

## **Surgery: Passing Requirements**

### **Courses and Practicals with mandatory attendance**

- |   |           |              |
|---|-----------|--------------|
| a) Clinical practical course „Surgery“ (8th semester)   | Tuesday   | 2.00-4.00 pm |
| b) Concomitant courses  |           |              |
| Trauma lecture  | Monday    | 8.15-9.00 am |
| General Surgery lecture   | Tuesday   | 8.15-9.00 am |
|   | Wednesday | 8.15-9.45 am |
| Thoracic Surgery lecture  | Thursday  | 8.15-9.00 am |
| c) Major course evaluation  |           |              |
| Supervised interdisciplinary examination (together with Orthopedics and Urology), at the end of the 8 <sup>th</sup> semester, with open and mc-questions. |           |              |
| Surgery (General Surgery, Trauma and Thoracic Surgery): 60 questions. Orthopedics: 30 questions. Urology: 30 questions.                                   |           |              |

## General Surgery: List of learning targets

### 1 General surgical issues

- 1.1 Indications and contraindications of surgical procedures
  - Intended results of surgical procedures
  - Optimal timing for operative procedures
  - Informed consent
  - Expected prognosis of surgical therapy and alternative treatments
  - Preoperative preparation
  - Choosing the type of anesthesia
  - Fundamentals of medicolegal issues
- 1.2 Hygienic requirements for operative procedures
  - Asepsis and Antisepsis
  - Septic procedures
  - Prophylactic perioperative antibiotics
  - Nosocomial infections
- 1.3 Surgical principles and techniques
  - Basic terminology
  - Surgical instruments and suture materials
  
  - Surgical incisions
  - Haemostasis
  - Suturing techniques
  - Percutaneous punctions
  - General principles for the use of drainages
  - Solid organ transplantation
  - Perioperative pathophysiology
  - Preoperative assessment and therapy: risk factors
  - Transfusion of blood products
  - Prophylaxis of thromboembolism
  - Postoperative and posttraumatic metabolism
  - Postoperative therapy, follow up and rehabilitation
- 1.4 Normal and impaired wound healing
  - Wounds, woundhealing and wound therapy
- 1.5 Surgical infections (and surgical site infections)
  - Terminology
  - Putrid infections: symptoms, diagnosis and therapy
  - Emphysematous gangrene and tetanus
  - Rabies, viral hepatitis, AIDS, and other bacterial and viral infections
  - Parasitic infections
- 1.6 Shock (see also Anesthesia and Emergency Medicine)
- 1.7 Diagnosis, classification and treatment of malignant tumors
  - Alarming clinical symptoms
  - Cancer screening: Examinations and laboratory tests

Staging of tumor disease  
Classification of malignant tumors  
Surgical principles for malignant diseases  
Interdisciplinary approach for malignant diseases  
Estimation of prognosis  
Follow up of the cancer patient

## **2 Specific surgical issues**

- 2.1 Thyreoid gland
  - Surgical anatomy
  - Goiter
  - Thyreoid adenoma
  - Thyreoid carcinoma
  - Thyroiditis
  - Complications of thyreoid surgery
- 2.2 Parathyreoid gland
  - Hyperparathyreoidism
  - Hypoparathyreoidism
- 2.3 Esophagus
  - Surgical anatomy
  - Atresia
  - Esophageal diverticula
  - Hiatal hernia, gastroesophageal reflux disease, achalasia
  - Tumors
  - Esophageal trauma
  - Bleeding of esophageal varices
- 2.4 Diaphragm
  - Diaphragmatic malformations
  - Rupture of the diaphragm
- 2.5 Stomach and duodenum
  - Surgical anatomy, pathophysiology and embriological malformations
  - Peptic disease, perforation, upper gastrointestinal bleeding
  - Tumors
- 2.6 Small bowel
  - Surgical anatomy, embriological malformations (atresia and stenosis)
  - Crohn´s disease
  - Mesenterial ischemia
  - Short bowel syndrome
  - Tumors
  - Small bowel trauma
- 2.7 Colon
  - Surgical anatomy
  - Acute appendicitis
  - Ulcerative colitis, Crohn´s disease

- Diverticulosis and diverticulitis
- Tumors
- Genetic predispositions for colon cancer (FAP, HNPCC)
  
- 2.8 Rectum and anus
  - Surgical anatomy and malformations
  - Haemorrhoids, fissure, anal fistula, perianal abscess
  - Motility disorders, prolapse of the rectum
  - Malignant diseases
  
- 2.9 Liver
  - Surgical anatomy and anatomical variations
  - Hepatic function disorders
  - Liver abscess, echinococcosis, amoebiasis
  - Liver tumors
  - Hepatic trauma
  
- 2.10 Gallbladder and bile ducts
  - Surgical anatomy
  - Cholecystolithiasis
  - Cholecystitis and cholangitis
  - Cholestatic syndrome
  - Tumors
  
- 2.11 Pancreas
  - Surgical anatomy and malformations
  - Acute and chronic pancreatitis
  - Pancreatic cysts
  - Pancreatic tumors
  - Pancreatic trauma
  
- 2.12 Adrenal gland
  - Surgical anatomy
  - Diseases of the adrenal gland
  - Pheochromocytoma
  
- 2.13 Spleen
  - Surgical anatomy and variations
  - Spleen disorders
  - Splenic injury
  
- 2.14 Hernia
  - Surgical anatomy and embryology
  - Groin hernia and femoral hernia
  - Umbilical hernia
  - Incisional hernia
  
- 2.15 Acute abdomen
  - Clinical findings and diagnostic procedures
  - Peritonitis
  - Ileus

### **3 Vascular Surgery**

- 3.1 Arterial disease
  - Anatomy and physiology
  - Injuries
  - Acute ischemia
  - Chronic peripheral occlusive arterial disease
  - Carotid stenosis
  - Vascular disorders of the abdominal organs
  - Aneurysma
  - Angiodysplasia
  - Vasculitis
- 3.2 Venous disorders
  - Thrombophlebitis
  - Deep vein thrombosis and pulmonary thromboembolism
- 3.3 Lymphatics
  - Regio-specific lymphatic anatomy
  - Sentinel lymphnode
  - Lymphnode biopsy and lymphnode-dissection
  - Lymphedema
  - Lymphangitis

### **4 Pediatric Surgery**

- 4.1 Principles
  - Definitions in pediatric surgery
  - Diagnosis: propedeutics, prenatal-diagnostics, radiology
  - Intravenous therapy and nutrition
  - Infections
- 4.2 Atresia, stenosis and functional disorders of the gastrointestinal tract
  - Esophageal atresia
  - Duodenal atresia and stenosis, hypertrophic pyloric stenosis
  - Atresia of the small and large bowels, meconium ileus
  - Atresia of the rectum an anus, perianal fistulas
  - Atresia of the biliary tree
  - Hirschsprung´s disease
  - Chronic obstipation
  - Crohn´s disease
  - Ulcerative colitis
- 4.3 Defects of the abdominal wall and hernia
  - Gastroschisis
  - Omphalocele
  - Diaphragmatic hernia
  - Groin hernia
  - Umbilical hernia

- 4.4 Disorders of the urinary system
  - Hypospadias
  - Testicular torsion
  - Dislocation of the testis
  - Varicocele
  - Phimosis
  
- 4.5 Emergency
  - Differential diagnoses of the acute abdomen
  - Necrotizing enterocolitis
  - Meconium ileus
  - Volvulus
  - Invagination
  - Acute appendicitis
  - Ileus
  
- 4.6 Malformations of the chest
  - Funnel chest
  - Keeled chest
  
- 4.7 Paediatric tumors
  - Nephroblastoma (Wilm's tumor)
  - Neuroblastoma
  
- 4.8. Bone fractures
  
- 4.9 Burn injury