# A Perioperative Physician's Perspective

**SAAPM** 

25<sup>th</sup> 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





#### 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.

- 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







Risk Calculator Ho

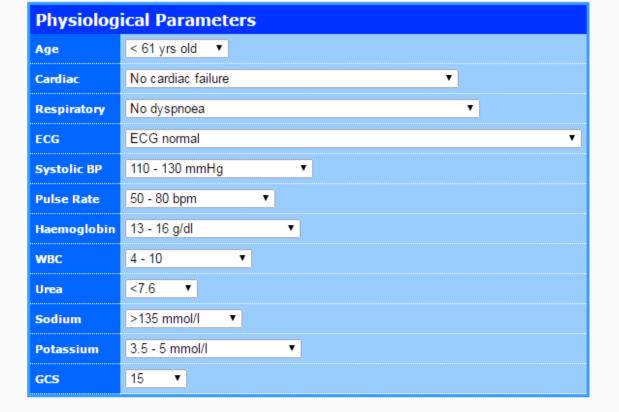
Press F11 to exit full screen

CS NSQIP Website

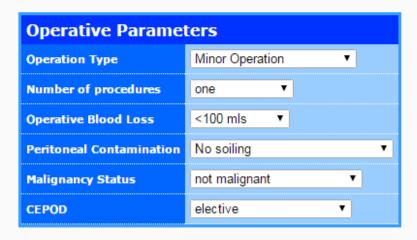
#### **Enter Patient and Surgical Information**

Procedure  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  Ventilator  No  Ventilator	Diabetes  No r  Hypertension requiring medication  No r  Congestive Heart Failure in 30 days prior to surgery  No r  Dyspnea  No r  Current Smoker within 1 Year  No r  History of Severe COPD  No r  Dialysis  No r  BMI Calculation:  Height:  in / cm
	Disseminated Cancer (1)	Weight: lb / kg

Step 2 of 4



ating risk in a preoperative patient you will need to estimate the parameters below. You can return and modify the parameters postrely if required.



#### 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......

- 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

- 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

- 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