiling
Malignancy Status	not malignant
CEPOD	elective

Risk

- Frailty
  - A state of increased vulnerability to stressors and due to decreased physiological reserves and decreased ability to compensate
  - Increased risk of death, longer LOS and complications perioperatively
  - Strongest predictor of 6/12 periop mortality is any functional dependence
  - Interestingly no increased risk in pre-admissions
  - But how to measure……..

Risk

- Frailty
  - Fried Phenotype
    - Unintentional Weight Loss
    - Exhaustion
    - Muscle Weakness (eg Weak Grip Strength)
    - Slowness While Walking (a single marker of frailty)
    - Low Levels of Activity
  - Rockwood Frailty index
  - Timed Up and Go
  - Falls

Delirium

- ¼ dead in one month
- LOS is double
- Increased risk of dementia
- Admission to NH doubles
- Increased risk of other complications
- Risk: Age/Pre-existing Cognitive Impairment/Major Surgery/Emergency/Dehydration/Pain/ Constipation

Risk

- NELA *(National Emergency Laparotomy Audit)*
  - Recommend that objective risk assessment become a mandatory part of the preoperative checklist to be discussed between surgeon and anaesthetist for all patients. This must be more detailed than simply noting the ASA score
  - Each higher risk case (predicted mortality ≥5%) should have the active input of consultant surgeon and consultant anaesthetist

Risk

- If P-POSSUM score >= 5%
  - 57% had review by consultant surgeon and anaesthetist preop
  - 74% had consultant surgeon and anaesthetist in theatre

International Surgical Outcome Study

- 44814 elective surgical patients from 27 countries
- 5593 went to ICU (4360 routine care; 1233 due to Cx)
- 16.8% had complications
  - 9.6% Infection; 4.8% CVS
- 207 died
- Mortality deaths if direct ICU admits (2 V 0.25%)
- “No patient should be considered for surgery without the offer to be admitted to ICU”

Optimisation

- This is especially where the skills of a General Physician come into play
- Need time to be able to do this
- Full history and examination
- Medication reconciliation
- Perform relevant investigations
  - Those needed for the periop period
  - Those needed for the patients chronic health management
- Obtain information from patient's usual doctors so as to complete the picture

Optimisation

- Prehabilitation
  - The process of enhancing an individual's functional capacity before scheduled surgery, aimed at improving the patient's tolerance to upcoming physiological stress
  - Components:
    - Haematinic assessment
    - Nutritional assessment
    - Frailty/cognitive assessment
    - CPET/6MWT
    - Risk assessment
    - Smoking
    - Alcohol
    - Medication reconciliation
    - Anxiety

Other Types of referrals

- I want you to talk the patient out of the surgery
- “She has been seen by Anaesthetics who have scared her that she is at a high risk of dying”
- To arbitrate between the surgeon who felt the patient was too high a risk and the patients cardiologist who felt she would do OK
- Patient seen in Ortho OPD for Right THR; BMI 58; put on waiting list but told needed to lose weight and that they were a high risk of complications; referred to me! “May have to postpone THR due to not losing weight”

Other Comments

- Requests for Medical Takeover
  - “No more surgical issues”
  - “For discharge planning”
  - “Because they have HAP”
  - A medical not surgical diagnosis

Other Comments

- 30 day mortality and morbidity stats not useful to understand the problem
  - Takes 3-6 months to recover from surgery
  - For Fractured NOF:
    - 5% mortality at 30 days but 25% at 1 year
  - For Major Abdominal Surgery
    - 11% at 30 days and 22% at 1 year

Questions