



**Objectives**  
**Risk factor**  
**Types of pathology**  
**Types of surgery**  
**Complication of their management.**

## Objectives:

Postoperative complication ( morbidity) account for :

- 1-considerable human pain and suffering .
- 2- increase cost of health care.
- 3- can lead to postoperator death .

So , objectives are:

- λ accept that complication are best anticipated and avoided .
- λ recognize the incidence of co morbidity .
- λ understand the importance of matching procedure to the associated risk.
- λ appreciate importance of recognizing the importance complication early and treating them vigorously .

## Risk factors :

Can be generally applicable to procedures or specific to the operation :

- λ age both extreme (very young and very old) .
- λ obesity.
- λ co-morbid condition .
- λ cardiovascular diseases .
- λ respiratory diseases .
- λ DM .
- λ renal disease.
- λ metabolic factor .
- λ infection .
- λ Wound healing .
- λ peripheral vascular disease.

Drug therapy ( concurrent drugs used) :

- ♣ steroid –immunosuppressant antibiotics .
- ♣ blood transfusion .

## Types of pathology :

- λ obstructive jaundice .
- λ neoplastic disease.

## Types of surgery:

- λ Minimally invasive surgery .
- λ orthopedic surgery .
- λ gynecology.
- λ thoracic and upper abdominal surgery .
- λ prolonged operation.



## Complication and their management

**Complication of surgery may broadly be classified as those :**

- 1- due to anesthesia .
- 2- due to surgery .

**Due to anesthesia :**

**the anesthesia depends up on the mode ( general , regional and local ) and type of anesthetics ( the anesthetic agent toxicity).**

**Complications of anesthesia :**

**A- Local anesthesia :**

- ♣ **Injection site :**  
Pain , hematoma , nerve damage , infection .
- ♣ **Vasoconstrictors :**  
Ischemic necrosis .
- ♣ **Systemic effect of LA (local anesthesia) agent :**  
Allergic reactions , toxicity .

**B- Spinal , epidural and caudal anesthesia :**

- ♣ **Technical failure.**
- ♣ **Headache due to loss of CSF .**
- ♣ **Intracranial bleeding .**
- ♣ **Permanent nerve or spinal cord damage .**
- ♣ **Paraspinal infection .**
- ♣ **Systemic complications (severe hypotension ) .**

**C- General anesthesia :**

- ♣ **Direct trauma to mouth or pharynx .**
- ♣ **Slow recovery from anesthesia due to drug interactions or inappropriate choice of drug or dosage.**
- ♣ **Hypothermia due to long operation with extensive fluid replacement OR cold blood transfusion .**

**Allergic reactions to the anesthetic agent :**

- ♣ **Minor effects :**  
e.g. postoperative nausea and vomiting .
- ♣ **Major effects :**  
e.g. Cardiovascular collapse , respiratory depression .
- ♣ **Hemodynamic problems :**  
Vasodilation & shock .

**Complications of Surgery :**

**Specific (procedure related ) :**

- ♣ **Perioperative**  
Hemorrhage , organ damage , electrocautery related , etc .
- ♣ **Postoperative complication : which may be considered under 2 headings :**  
I. Immediate or early . II. Late .



Immediate or early postoperative complications :

- ♣ **Respiratory** :
  - Collapse , consolidation , aspiration .. etc .
- ♣ **Cardiovascular** :
  - Hemorrhage (primary , reactionary , secondary ) .
  - Shock (hypovolemic , septic , cardiogenic , neurogenic ) .
  - Myocardial infarction ( >40 yrs ) .
  - Deep venous thrombosis .
- ♣ **Thromboembolic** :
  - ♣ **Septic** :
    - Wound , abscess collections .
- ♣ **Gastrointestinal** :
  - Intestinal obstruction .
  - Anastomotic leakage , intra-abdominal abscess formation , enterocutaneous fistulae .
- ♣ **Wound complications** :
  - Infection , dehiscence ,etc .
- ♣ **Renal** :
  - Oliguria , acute RF .
- ♣ **Hepatic** :
  - Jaundice , hepatocellular dysfunction , insufficiency .
- ♣ **Cerebral** :
  - Psychological , neuropsychiatric complications (delirium , etc ) .
- ♣ **Drug –related** :
  - Anesthetic , antibiotic , special medical diseases treatment toxicity .
- ♣ **Nerve Injury** :
  - Compression , traction , cautery , severed , etc .

Late postoperative complications :

- ♣ **Wound** :
  - Hypertrophic scar , keloid , wound sinus , implantation , dermoids , incision , hernia .
- ♣ **Adhesion** :
  - Intestinal obstruction , strangulation .
- ♣ **Altered anatomy / pathophysiology** :
  - Bacterial overgrowth , short gut syndrome , postgastric surgery syndrome .
- ♣ **Susceptibility to other diseases** :
  - Malabsorption , incidence of cancer , tuberculosis , etc .