Perioperative Medicine

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“Perioperative medicine emphasises the importance of an integrated, planned, and personalised approach to patient care before, during, and after any surgical procedure involving anaesthesia.”

A good perioperative specialist aims to:

- Improve the patient's experience.
- Reduce postoperative complications.
- Reduce inpatient hospital days.
- Reduce early re-admissions following surgery.


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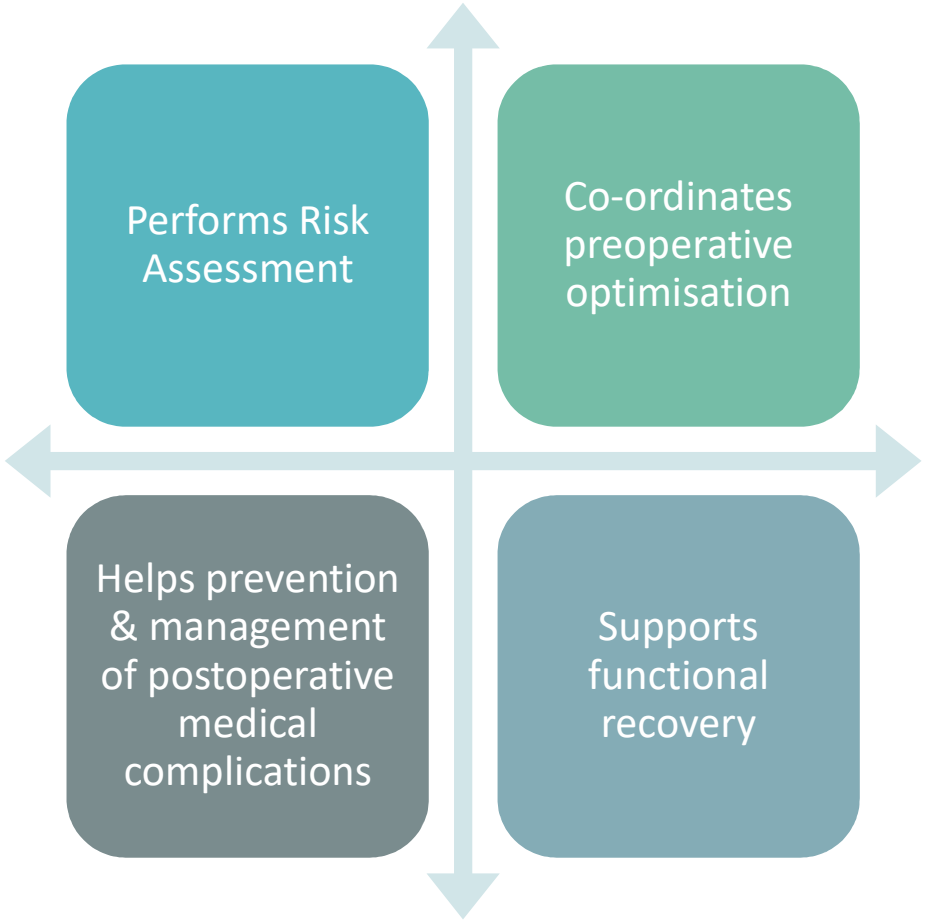
Role of peri-operative team



Preoperative Assessment:

Overall Risk	• ACS surgical risk calculator • (ACS –NSQUIP) • P-Possum
Cardiac Risk	• Revised cardiac risk index
Respiratory Risk	• 6 minute walking test • Blood gas
Liver Failure Risk	• MELD & Child Pugh classification
Level of Frailty	• Clinical frailty score
Delirium Risk	

Preoperative Assessment:

- Functional Independence:
  - History
  - Observation of walking
  - Duke activity index
- History
  - Symptoms
  - Effort intolerance
- Assessment of self-reported effort tolerance to determine metabolic equivalents
  - 4 MET +
- Cardiopulmonary exercise testing
  - Stress tests

ACS Surgical Risk Calculator

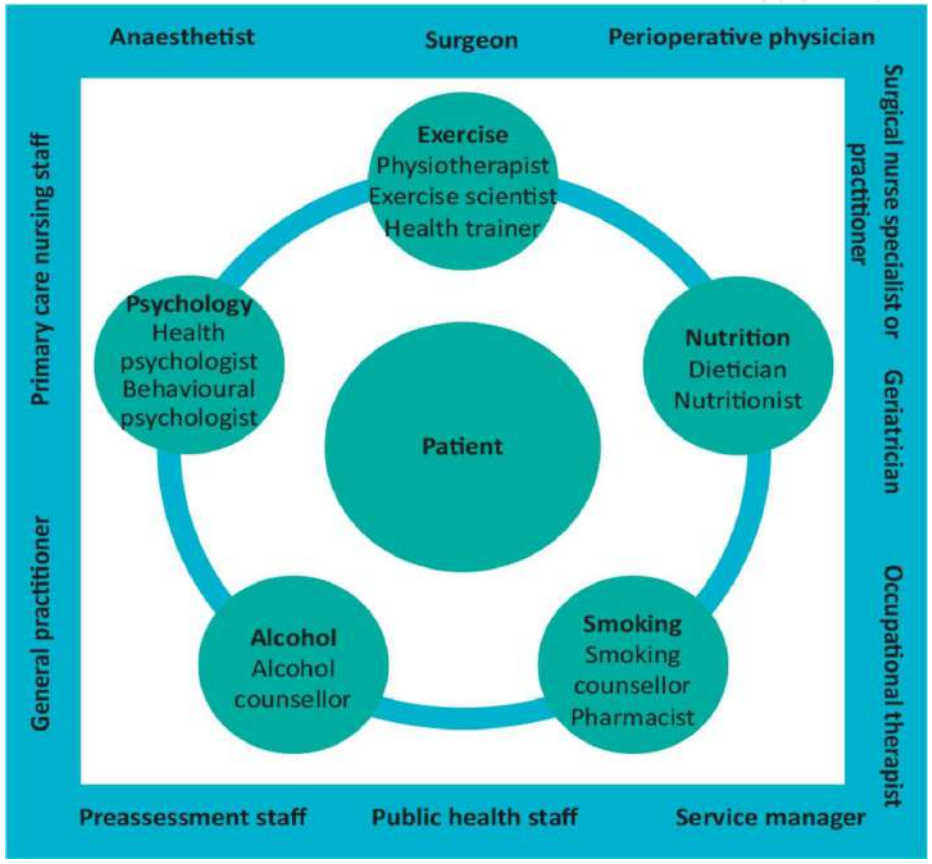
- Web based tool
  - 5 million procedures in 874 hospitals from 2016-20
- For surgical decision making/informed consent
- 20 patient factors:
  - Age/BMI/HTN/ASA class /Sex/DM/Functional status
    +
  - Planned surgical procedure
- Predicts 18 different outcomes

Patient Outcomes

Serious Complications	Any Complications	Any Complications
• Cardiac arrest • Acute MI • Sepsis • ARF • PE • Death	• Wound infection • ARF • Cardiac complications • Hypoxaemia	• Pneumonia • Readmission • Return to OT • Discharge to rehab facility • Length of stay

Prehabilitation (Preoperative optimisation)

- Preoperative exercise (pro-active)
- Nutrition optimization
- Psychological intervention
- Lifestyle modification
- Co morbidities:
  - Anemia : Fe deficiency
  - Frailty : Geriatric patient
  - DM : 10-15% of patients



Medication Management

- Anticoagulant, anti-platelets
- Diuretics, diabetic medications
- Heart medications
- Anti Parkinson drugs

Optimisation of Underlying Medical Conditions:

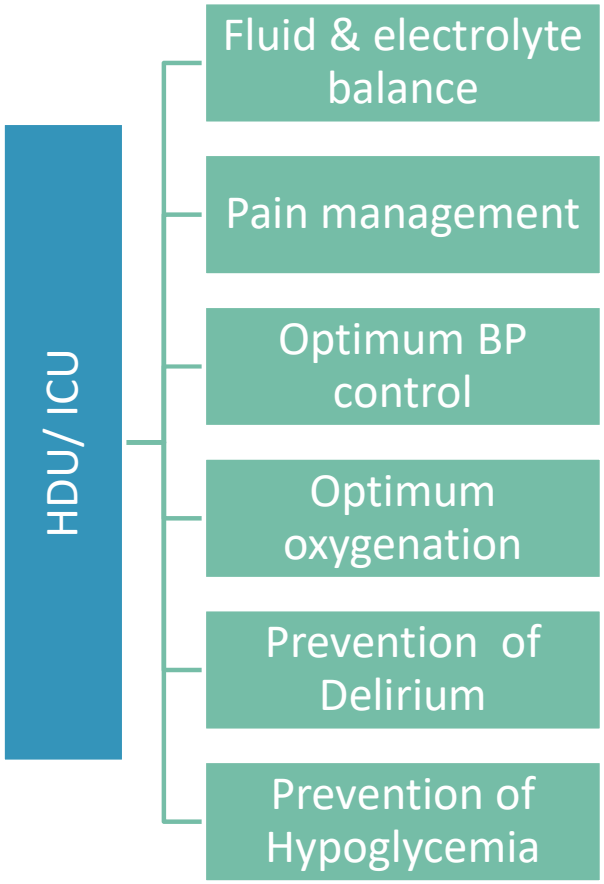
- Cardiac
- Respiratory
- DM
- HTN
- Risk of VTE

Intraoperative

- Liaise with anesthetist
- Advice about:
  - Guided fluid therapy
  - Prevention of hypothermia
  - Adequate BP control
  - Adequate Oxygenation
  - Glycemic control

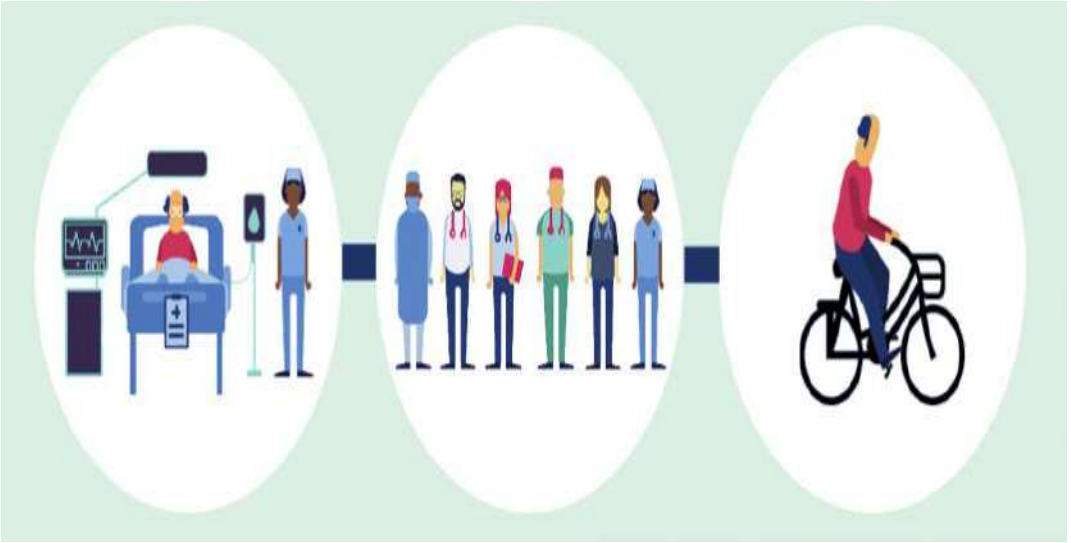
Postoperative: Immediate

- Often in HDU/ICU



Post Operative: Long Term

- Enhanced recovery program
- Pre-emptive vs reactive
- Pain management
- Cognitive function
- Rehabilitation



At LMH

- 3 consultants
- 1 AT
- 5 clinics weekly

- Referrals from Surgeons:
  - Preoperative Optimisation
- Full medical picture to decide type of surgery
- Perioperative risk of the procedure
- Referral from Anesthetists

Case Study

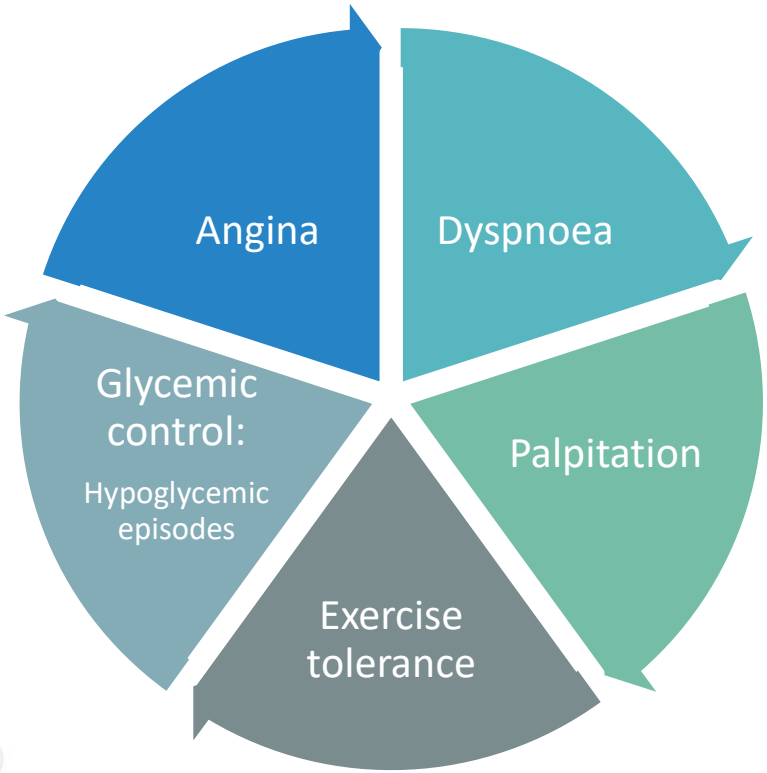
Patient Medical History

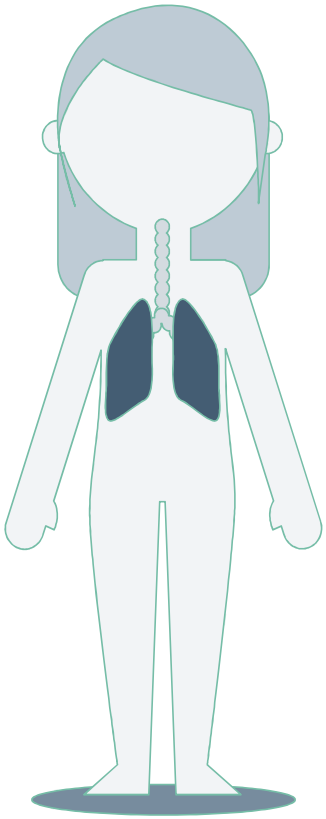
- 65 y/o Female
- Right knee replacement
  - Elective procedure
- H/o ischemic stroke with complete recovery 8 months back
- H/o NSTEMI 1 yr back

Comorbidities:

DM	Nephropathty, Stage 2 CKD	HTN
CH, AF	COAD	Fatty Liver
OSA	Obesity	Depression

History


Angina
Dyspnoea
Palpitation
Exercise tolerance
Glycemic control:
Hypoglycemic episodes



Diagnostics

- Hb, Fe study
- Renal function, Electrolytes, Magnesium, Calcium, Phosphate
- LFT
- ECG
- Echo cardiogram
- Further cardiac workup if necessary
- 6-minute walk test
- ABG

Medication

Metoprolol

Insulin Glargine

Empagliflogin

Irbesartan

Sertraline

Flexitide

Apixabin

Medical Optimisation Post Surgery

HDU/ICU for 24 to 48 hours

Fluid balance/Hypotension

Pain Management

Oxygenation

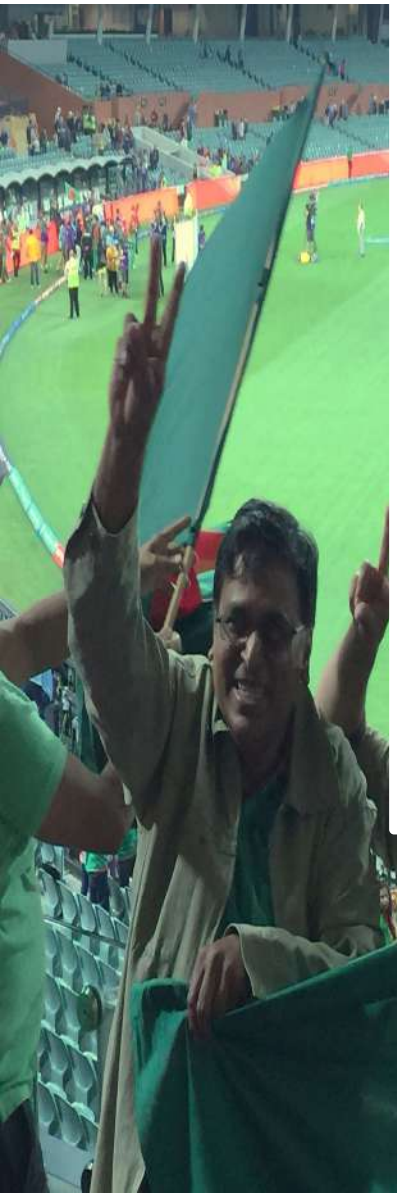
Prevention of delirium

VTE Prophylaxis/ anti coagulation

Liaise with Allied health (mobilization/nutrition)

Rehabilitation

Thank You

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