Preoperative care

PATIENT ASSESSMENT

- Evidence suggests that correction of anemia, better diabetes control, preoperative exercises and better nutrition leads to better patient outcomes and fewer postoperative complications.

History taking

- Systemic reviews with dates, etiology and treatment delivered.
- Patients with recent chest infections should be assessed for anesthetic risks and postoperative surgical infection.
- Increasing severity of symptoms >>> worsening of the condition and possible need for a change in medication.
- Some factors are amenable to treatment pre operatively such as anemia, angina, palpitations or obesity.
- Past surgical history (e.g .intra-abdominal adhesions for planned laparoscopic surgery).
- Drugs history, smoking and alcohol consumption should be noted as they are known to be associated with adverse outcomes.
- Check for allergies and risk factors for deep vein thrombosis (DVT).
- Social history, ability to communicate and mobility are important in planning rehabilitation after surgery.

Examination

- Patients should be treated with respect and dignity, receive a clear explanation of the examination undertaken and be kept as comfortable as possible.
- A chaperone should be present, especially for intimate examinations.
- This is will often be part of a local guideline or policy.
- In symptomatic patients one should look specifically for evidence of cardiac failure, peripheral vascular disease and valvular heart.

- When possible, the medical or surgical treatments for these conditions should be started and the patient stabilized before elective surgery.

Summary box

Examination

- General. Positive findings even if not related to the proposed procedure should be explored further
- Surgery related. Type and site of surgery, complications occurred due to underlying pathology
- Systemic. Comorbidities and extent of limitation of each organ function
- Specific. For example, suitability for positioning during surgery

TABLE Medical examination.

General	Anaemia, jaundice, cyanosis, nutritional status, sources of infection (teeth, feet, leg ulcers)
Cardiovascular	Pulse, blood pressure, heart sounds, bruits, peripheral oedema
Respiratory	Respiratory rate and effort, chest expansion and percussion note, breath sounds, oxygen saturation
Gastrointestinal	Abdominal masses, ascites, bowel sounds, hernia, genitalia
Neurological	Consciousness level, cognitive function, sensation, muscle power, tone and reflexes
Airway assessment	

Examination specific to surgery

- The clinical findings, site, side , specific imaging or investigation findings related to the pathology for which the surgery is proposed should be noted .
- Suitability of the patient for the proposed surgical option and vice versa should also be assessed. For example, laparoscopic procedures are less invasive and are preferred in most (not all patients) can tolerate pneumoperitoneum and positioning.
- The type of surgery along with patient comorbidities determine perioperative risks.

- Sources of potential bacteremia can compromise surgical results especially if artificial material is implanted, such as in joint replacement surgery or arterial grafting.
- Check for and treat infections in the preoperative period, e.g. infected toes , pressure sores, teeth and urine; screen the patients for methicillin-resistant Staphylococcus aureus colonization.

SPECIFIC PREOPERATIVE PROBLEMS AND MANAGEMENT

- Specific medical problems encountered during preoperative assessment should be corrected to the best possible level .

Cardiovascular disease

- Patients who can climb a flight of stairs without getting short of breath or chest pain or needing to stop are likely to tolerate a wide range of surgeries with an acceptable risk of perioperative cardiovascular morbidity and mortality.
- Patients at high risk are those with ischemic heart disease (IHD), heart failure, arrhythmias, severe peripheral vascular disease, cerebrovascular disease or significant renal impairment, especially if they are undergoing major surgery.
- In patients with ischemic heart disease >> a stress test (stress ECG, stress echocardiogram, coronary angiography.
- In patients with any suggestion of valvular heart disease or poor left ventricular function >>> an echocardiogram.

Hypertension, ischemic heart disease (IHD)

- Prior to elective surgery blood pressure should be controlled to near 160/100 mmHg.
- If a new antihypertensive agent is introduced, a stabilization period of at least 2 weeks should be allowed.
- Patients on β-blockers or statins should be maintained on their medication.
- Most long-term cardiac medications should be continued over the perioperative period and stopped 24 hours prior to surgery and reintroduced gradually in the postoperative period.

- After a proven myocardial infarction, elective surgery should be postponed for 3–6 months to reduce the risk of perioperative re-infarction.
- As primary percutaneous intervention is the treatment of choice for acute coronary syndromes, many patients receive stents and are on dual antiplatelet therapy for 12 months.
- If surgery is absolutely necessary within the period of dual antiplatelet therapy, the management strategy should be decided jointly by surgeon, cardiologist, anesthetist and patient, as it is essential to consider the balance of risk of continuing antiplatelet agents (with the risk of increased bleeding) and stopping them (with the risk of stent thrombosis).

Valvular heart disease

- valvuloplasty before elective non-cardiac surgery>> severe aortic and mitral stenosis
- In patients with mechanical heart valves, warfarin needs to be stopped for 5 days before surgery.
- Heparin and warfarin should be started in the postoperative period, and heparin is stopped when the full effect of warfarin takes effect.

Anemia and blood transfusion

- Investigated for the cause of their anemia.
- Treated with iron and vitamin supplements .
- Preoperative transfusion may be considered.
- Preoperative ‘group and save’ should be performed and an appropriate number of units of blood cross matched.

Respiratory disease

- assess of the severity of the asthma and COPD
- A preoperative chest radiograph or scan.
- Patients on oral steroid treatment, oxygen therapy, have severe disease and are at risk of pneumonia and respiratory failure in the postoperative period.

- Patients should continue to use their regular inhalers until the start of anesthesia.
- Encourage the patients to be compliant with the medications, take a balanced diet and stop smoking.
- Evidence suggests that preoperative inspiratory muscle training significantly improves respiratory (muscle) function in the early postoperative period, reducing the risk of pulmonary complications.
- Regional anesthetic techniques and less invasive surgical options should be considered in severe cases.
- Elective surgery should be postponed until acute exacerbations are treated.