

POST-OPERATIVE CARE

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INTRODUCTION

The aim of post-operative care is to provide the patient with as quick, painless and safe recovery from surgery as possible

PHASES

IMMEDIATE

POST-ANESTHETIC // PHASE I

INTERMEDIATE

HOSPITAL STAY // PHASE II

CONVALESCENT

AFTER DISCHARGE TO FULL RECOVERY

POST-OPERATIVE ORDERS

POSITION IN BED AND MOBILIZATION

- Turning in bed usually every 30 minutes until full mobilization
- Special position required sometimes
- DVT prevention mechanically (intermittent calf compression)

DIET

- NPO
- Liquids
- Soft diet
- Normal or special diet

POST-OPERATIVE ORDERS

MONITOR

- Vital signs
- ECG
- Fluid balance
- Other types of monitoring (arterial pulses after vascular surgery, level of consciousness after neurosurgery)

RESPIRATORY CARE

- Oxygen mask
- Ventilator
- Tracheal suction
- Chest physiotherapy

POST-OPERATIVE ORDERS

ADMINISTRATION OF IV FLUIDS

- Daily requirements
- Losses from GIT & UT
- Losses from stomas & drains
- Insensible losses
- Care of renal patients
- Care of drainage tubes

MEDICATION

- Antibiotics
- Pain killers
- Sedatives
- Pre-operative medication
- Care of patients on pre-op steroids
- H2 blockers (esp. ICU)
- Anti coagulants
- Anti diabetics
- Anti hypertensives

AIM OF PHASE I & II

- Homeostasis
- Treatment of pain
- Prevention & early detection of complications

IMMEDIATE PHASE

DISCHARGE FROM RECOVERY SHOULD
BE AFTER COMPLETE STABILIZATION OF
CARDIO-VASCULAR, PULMONARY AND
NEUROLOGICAL FUNCTIONS WHICH
USUALLY TAKES 2 – 4 HOURS
IF NOT SPECIAL CARE IN ICU

SUMMARY OF MOST COMMON CAUSES OF POST-OP FEVER WHEN STARTING ON

- 1st Day : Reactive to drugs or surgical tissue trauma
- 2nd Day : Atelectasis
- 3rd Day : IV line infection (STP)
- 4th Day : Pneumonia, DVT, UTI
- 5th Day : Wound infection (still pneumonia, DVT, UTI)
- 7th Day : Abscess somewhere
- After first week : allergy to drugs, transfusion-related-fever, septic pelvic vein thrombosis and intraabdominal abscesses

WHEN CAN PATIENT LEAVE RECOVERY ROOM?

- Patient is fully conscious
- Respiration and oxygenation are adequate
- Patient is normotensive
- Not in pain nor nauseous
- Cardiovascular parameters are stable
- Oxygen, fluids and analgesics have been prescribed
- There are no concerns related to the surgical procedure

DEEP VEIN THROMBOSIS

MANAGEMENT

- Initially starts with intravenous heparin followed by longer-term warfarin, should be started.
- In some patients with a large DVT, a caval filter may be required to decrease the possibility of pulmonary embolism.
- Most hospitals have a DVT prophylaxis protocol.
 - i. use of stockings
 - ii. calf pumps
 - iii. pharmacological agents, such as low molecular weight heparin

POST-OPERATIVE ORDERS

LABORATORY TESTS & IMAGING

To detect or exclude post-operative complications

PAIN

- Nociceptive pain arises from inflammation and ischemia
- Neuropathic pain arises from a dysfunction in the central nervous system
- Psychogenic pain is modified by the mental state of the patient
- Surgical patients may have persistent pain from a variety of disorders including chronic inflammatory disease, recurrent infection, degenerative bone or joint disease, nerve injury and sympathetic dystrophy.
- Effective analgesia is an essential part
- Important injectable drugs for pain are opiate analgesics. NSAIDS such a diclofenac, ibuprofen and paracetamol can also be given orally.
- Commonly inexpensive opiates are pethidine and morphine.

HYPOTHERMIA / SHIVERING

- Anesthesia induces loss of thermoregulatory control
- Hypothermia is due to exposure of skin and organs to:
 - i. A cold operating environment
 - ii. Volatile skin preparation (which cool by evaporation)
 - iii. The infusion of cold IV Fluids
- This, in turn, leads to increased :
 - i. Cardiac morbidity
 - ii. Hypo coagulable state
 - iii. Shivering with imbalance of oxygen supply and demand
 - iv. Immune function impairment with the possibility of wound infection
- Active warming devices should be used to treat hypothermia as appropriate.

BLEEDING

- The patient's blood pressure, pulse, urine output, dressings and drains should be checked regularly in the first 24 hours after surgery.
- If bleeding is more than expected for a given procedure, then pressure should be applied to the site and blood samples should be sent for blood count, coagulation profile and crossmatch.
- Fluid resuscitation should also be started.
- Ultrasound or CT scan may need to be arranged to determine the size and extent of the hematoma.
- If immediate control of bleeding is essential, the patient may be taken back to the operating theatre.
- If surgical hemostasis is not successful using conventional methods, hemostatic dressings or surgical glue may be tried.
- The radiological embolization of bleeding vessels can also prove useful.

ACUTE RENAL FAILURE

25% of cases of hospital-acquired renal failure occur in the perioperative period and are associated with high mortality

especially after cardiac and major vascular surgery

- Patients with chronic renal disease, diabetes, liver failure, peripheral vascular disease and cardiac failure are at high risk.
- Perioperative events such as sepsis, bleeding, hypovolaemia, rhabdomyolysis or abdominal compartmental syndrome can all precipitate acute renal failure.

URINARY INFECTION

- Most common due to acquired infection.
- Patient can come with dysuria and/ or pyrexia.
- Treatment :
 - i. Adequate hydration
 - ii. Proper bladder drainage
 - iii. Antibiotic

ACUTE RENAL FAILURE

MANAGEMENT

- Ascertain cause of ARF
- If urine output decrease;
 - i. Checked Catheter Is Not Blocked
 - ii. Correct Hypovolaemia And Hypotension
 - iii. Correct Metabolic And Electrolyte Imbalance
- Treat the cause
- Stop nephrotoxic drugs
- Hemodialysis

ATELECTASIS

SYMPTOMS

Fever (pathogenesis unknown), tachypnoea, and tachycardia

SIGNS

Scattered rales, and decreased breath sounds

TREATMENT

Early mobilization, frequent changes in position, encourage to cough, and use of an incentive spirometer

RESPIRATORY COMPLICATIONS

The most common respiratory complications in the recovery room are:

- **Hypoxemia**
- Hypercapnia
- **Aspiration** (occurs when unconscious)
- **Pneumonia** (later)
- **Pulmonary embolism** may occur later in the post-operative period

LEFT LOWER LOBE ATELECTASIS



- Inhomogeneous cardiac density
- Left hilum pulled down
- Non-visualization of left diaphragm
- Triangular retrocardiac atelectatic LLL

ATELECTASIS

- Affects 25% of patients with abdominal surgery.
- More common in elderly or overweight and smokers or with symptoms of respiratory disease. (loss of elastic recoil of the lung)
- Most frequently in the first 48 h after operation.
- Responsible for 90% of febrile episodes during that period.
- **Most cases are self-limited** and recovery is uneventful.
- Pathogenesis involves obstructive and nonobstructive factors. (Secretions resulting from chronic obstructive pulmonary disease, intubation, or anesthetic agents. Occasional cases may be due to blood clots or malposition of the endotracheal tube.)

COMPLICATION IN SPECIFIC SURGICAL SPECIALITIES

- Abdominal
- Urology
- Neck
- Neurosurgery
- Thoracic surgery

WOUND DEHISCENCE

RISK FACTORS

GENERAL

- Malnourishment
- Diabetes
- Obesity
- Renal failure
- Jaundice
- Sepsis
- Cancer
- Treatment with steroids

LOCAL

- Inadequate or poor closure of wound
- Poor local wound healing
 - i. Because of infection, haematoma or seroma
- Increased intra-abdominal pressure
 - i. In postoperative patients suffering from chronic obstructive airway disease, during excessive coughing

NEUROSURGERY

COMPLICATIONS

- Increased intracranial pressure: signaled by deteriorating state of consciousness / appearance of new neurological sign