قال تعالى: ﴿ وَ اللَّهُ يَدْعُو إِلَىٰ دَارِ السَّلَامِ وَ يَهْدِي مَن يَشَاءُ إِلَىٰ صِرَاطٍ مُّسْتَقِيمٍ (25) ﴾ {يونس}

PERIOPERATIVE WORK- UP:

PRE, INTRA AND POST.

Ehab Abdulkader, MD.

Lecturer of General Surgery,

School of Medicine, Helwan University.

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“For the things we have to learn before we can do them, we learn by doing them”

Aristotle (384- 322 BC)

OBJECTIVES

- Overview.
- Preoperative preparation.
- Intraoperative care.
- Postoperative care.
- Complications.

OVERVIEW

OVERVIEW

- The perioperative care of the surgical patient is a **crucial** component of management and the decision- making process, and embraces medical, surgical and anaesthetic care.

- For high- risk patients a **multidisciplinary decision** regarding the **risk– benefit** of the proposed surgery should be encouraged.

OVERVIEW

- An accurate perioperative care should allow the team to:

- Determine the need for surgery based on the patient's general status (should we operate; what should be performed; when should it be done?).
- Identify and optimize co- existing disease.
- Select the best anaesthetic technique.
- Minimize postoperative complications.
- Optimize surgical outcome.

OVERVIEW

- **ENHANCED RECOVERY AFTER SURGERY.**

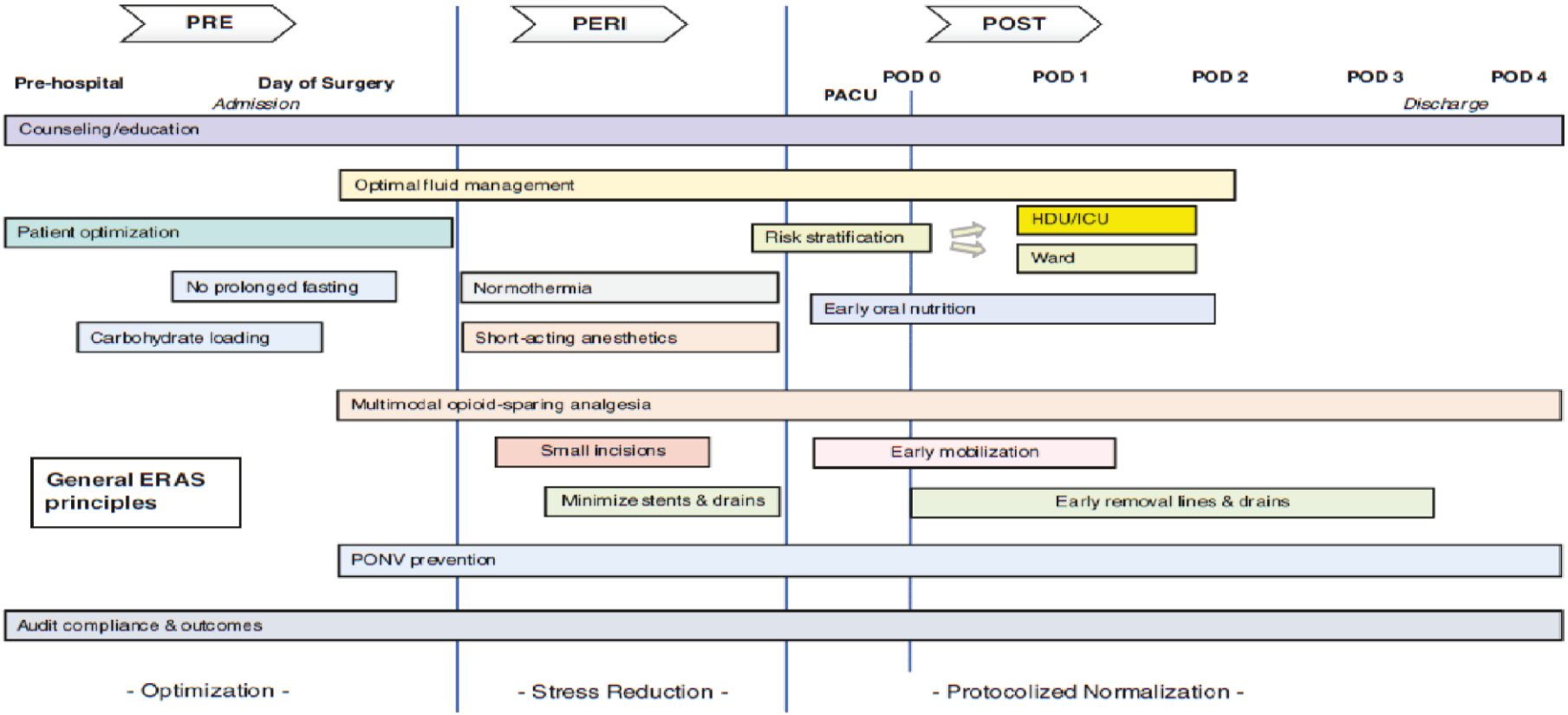
Patient- centered, evidence- based, multidisciplinary team developed pathways for a surgical specialty and facility culture to reduce the patient's surgical stress response, optimize their physiologic function, and facilitate recovery.

OVERVIEW

- **ENHANCED RECOVERY AFTER SURGERY.**

The cornerstones of ERAS:

- Evidence- based perioperative care.
- Multidisciplinary and multi-professional approach.
- Teamwork.
- Continuous interactive audit and reporting.
- Data- driven change.
- Readiness to make the next change.



General ERAS principles. PACU postanesthesia care unit, HDU high-dependency unit

PREOPERATIVE EVALUATION

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **The goals of preoperative evaluation:**

- Identify the patient's medical problems,
- Determine if further information is needed to characterize the patient's medical status,
- Establish if the patient's condition is medically optimized, and
- Confirm the appropriateness of the planned procedure.

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **History and physical examination.**

- A thorough history and physical examination are essential in evaluating surgical patients.

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **History and physical examination.**

- Key elements should include preexisting medical conditions known to increase operative risk, such as:
  - Nutritional status.
  - Ischemic heart disease, congestive heart failure,
  - Hepatic or Renal insufficiency,
  - Prior cerebrovascular accident (CVA),
  - Diabetes mellitus, and hypertension.
  - Medications,
  - Prior operations, operative complications,
  - Allergies, and
  - The patient's use of tobacco, alcohol, and/or drugs.

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **Routine diagnostic testing.**

- Minor surgical procedures and procedures on young, healthy patients often require minimal or no diagnostic testing.

- Inclusion or exclusion of these tests should be selected on a case- by- case basis with consideration of the probability that results will alter management.

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **Routine diagnostic testing.**

- Complete blood cell count.
- Coagulation studies.
- Liver function tests.
- Kidney function tests.
- Urinalysis, serum electrolytes.
- Diabetic profile.
- Type and cross matching.
- Electrocardiogram.
- Chest X-ray.
- Echocardiography.

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **Preoperative medications.**

- In general, patients should continue their medications in the immediate preoperative period.

- Exceptions to this rule include diabetic medications, anticoagulants, and antiplatelet agents.

- The use of some medications such as statins and angiotensin-converting enzyme inhibitors should be individualized.

- It is important to query patients regarding their use of over- the-counter and herbal medications.

GENERAL EVALUATION OF THE SURGICAL PATIENT

- **Patient education.**

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Cerebrovascular disease.**

- Perioperative stroke risk is 1% in general patients and in 2- 5% of cardiac surgical patients.

- Acute surgical stress might cause focal signs from a previous stroke to recur, mimicking acute ischemia.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Cerebrovascular disease.**

- The majority (>80%) of these events are postoperative, and they are most often caused by hypotension or cardiogenic emboli during atrial fibrillation.

- Risk factors for perioperative stroke include previous CVA, age, hypertension, coronary artery disease (CAD), diabetes, and tobacco.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Cardiovascular disease .**

- One of the leading causes of death after noncardiac surgery.

- Since more than 100 million adults worldwide undergo non cardiac surgery annually, approximately 500,000 to 1,000,000 patients each year experience perioperative cardiac death, a non fatal MI, or non fatal cardiac arrest postoperatively.

- Risk stratification by the operating surgeon, anesthesiologist, and consulting internist is important.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Cardiovascular disease .**

The following risk factors have been associated with perioperative cardiac morbidity:

- The patient's age:(>70 years) has been identified as an independent multivariate risk factor for cardiac morbidity.
- Unstable angina, or recent MI, or untreated CHF.
- Diabetes mellitus, especially in those requiring insulin, is thought to confer additional independent risk for an adverse cardiac outcome.
- Valvular heart disease.
- Arrhythmias and conduction defects.
- Type of procedure.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Cardiovascular disease .**

- Preoperative testing.
  - ECG.
  - Echocardiography.
  - Exercise stress testing.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Cardiovascular disease .**

- Preoperative management.
  - Patients with pacemakers.
  - Patients with internal defibrillators.
  - Perioperative beta- blockade.
  - Patients with recent angioplasty or stenting.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Pulmonary disease.**

- Preexisting lung disease confers a dramatically increased risk of perioperative pulmonary complications.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Pulmonary disease.**

- Risk factors:
  - Chronic obstructive pulmonary disease: is by far the most important risk factor, increasing rates of pulmonary complications three- to fourfold.
  - Smoking.
  - Age, > 60 years.
  - Obesity.
  - Type of surgery, thoracic and upper abdominal procedures.
  - Acute respiratory infections.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Pulmonary disease.**

- Preoperative testing:
  - Chest x- ray.
  - Arterial blood gas.
  - Pulmonary function testing.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Pulmonary disease.**

- Preoperative management:
  - Cessation of smoking.
  - Pulmonary exercise.
  - Antibiotics.
  - Bronchodilators.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Infectious complications.**

- Antibiotic therapy.
- Invasive access.
- Technique.
- Wound care.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Diabetes mellitus.**

- Diabetic patients experience significant stress during the perioperative period and are at an estimated 50% increased risk of morbidity and mortality versus non diabetic patients.

- Complications include:
  - Infectious complications,
  - Impaired wound healing,
  - Vascular disease, and
  - Silent MI, is the leading cause of perioperative death among diabetic patients.

SPECIFIC CONSIDERATIONS IN PREOPERATIVE MANAGEMENT

- **Diabetes mellitus.**

- Management.
  - Diet- controlled.
  - Oral hypoglycemic medications.
  - Insulin.

INTRAOPERATIVE CARE

ANAESTHETIC

- Type of anaesthesia.
- Hemodynamic monitoring.
- Temperature control.
- Fluid management.
- Glycemic control.
- Analgesics.

SURGICAL

- Incision.
- Minimally invasive surgery.
- Tissue manipulation.
- Thermal loss.
- Bleeding.
- Tubes and drains.
- Duration.

POSTOPERATIVE CARE

MANAGEMENT

- **Instructions:**

- Activity and Ambulance.
- Feeding.
- Invasive access.
- Pain control.

CLINICAL ASSESSMENT

- **Symptoms:**
- Local.
- Pain.

- **Signs:**
- Conscious status.
- Vital data.
- Complexions.

MEDICATIONS

- Nutrition:
  - IV fluid therapy.
  - Surgical nutrition, enteral or parentral.
- Pain management.
- Antibiotic therapy.
- Stress ulcer prophylaxis.
- VTE prophylaxis.
- Blood components transfusion.
- Specific therapy.

INVESTIGATIONS

- CBC.
- ABG.
- Electrolytes.
- ECG.
- CXR.

COMPLICATIONS

COMPLICATIONS

- **General complications:**

- Neurological complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **General complications:**

- Cardiovascular complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **General complications:**

- Pulmonary complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **General complications:**

- Hepatic complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **General complications:**

- Renal complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **General complications:**

- Infectious complications.
  - Wound infection.
  - Respiratory infections.
  - Gastrointestinal. or peritonitis.
  - Genitourinary infections.
  - Prosthetic- device or Catheter- related infections.

COMPLICATIONS

- **General complications:**

- Infectious complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **General complications:**

- Venous thromboembolic complications.
  - History.
  - Examination.
  - Investigations.
  - Treatment.

COMPLICATIONS

- **Local complications:**

- Iatrogenic injury.
- Delayed or non- healing.
- Specific.

MEDICAL RECORDS

MEDICAL RECORDS

- **Documentation.**

MEDICAL RECORDS

- **Admission.**
- Date and time.
- Diagnosis.
- Condition: stable, guarded, or critical.
- Allergies.
- History , examination, investigations.
- Consultations.
- Nursing orders.
- Activity.
- Medications.
- Consents.
- Operative notes.

MEDICAL RECORDS

- **Operative notes.**
- Preoperative diagnosis.
- Postoperative diagnosis.
- Procedure performed.
- Attending surgeon.
- Assistant/resident surgeons.
- Anaesthetist.
- Type of anesthesia.
- Patient position.
- Incision.
- Operative findings and complications.
- Specimens removed.
- Packs, drains, and catheters.
- Estimated blood loss.
- Urine output.
- Fluids administered.
- Blood products administered.
- Antibiotics administered.
- Documentation that “time- out” to verify correct patient, procedure, and site was performed.
- Patient disposition and condition

MEDICAL RECORDS

- **Discharge.**
- Date and time.
- Diagnosis.
- Feeding.
- Activity.
- Medications.
- Follow- up.
- Special, e.g. wound care or rehabilitation.

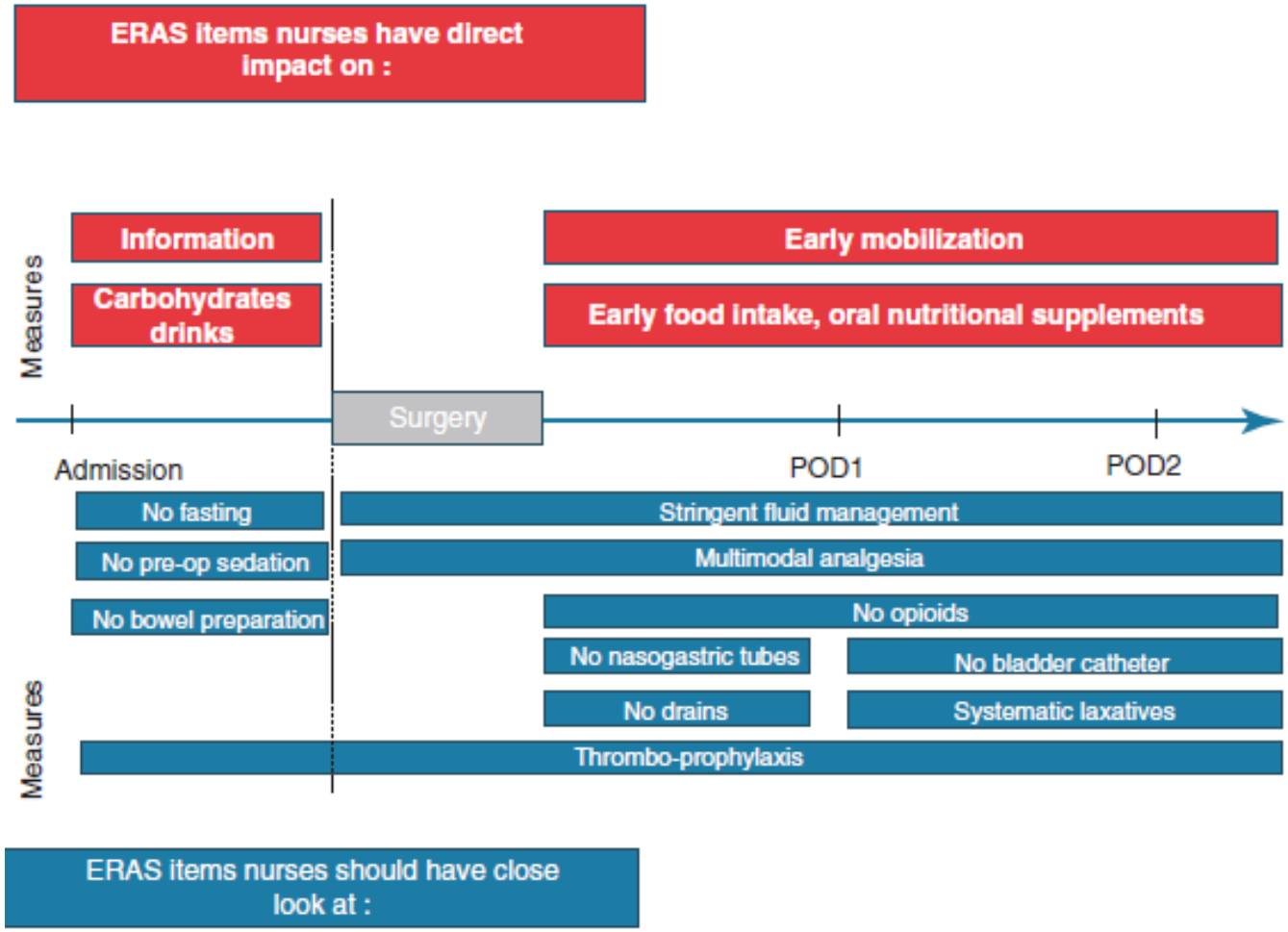
ROLE OF NURSE

ROLE OF NURSE

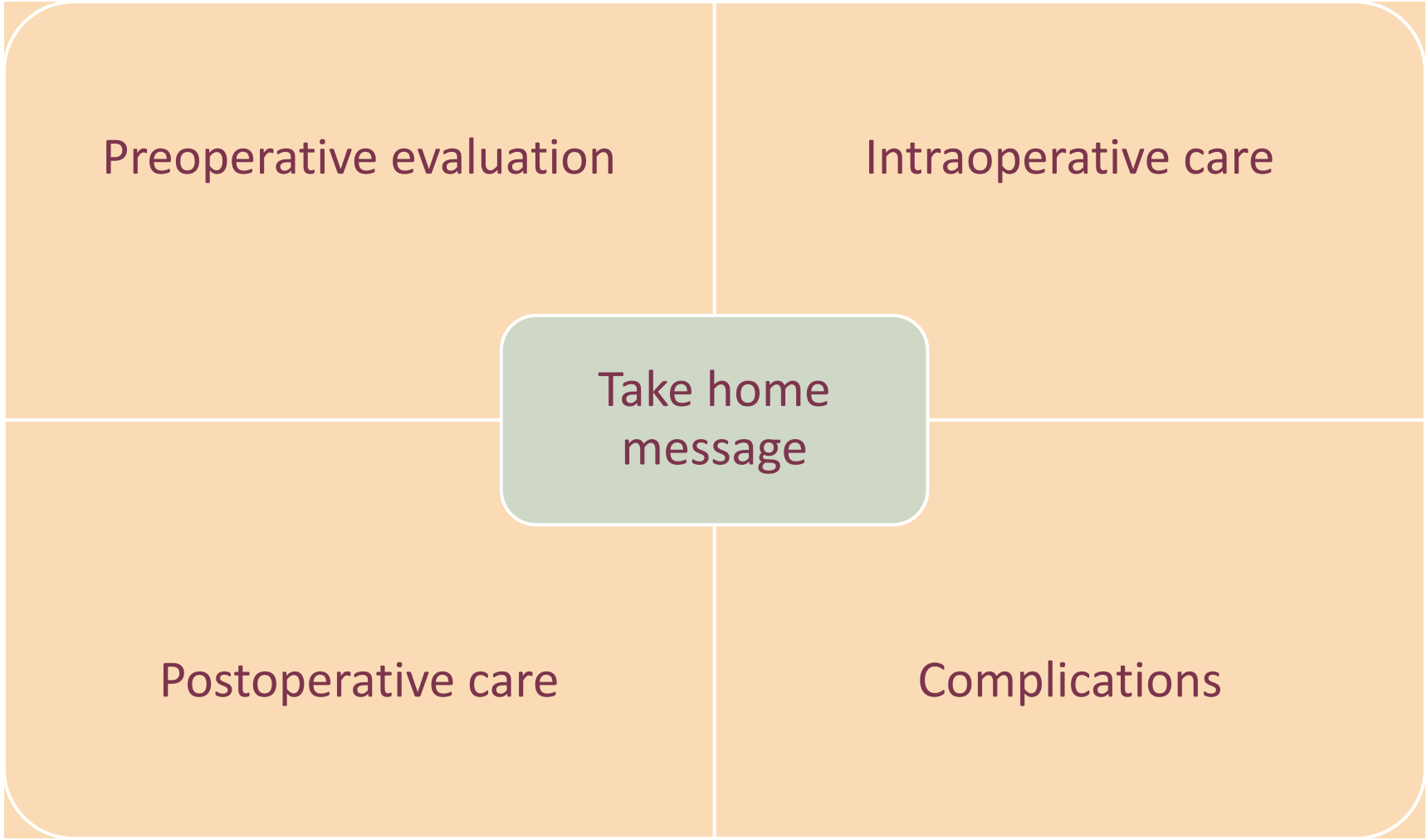
- The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery.

- Nurses are in a privileged position to be the frontline healthcare providers.

- Nursing Workload.


ERAS items nurses have direct impact on :
Measures
Information
Carbohydrates drinks
Early mobilization
Early food intake, oral nutritional supplements
Surgery
Admission
POD1
POD2
No fasting
No pre-op sedation
No bowel preparation
Stringent fluid management
Multimodal analgesia
No opioids
No nasogastric tubes
No bladder catheter
No drains
Systematic laxatives
Measures
Thrombo-prophylaxis
ERAS items nurses should have close look at :

TAKE HOME MESSAGE



DISCUSSION

Questions

Thank you