



PRINCIPLES OF SURGERY

WHAT IS SURGERY ???



- **“The art or practice of treating injuries, deformities and other disorders by manual operation or instrumental appliances”**
- **The surgeon is one who makes people better chiefly by the exercise of manual skills in performing invasive procedures**



- **The branch of medical science that treats disease or injury by operative procedures**
- **A medical procedure involving an incision with instruments; performed to repair damage or arrest disease in a living body**



- **Human tissues have genetically determined properties that make the response to injury predictable.**
- **principles of surgery are based on techniques that help to optimize the healing.**

BASIC NECESSITIES FOR SURGEY

1. Adequate visibility.

2. Assistance.

➤ **Adequate visibility is based on**

- **Adequate access- mouth opening, surgical exposure.**
- **retraction**
- **Adequate light**
- **Surgical field free of excess blood and other fluids.**

ASEPTIC TECHNIQUE



- **Medical asepsis: the attempt to keep patients, health care staff and objects free from infectious agents**
- **The efforts aimed at preventing microbes from gaining access into surgically created wounds.**



- **Precautions applied to prevent sepsis**

- 1. Instrument sterilization.**

- 2. Operatory disinfection.**

- 3. Surgical staff preparation.**

Hand and arm preparation.

Clean technique

Sterile technique.

INCISION

Necessary for many OMFS procedures



The following principles apply:

- **Use a sharp blade of proper size.**
- **Use firm continuous strokes.**
- **Avoid cutting vital structures.**
- **Incise perpendicular to the epithelial surface.**
- **Intraoral incisions should be properly placed.**

FLAP DESIGN



- **Flap design help to prevent:**

- 1. Flap necrosis.**
- 2. Flap dehiscence**
- 3. Flap tearing.**



TISSUE HANDLING



- **careful handling of the tissues is necessary for optimal and uncomplicated healing.**
- **Excessive crushing, pulling, extremes of temperature, desiccation and harsh chemicals damage tissues and should be avoided.**
- **Toothed forceps and skin hooks are preferred to forceps that crush the wound edges.**



- **Avoid excessive pulling forces to retract tissue.**
- **Use copious irrigation when drilling or cutting bone.**
- **Protect soft tissue when drilling or cutting.**

HEMOSTASIS



Wound hemostasis can be obtained by:

- 1. Applying pressure on a bleeding vessel or a hemostat.**
- 2. Use of heat- thermal coagulation.**
- 3. Suture ligation.**
- 4. Pressure on the wound.**
- 5. Use of vasoconstrictors.**



PURPOSE OF SURGERY



- **Curative**
- **Restorative**
- **Palliative surgery, which makes the patient more comfortable**
- **Cosmetic surgery, which reconstructs the skin and underlying structures**

UNDERSTANDING TERMINOLOGY



- **Pre operative period**
- **Intra operative period**
- **Post operative period**

COLLABORATIVE MANAGEMENT



- **Assessment , History and data collection**
- **-Age**
- **-Drug and substance use**
- **-Medical history, including cardiac and pulmonary histories**
 - **-Previous surgery and Anesthesia**
 - **-Blood donations**
- **-Discharge planning**

PHYSICAL ASSESSMENT/CLINICAL MANIFESTATION

- **Obtain baseline vital signs**
- **Focus on problem areas that might be affected by the surgical procedure.**
- **Abnormal assessment findings to be reported to the surgeon and the anaesthesiologist.**

SYSTEM ASSESSMENT



- **Cardiovascular system**
- **Respiratory system**
- **Renal/urinary system**
- **Neurological system**
- **Musculoskeletal system**
- **Nutritional status**
- **Psychosocial assessment**

LABORATORY ASSESSMENT

- **Urinalysis**
- **Blood type and crossmatch**
- **Complete blood count and hematocrit**
- **Clotting studies**
- **Electrolyte levels**
- **Serum creatinine level**
- **Pregnancy test**
- **Chest x-ray**
- **Electrocardiogram (EKG or ECG)**



KNOWLEDGE DEFICIT INTERVENTION

- **Preoperative teaching**
- **Informed consent**
 - to be obtained before surgery
 - The nurse's role is to clarify facts and dispel myths that the client or family may have about surgery.

IMPLEMENTING DIETARY RESTRICTION



- **The patient is given nothing by mouth (NPO) for 6 to 8 hours before surgery.**
- **NPO status decreases the risk for aspiration**
- **Failure to adhere may result in cancellation of surgery or increase the risk of aspiration during or after surgery.**

ADMINISTERING REGULARLY SCHEDULED MEDICATION



- **Diabetes medications**
- **Cardiac medications**
- **Glaucoma medications**
- **Anticoagulants**
- **corticosteriod**



- **Preoperative Preparation of the Patient**
- **Systems Approach to Preoperative Evaluation**
- **Additional Preoperative Considerations**
- **Preoperative Checklist**

PREOPERATIVE PREPARATION OF THE PATIENT



- **The preoperative preparation conducted may range from an outpatient office visit to hospital inpatient consultation to emergency department**

APPROACHES TO PREOPERATIVE EVALUATION



Differ significantly based on:

- The nature of the complaint**
- The proposed surgical intervention**
- Patient health**
- Assessment of risk factors**
- The results of directed investigation**
- Interventions to optimize the patient's overall status**
- Readiness for surgery.**

DETERMINING THE NEED FOR SURGEY



- **This is assessed by:**
- **confirmation of relevant physical findings**
- **Review of the clinical history**
- **Laboratory test**
- **Investigative tests that support the diagnosis**
- **Additional investigative tests**
- **Alternative therapeutic options may postpone the decision for surgical intervention**

PREOPERATIVE DECISION MAKING

- **Once the decision has been made to proceed with operative management,**
 - ❑ **A number of considerations must be addressed regarding the**
 - **Timing and site of surgery,**
 - **The type of anesthesia**
 - **The preoperative preparation necessary to understand the patient's risk and optimize the outcome.**



- **These components of risk assessment take into account**
 - A) (intraoperative period through 48 hours postoperatively)**
 - B) postoperative (up to 30 days) periods and seek to identify factors that may contribute to patient morbidity during these periods.**

PREOPERATIVE EVALUATION



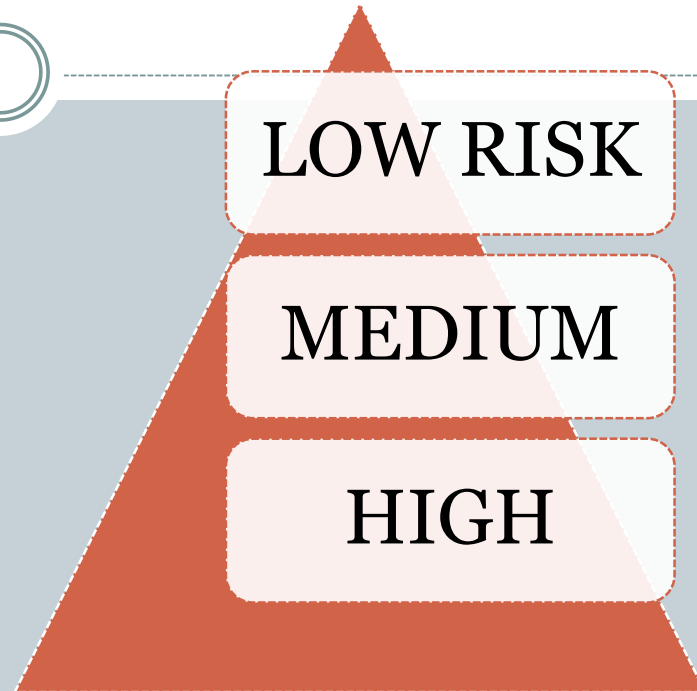
- **The aim of preoperative evaluation is not to screen broadly for undiagnosed disease but rather to identify and quantify any comorbidity that may have an impact on the operative outcome**



- **This evaluation is driven by:**
 - i) findings on the history**
 - ii) physical examination**
- **Suggestive of organ system dysfunction or by epidemiologic data suggesting the benefit of evaluation based on**
 - 1 . Age**
 - 2. Gender, or patterns of disease progression.**



- **The preoperative evaluation categorised as**



- **The planned anesthetic technique,**
- **The postoperative disposition of the patient (outpatient or inpatient, ward bed, or intensive care)**



- **In addition, the preoperative evaluation is used to:**
Identify patient risk factors for postoperative morbidity and mortality.

CONCLUSION



In surgical process, communication between the surgeon and consultant is essential to define realistic goals for this optimization process and to expedite surgical management

The End

