GENERAL OBJECTIVES

- Introduction to the field of surgery and anaesthesia
- Understanding the most important aspects of accidental injury and surgical insult
- Assessment and intervention in the different stages of the prevention-diagnosis-treatment-recovery sequence in surgery
- Specific aspects of certain branches of surgery not studied in other course modules

SPECIFIC OBJECTIVES

- Understanding the various treatment modalities in surgery
- Understanding the organism’s response to injury or insult
- Basic principles of wound healing and management of different wounds
- Basic management of patients with multiple trauma, cancer and surgical infection
- Patient assessment in the preoperative and postoperative periods
- Basic principles of anaesthesia and pain management
- Basic principles of organ transplantation
- Basic principles of nutrition in surgery
- Learning how to perform venous puncture, wound suturing and the basic principles of endotracheal intubation

SYLLABUS

Theory

1. **Historical development of surgery**
   Current situation and future perspectives. Specialization. Surgical training.

2. **Neuroendocrine response to surgical insult**
   Homeostasis. Integration of stimuli and modulation of the response to lesion: vies afferent pathways and regulatory organs. Efferent pathways: mechanisms of hormonal action and other cell mediators (cytokines, eicosanoids, TNF, etc.).

3. **Replacing liquids and electrolytes in the surgical patient**
   Normal losses of the organism. Losses due to different digestive secretions in different clinical situations. Most common clinical situations that alter the water-electrolyte balance in surgery. Diagnosis and treatment in the pre- and post-operative period. Composition of different solutions.

4. **The multiple trauma patient**
   Concept of multiple trauma. The patient with multiple trauma as a multidisciplinary patient. General approach to the damage in different systems. Diagnostic and treatment aspects of the multiple trauma patient from the perspective of different specialties. The primary care of the multiple trauma patient. Basic objectives in the treatment of the multiple trauma patient. Reanimation, assessment and priorities.
5. The biological process of wound healing
Mechanisms of tissue repair. Stages in the healing of skin wounds. Local and systemic factors that may affect the process. Pathological wound healing.

6. Types and treatment of wounds

7. Thermal trauma

8. Grafts and flaps
Applications. Concept of grafts, histology, types and applications. Concept of flaps, histology, types and applications in surgery. Cutaneous ulcers: vascular, pressure or positional.

9. Nutrition in surgery (I)

10. Nutrition in surgery (II)
Approaches to calculating the energy and protein needs of the surgical patient. Parenteral and enteral nutrition: administration routes. Indications. Advantages and disadvantages of each of the related complications. Administration routes. Enteral and parenteral nutrition. Indications and techniques.

11. Infection in surgery (I)

12. Infection in surgery (II)

13. Laparoscopic surgery
Instruments and physiology of the pneumoperitoneum. Advantages, disadvantages and risk factors. Accepted indications and those under study. Robotics and surgery.

14. Hernias of the abdominal wall (I)

15. Hernias of the abdominal wall (II)

16. Oncological surgery

17. Basic principles of solid organ transplants

18. Congenital facial malformations

19. Most common surgical complications
20. Preanaesthetic examination and preparation

21. General anaesthesia, components of anaesthesia

22. Local and regional anaesthesia
Local anaesthetics and types of solution administered. Different techniques of local and regional anaesthesia. Indications. Complications.

23. Respiratory insufficiency

24. Cardiac arrest

25. Shock in the surgical patient
Diagnosis of shock. Different types of shock. Immediate reanimation.

26. Basic postoperative reanimation
Normal post-anaesthetic recovery. Postoperative complications.

27. Postoperative reanimation of the critical patient

28. Acute pain

29. Chronic pain

30. Organization of the surgical area
Ambulatory anaesthesia. Features and elements of the surgical area. Procedures in the ambulatory anaesthesia area and differential characteristics, including the type of patient, types of intervention and current developments.

LEARNING RESOURCES AND TEACHING METHODS

Theory classes

Practical classes
- Surgical area in healthcare settings
- Operating theatres
- Workshops: dealing with wounds, sutures, venous punctures and reanimation