**INTERNATIONAL HIGHER SCHOOL OF MEDICINE**
**Department of surgical diseases**

# SYLLABUS
## Outpatient surgery

2025-2026 academic year
for students of medical faculty
5 course 10 semester groups 1-48
5 credits (150 h, including auditoria 80 h, independent work - 70h)


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**Venue:** **National Hospital I.K. Akhunbaev clinic, Togolok Moldo str. 1/13, Department of Surgical diseases**

The Syllabus is considered
at the meeting of the department of Surgical diseases
Protocol N°l dated 5 September 2025

Head of the department _____Ermekov T.A

**Course Objective:** teach the student to diagnose, treat and prevent the most common surgical diseases, develop his clinical thinking, teach him practical skills of diagnosis and surgical assistance.

After study of the discipline the student must:

**Knowledge:**

- Medical products: instruments, apparatuses, devices, equipment, materials and other articles used in medical surgery
- Goals and objectives: Principles and methods of conducting aseptic and antiseptic surgery.
- The set of methods and techniques aimed at preventing infection in the wound, in the patient's body, creating microbial, sterile conditions for surgery.
- System of measures aimed at the destruction of microorganisms in the wound, pathological hearth, organs and tissues, as well as in the patient's body as a whole
- Etiology, pathogenesis, clinical-laboratory criteria, principles of treatment of urgent and life-threatening conditions, and methods of first-aid medical care of urgent and life-threatening conditions.
- Clinical and laboratory criteria for patients requiring emergency and planned hospitalization.
- Principles, methods and standards for emergency medical assistance and medical evacuation. The outcome of various pathological conditions and methods of their prediction for medical assistance in emergencies and medical evacuation, as well as the place and functions of each specialist team.
- Procedural bases, organization, conduct and types of forensic examinations, as well as methods and methods of their implementation.
- Possible consequences of accidents, catastrophes, natural disasters and ways of applying modern means of destruction

**Skill:**

- To determine the scope of application of medical products provided for in the procedure of medical assistance in surgery
- Choose and apply different methods of aseptic and antiseptic, according to the goals and objectives of professional activity Demonstrate the technique of application and processing of basic medical tools, appropriate care
- Apply surgical and/or complex diagnostic tools and control their processing to accomplish the tasks of professional activity
- Diagnose urgent and life-threatening conditions and define basic principles of first aid
- Select first aid techniques and methods for urgent and life-threatening conditions.
- Differentiate pathological conditions in patients requiring emergency and scheduled hospitalization. Apply basic emergency and medical evacuation techniques.
- To select and apply the best medical care methods appropriate to the best outcome of pathological conditions in emergencies and medical evacuation.
- To determine the choice of conditions, equipment and methods necessary to conduct various types of forensic examinations in specific situations.
- Determine the impact of harmful and dangerous natural and man-made factors on human beings and the environment. Evaluate the effectiveness of measures for the organization of medical care in the mode of emergency, incl. medical evacuation

**Attitude:**

- Skills of determining the purpose of medical products, their application and the algorithm of their use in the provision of medical care. Algorithm for the use of medical products in standard cases
- Skills to demonstrate the choice and application of different methods of aseptic and antiseptic, respectively to the goals and objectives of professional activity
- Skills of purposeful use of surgical and/or diagnostic tools to perform the tasks of professional activity
- Skills in determining first aid in life-threatening and life-threatening conditions. Basic first aid skills in life-threatening and life-threatening conditions.
- Skills of application of complex methods and methods of first aid in various urgent and life threatening conditions.
- Emergency medical and medical evacuation screening skills
- Skills to assess the effectiveness of medical assistance in a multidisciplinary emergency and medical evacuation team.
- Technical skills in working with tools, equipment and devices for conducting forensic research of various types.
- Skills in defining basic protection methods in emergencies and medical evacuations.
- Skills to objectively assess the options for the development of emergencies and find innovative solutions in suddenly changing conditions

**Pre-requisites.**

- Anatomy (macro-microanatomy)
- Normal Physiology
- Microbiology, virology and immunology
- Latin
- Biochemistry
- Pathological Physiology, Pathological Anatomy
- Radiation Diagnostics

**Post-requisites.**

- State exam
- Postgraduate training

**THEMATIC PLAN OF LECTURES**

| № | Theme of lecture | Hours | Date |
|---|---|---|---|
| 1. | Diseased hernia. Types of strangulation. Clinic. Diagnosis. Surgical tactics and treatment. Complications in hernia. Postoperative hernia | 2 | 21.08-26.08<br>04.09-09.09 |
| 2. | Acute appendicitis: indications and contraindications for appendectomy, preparation of the patient for surgery, postoperative management. Results of operative treatment. Complications of acute appendicitis. Chronic appendicitis. Intestinal infestation. Thrombosis, mesenteric embolism | 2 | 21.08-26.08<br>04.09-09.09 |
| 3. | Diverticulum Meckel. Clinic. Diagnosis. Complications. Treatment. Intestinal diverticulitis. Crohn's disease. Clinic. Diagnosis. Treatment. Intestinal fistula. | 2 | 21.08-26.08<br>04.09-09.09 |
| 4. | Esophageal spasm and achalasia of the heart.<br>Esophageal diverticular function. | 2 | 21.08-26.08<br>04.09-09.09 |
| 5. | Complications of gastric and duodenal ulcers.<br>Operated on stomach diseases. | 2 | 21.08-26.08<br>04.09-09.09 |
| 6. | Mallory-Weiss syndrome. Zollinger-Ellison syndrome. Symptomatic ulcers. Chronic obstruction of the duodenum. | 2 | 21.08-26.08<br>04.09-09.09 |
| 7. | Complications of bile stone disease and their treatment. Syndrome after cholecystectomy. Cholangitis. Mechanical jaundice. | 2 | 21.08-26.08<br>04.09-09.09 |
| 8. | Chronic pancreatitis.<br>Pancreatic cysts. Benign tumors of the pancreas.<br>Insulin. Clinic. Diagnosis. Treatment. Pancreatic fistula. | 2 | 21.08-26.08<br>04.09-09.09 |
| 9. | Liver Cysts. | 2 | 28.08-02.09<br>11.09-16.09 |
| 10. | Chest and abdominal injuries. | 2 | 28.08-02.09<br>11.09-16.09 |
| 11. | Heart disease. | 2 | 28.08-02.09<br>11.09-16.09 |
| 12. | Postmortem aneurysm<br>Post-op aneurysm. Pericarditis. | 2 | 28.08-02.09<br>11.09-16.09 |
| 13. | Myasthenia. Diseases of the thymus gland. Diseases of the breast. Benign tumors in the lungs and mediastinum. | 2 | 28.08-02.09<br>11.09-16.09 |
| 14. | Occlusive atherosclerosis of renal arteries, mesenteric arteries, aorta and iliac arteries. | 2 | 28.08-02.09<br>11.09-16.09 |
| 15. | Takayasu syndrome. Aortic aneurysm. Pulmonary artery thromboembolism. | 2 | 28.08-02.09<br>11.09-16.09 |
| 16. | Vein thrombosis. Iliac thrombosis. Acute lower vena thrombosis. Upper vena cava and anonymous vein occlusion. Post-thrombophlebitis syndrome (PTSD). Lymphedema. | 2 | 28.08-02.09<br>11.09-16.09 |
| | **Total hours:** | **32** | |

**THEMATIC PLAN OF PRACTICAL CLASSES**

| № | Theme of practical class | Hours | Date |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1. | Diseased hernia. Types of strangulation. Clinic. Diagnosis. Surgical tactics and treatment. Complications in hernia. Postoperative hernia | 2 | 21.08-26.08<br>04.09-09.09 |
| 2. | Acute appendicitis: indications and contraindications for appendectomy, preparation of the patient for surgery, postoperative management. Results of operative treatment. Complications of acute appendicitis. Chronic appendicitis. | 2 | 21.08-26.08<br>04.09-09.09 |
| 3. | Intestinal infestation. Thrombosis, mesenteric embolism. | 2 | 21.08-26.08<br>04.09-09.09 |
| 4. | Diverticulus Meckel. Crohn's disease. Clinic. Diagnosis. Complications. Treatment. Diverticulitis of the intestine. | 2 | 21.08-26.08<br>04.09-09.09 |
| 5. | Module №1 | 2 | 21.08-26.08<br>04.09-09.09 |
| 6. | Esophageal spasm and achalasia of the heart.<br>Esophageal diverticular | 2 | 21.08-26.08<br>04.09-09.09 |
| 7. | Complications of gastric and duodenal ulcers.<br>Operated on stomach diseases. | 2 | 21.08-26.08<br>04.09-09.09 |
| 8. | Mallory-Weiss syndrome. Zollinger-Ellison syndrome. Symptomatic ulcers. | 2 | 21.08-26.08<br>04.09-09.09 |
| 9. | Chronic obstruction of the duodenum. | 2 | 21.08-26.08<br>04.09-09.09 |
| 10. | Module №2 | 2 | 21.08-26.08<br>04.09-09.09 |
| 11. | Complications of bile stone disease and their treatment. Syndrome after cholecystectomy. Cholangitis. Mechanical jaundice. | 2 | 21.08-26.08<br>04.09-09.09 |
| 12. | Chronic pancreatitis. Pancreatic cysts. Benign tumors of the pancreas. Insulin. Clinic. Diagnosis. Treatment. Pancreatic fistula. | 2 | 21.08-26.08<br>04.09-09.09 |
| 13. | Liver Cysts. Chest and abdominal injuries. | 2 | 28.08-02.09<br>11.09-16.09 |
| 14. | Module №3 | 2 | 28.08-02.09<br>11.09-16.09 |
| 15. | Heart disease. | 2 | 28.08-02.09<br>11.09-16.09 |
| 16. | Postmortem aneurysm. Post-op aneurysm. Pericarditis. | 2 | 28.08-02.09<br>11.09-16.09 |
| 17. | Myasthenia. Diseases of the thymus gland. Diseases of the breast. | 2 | 28.08-02.09<br>11.09-16.09 |
| 18. | Benign tumours of the lungs and mediastinum | 2 | 28.08-02.09<br>11.09-16.09 |
| 19. | Module №4 | 2 | 28.08-02.09<br>11.09-16.09 |
| 20. | Occlusive atherosclerosis of renal arteries, mesenteric arteries, aorta and iliac arteries. | 2 | 28.08-02.09<br>11.09-16.09 |
| 21. | Takayasu syndrome. Aortic aneurysm. Pulmonary artery thromboembolism. | 2 | 28.08-02.09<br>11.09-16.09 |
| 22. | Vein thrombosis. Iliac thrombosis. Acute lower vena thrombosis. Upper vena cava and anonymous vein occlusion. | 2 | 28.08-02.09<br>11.09-16.09 |
| 23. | Post-thrombophlebitis syndrome (PTSD). Lymphedema. | 2 | 28.08-02.09<br>11.09-16.09 |
| 24. | Module №5 | 2 | 28.08-02.09<br>11.09-16.09 |
| | **Total hours:** | **48** | |

**THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS**

| Unit № | Theme of independent work | Hours | Date |
|---|---|---|---|
| **Unit №1 Hernia, intestinal diseases (20hrs)** | | | |
| 1. | Diagnosis of diseased hernia, acute appendicitis | 2 | 21.08-26.08<br>04.09-09.09 |

| | | | |
|---|---|---|---|
| 2. | Postoperative hernia. Make a presentation | 3 | 21.08-26.08<br>04.09-09.09 |
| 3. | Case management and testing | 3 | 21.08-26.08<br>04.09-09.09 |
| 4. | Working with literature | 12 | 21.08-26.08<br>04.09-09.09 |
| **Unit №2 Diseases of the esophagus, stomach and duodenum (20hrs)** | | | |
| 5. | Esophageal spasm and achalasia of the heart. Esophageal diverticular. Make a presentation | 3 | 21.08-26.08<br>04.09-09.09 |
| 6. | Make a presentation on complications of gastric and duodenal ulcers. Chronic obstruction of the duodenum. | 4 | 21.08-26.08<br>04.09-09.09 |
| 7. | Case management and testing | 3 | 21.08-26.08<br>04.09-09.09 |
| 8. | Working with literature | 10 | 21.08-26.08<br>04.09-09.09 |
| **Unit №3 Diseases of the hepatic-duodenal zone. Injuries to the thorax and abdomen (20hrs)** | | | |
| 9. | Diagnosis of the pancreas. Insulin. | 3 | 28.08-02.09<br>11.09-16.09 |
| 10. | Chronic pancreatitis. Liver Cysts. Chest and abdominal injuries. Make a presentation | 3 | 28.08-02.09<br>11.09-16.09 |
| 11. | Case management and testing | 4 | 28.08-02.09<br>11.09-16.09 |
| 12. | Working with literature | 10 | 28.08-02.09<br>11.09-16.09 |
| **Unit №4 Chest and heart diseases (20hrs)** | | | |
| 13. | Heart disease. Postmortem aneurysm. Post-op aneurysm. Make a presentation | 2 | 28.08-02.09<br>11.09-16.09 |
| 14. | Make a presentation on myasthenia, lungs and mediastinum | 2 | 28.08-02.09<br>11.09-16.09 |
| 15. | Case management and testing | 4 | 28.08-02.09<br>11.09-16.09 |
| 16. | Working with literature | 12 | 28.08-02.09<br>11.09-16.09 |
| **Unit №5 Vascular diseases (20hrs)** | | | |
| 17. | Make a presentation on atherosclerosis of renal arteries, mesenteric arteries, aorta and iliac arteries. | 3 | 28.08-02.09<br>11.09-16.09 |
| 18. | Vein thrombosis. Iliac thrombosis. Acute lower vena thrombosis. Make a presentation | 2 | 28.08-02.09<br>11.09-16.09 |
| 19. | Post-thrombophlebitis syndrome (PTSD). Lymphedema. Make a presentation | 2 | 28.08-02.09<br>11.09-16.09 |
| 20. | Case management and testing | 3 | 28.08-02.09<br>11.09-16.09 |
| 21. | Working with literature | 10 | 28.08-02.09<br>11.09-16.09 |
| | **Total** | **100** | |

Recommended reading for the discipline:

**Basic:**


1. Russell R.G.G., Williams N.S. “Bailey & Love`s Short Practice of Surgery 24 ed.”, 2004
2. Shenoy K.R. “Manipal`s Manual of Surgery”, 2005
3. Sriram Bhat M, “SRB's Manual of Surgery”, 2019


**Additional:**


1. Shamin M., “Essentials of Surgery”, 2011
2. Dr.Das S., “A practical Guide to Operative Surgery”, 2000
3. Akhunbaeva N.I, “Course of Selected lectures by Surgery”, 2008


**Grading policy and procedures for all types of work**

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):
current score - 40 points
independent work - 20 points
control score (final assessment of knowledge per unit) - 40 points

Maximum score - 100 (40+20+40)

**Grading system for student's achievements**

| Grading criteria per discipline | | | | |
|---|---|---|---|---|
| Maximum score | Intervals | | | |
| | «unsatisfactory» | «satisfactory» | «good» | «excellent» |
| Current control - 40 | 0-23 | 24-30 | 31-35 | 36-40 |
| Interval description | Exposed for poor learning. The unsatisfactory answer shows that the student is familiar with the teaching material, but does not highlight the basic provisions, allows substantial errors that distort the meaning of the studied. He transmits information that he remembered from the words of the teacher or from a textbook, but which is not logically processed in his consciousness, is not brought into a system of scientific provisions, arguments. | Displayed if student applies correctly specific terminology, knows the basic, essential provisions of the training material, but does not know how to explain them, allows individual errors and inaccuracies in the content of knowledge and the form of construction of the answer. | It is put forward for the correct assimilation of the software material, but there are inaccuracies and minor errors, both in the content and in the form of the answer. | It is for a deep understanding of the educational material, for the ability to independently explain the studied provisions, for a logical correctly constructed answer, when the student does not tolerate mistakes and is able to integrate the acquired knowledge with knowledge on related academic disciplines. |
| Independent work - 20 | 0-11 | 12-15 | 16-17 | 18-20 |
| Interval description | It is displayed if the student does not complete the task, makes gross mistakes when answering the teacher's questions, there are no ready-made schemes, tables. | It is displayed if the student is difficult to answer, makes mistakes and inaccuracies. | It is put forward for the correct assimilation of the software material, but there are inaccuracies and minor errors, both in the content and in the form of the answer. | It is for a deep understanding of the educational material, for the ability to independently explain the studied provisions, for a logical correctly constructed answer, when the student does not tolerate mistakes and is able to integrate the acquired knowledge with knowledge on related academic disciplines. |
| Control work (module) - 40 | 0-23 | 24-30 | 31-35 | 36-40 |
| Interval description | Significant gaps in knowledge of the main training material were identified, fundamental | Knowledge of the educational material to the extent necessary for further development of | Full knowledge of educational material, basic literature recommended | Comprehensive, systematic and in-depth knowledge of educational material, basic and additional literature, |

| | | | | |
|---|---|---|---|---|
| | mistakes were made in answering questions | the discipline, familiarity with the basic literature recommended for the class. The student makes mistakes, but has the necessary knowledge to correct them under the guidance of the teacher. | for the class. The student manifests the systemic nature of knowledge in the discipline and is able to supplement and update himself in the course of further study work and professional activity. | interrelation of basic concepts of discipline in their importance for the acquired profession. |

**Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).**
- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-10 points.

**Academic Ethics Policy.**
- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-10 points.

**Guidelines for the lessons of the discipline**
**Unit №1 «Hernias, bowel diseases»**
**Content of Unit № 1**
**Class 1**
**Key questions covered in Lecture №1: Introduction Pinched hernia. Postoperative hernia (2hrs)**
1. Anatomy.
2. Clinic.
3. Diagnostics.
4. Surgical tactics and treatment.
5. Complications of hernia.

Recommended reading for the class:
[1] pp. 741–748
**Class 2**
**Key questions covered in Practice class №1: Pinched hernia. Postoperative hernia (2hrs)**
1. Types of strangulation.
2. Clinic.
3. Diagnostics.
4. Surgical tactics and treatment.
5. Complications of hernia.

Recommended reading for the class:
[1] pp. 842–844
[2] pp. 858–873
[3] pp. 874 - 876
**Class 3**

**Key questions covered in Lecture №2: Acute appendicitis. Chronic appendicitis (2hrs)**

1. Development and anomalies.
2. Surgical anatomy.
3. Clinic.
4. Diagnostics.
5. Surgical tactics and treatment.

Recommended reading for the class:
[3] pp. 756-757

**Class 4**

**Key questions covered in Practice class №2: Acute appendicitis. Chronic appendicitis (2hrs)**

1. Indications and contraindications to appendectomy.
2. Preparation of the patient for surgery.
3. Management of the postoperative period.
4. The results of surgical treatment.
5. Complications of acute appendicitis.

Recommended reading for the class:
[1] pp. 824–827
[2] pp. 827–833
[3] pp. 835-840

**Class 5**

**Key questions covered in Lecture №3: Intestinal intussusception. Thrombosis, embolism of mesenteric vessels. (2hrs)**

1. Types, parts.
2. Pathophysiology.
3. Clinical features.
4. Causes of acute mesenteric ischaemia.
5. Treatment.

Recommended reading for the class:
[2] pp. 753–754

**Class 6**

**Key questions covered in Practice class №3: Intestinal intussusception. Thrombosis, embolism of mesenteric vessels. (2hrs)**

1. Definition.
2. Clinic.
3. Diagnostics.
4. Surgical tactics and treatment.
5. Prognosis.

Recommended reading for the class:
[4] pp. 757-769

**Class 7**

**Key questions covered in Lecture №4: Meckel's diverticulum. Crohn's disease. (2hrs)**

1. Definition.
2. Pathophysiology.
3. Clinical features.
4. Complications.
5. Treatment.

Recommended reading for the class:
[2] pp. 666–689

**Class 8**

**Key questions covered in Practice class №4: Meckel's diverticulum. Crohn's disease. (2hrs)**

1. Diverticulitis of the intestine.
2. Clinic.
3. Diagnostics.
4. Surgical tactics and treatment.
5. Prognosis.

Recommended reading for the class:
[1] pp. 741–748
[3] pp. 700-725

**Key questions covered in Practice class №5: Module №2 (2hrs).**

1. Pinched hernia. Types of strangulation. Clinic. Diagnostics. Surgical tactics and treatment. Complications of hernia. 2. Postoperative hernia Clinic. Diagnostics. Surgical tactics and treatment.

3. Acute appendicitis: indications and contraindications for appendectomy, preparation of the patient for surgery, management of the postoperative period. The results of surgical treatment.
4. Complications of acute appendicitis.
5. Chronic appendicitis. Clinic. Diagnostics. Surgical tactics and treatment.
6. Intestinal intussusception. Thrombosis, embolism of mesenteric vessels.
7. Meckel's diverticulum. Clinic. Diagnostics. Complications. Treatment.
8. Crohn's disease. Clinic. Diagnostics. Complications. Treatment.
9. Diverticulitis of the intestine. Definition. Clinic. Diagnostics. Complications. Treatment.

**Unit №2 «Diseases of the esophagus, stomach and duodenum»**

**Content of unit 2**

**Class 1.**

**Key questions covered in Lecture №1: Esophageal spasm and achalasia cardia. Diverticulum of the esophagus. (2hrs).**

1. Surgical anatomy.
2. Physiology.
3. Achalasia cardia.
4. Diverticulum.
5. Dysphagia.

Recommended reading for the class:
[1] pp. 430–435

**Class 2.**

**Key questions covered in Practice class №1: Esophageal spasm and achalasia cardia. Diverticulum of the esophagus. (2hrs).**

1. Definition.
2. Clinical features
3. Differential diagnostics.
4. Treatment.
5. Prevention. Prognosis

Recommended reading for the class:
[2] pp. 439–444

**Class 3.**

**Key questions covered in Lecture №2: Complications of peptic ulcer diseases of the stomach and duodenum. Operated diseases of the stomach. (2hrs).**

1. Surgical anatomy.
2. Gastric physiology.
3. Pathogenesis.
4. Clinical presentations.
5. H. pylori infection.

Recommended reading for the class:
[1] pp. 460–472

**Class 4.**

**Key questions covered in Practice classes№2: Complications of peptic ulcer diseases of the stomach and duodenum. Operated diseases of the stomach. (2hrs).**

1. Peptic ulcer disease definition.
2. Clinical features.
3. Differential diagnostics.
4. Treatment. Surgical tactics.
5. Prevention. Prognosis

Recommended reading for the class:
[2] pp. 155–163; 472– 479

**Class 5**

**Key questions covered in Lecture №3: Mallory-Weiss syndrome. Zollinger-Ellison syndrome. Symptomatic ulcers. (2hrs).**

1. Surgical anatomy.
2. Pathogenesis.
3. Clinical features.
4. Complications.
5. Treatment.

Recommended reading for the class:

[1] pp. 537–546

**Class 6**

**Key questions covered in Practice class №3: Mallory-Weiss syndrome. Zollinger-Ellison syndrome. Symptomatic ulcers. (2hrs).**

1. Definition.
2. Pathogenesis.
3. Clinical features
4. Diagnostics.
5. Treatment. Surgical tactics. Prognosis

Recommended reading for the class:

[2] pp. 467-468;

**Class 7**

**Key questions covered in Lecture №4: Chronic duodenal ileus (4hrs).**

1. Surgical anatomy.
2. Chronic duodenal ileus.
3. Pathogenesis.
4. Clinical presentations.
5. Duodenal anatomy and obstruction.
6. Treatment.

Recommended reading for the class:

[3] pp. 468– 476

**Class 8**

**Key questions covered in Practice class №4: Chronic duodenal ileus (4hrs).**

1. Definition.
2. Clinic.
3. Diagnostics.
4. Differential diagnostics.
5. Prevention. Treatment tactics

Recommended reading for the class:

[1] pp. 480-512

**Key questions covered in Practice class №5: Module №2 (2hrs).**

1. Esophageal spasm and achalasia of the heart. Diverticulum of the esophagus. Clinic. Diagnostics. Surgical tactics and treatment.
2. Complications of peptic ulcer diseases of the stomach and duodenum.
3. Operated diseases of the stomach.
4. Mallory-Weiss syndrome.
5. Zollinger-Ellison syndrome.
6. Symptomatic ulcers.
7. Chronic duodenal obstruction. Clinic. Diagnostics. Complications. Treatment

**Unit №3 «Diseases of the hepatic-duodenal zone. Injuries of the chest and abdominal cavity»**

**Contents of Unit 3**

**Class 1**

**Key questions covered in Practice class №1: Complications of cholelithiasis and their treatment. Syndrome after cholecystectomy. Cholangitis. mechanical jaundice. (2 hrs)**

1. Anatomical and physiological information about the biliary system of the liver.
2. Classification of diseases of the gallbladder and bile ducts.
3. Method of examination of patients with diseases of the gallbladder and bile ducts.
4. Gallstone disease: etiopathogenesis, clinical picture, diagnosis, treatment.
5. Complications of cholelithiasis (acute cholecystitis, dropsy and empyema of the gallbladder, choledocholithiasis, cholangitis, obstructive jaundice, acute pancreatitis): clinical picture, diagnosis, modern methods of treatment.
6. Obstructive jaundice: definition of the concept, causes, modern diagnostic methods.
7. Obstructive jaundice of non-tumor origin: etiology, clinical picture, diagnosis, differential diagnosis, modern methods of treatment.
8. Postcholecystectomy syndrome: definition of the concept, classification.
9. Cholangitis: clinical picture, diagnosis, modern methods of treatment.

Recommended reading for the class:

[2] pp. 155–163

**Class 2**

**Key questions covered in Practice class №2: Chronic pancreatitis. Cysts of the pancreas. Benign tumors of the pancreas. insulinoma. Clinic. Diagnostics. Treatment. Fistula of the pancreas. (2 hrs)**

1. Anatomical and physiological information about the pancreas.

2. Acute pancreatitis: clinical and anatomical classification, etiopathogenesis, clinical semiotics, laboratory and instrumental diagnostics, conservative treatment.
3. Minimally invasive methods of treatment of acute pancreatitis.
4. Indications for surgical treatment of acute pancreatitis, types of surgical interventions.
5. Complications of acute pancreatitis: clinical picture, diagnosis, treatment options.
6. Chronic pancreatitis: classification, etiology, clinical picture, modern diagnostic methods, treatment, indications for surgical treatment and types of operations.
7. Differential diagnosis, treatment of pancreatic cysts.
8. Differential diagnosis, treatment of benign tumors of the pancreas.
9. Insulinoma. Fistula of the pancreas. Clinic. Diagnostics. Treatment.
Recommended reading for the class:
[1] pp. 480-512

**Class 3**

**Key questions covered in Practice class №3: Liver cysts. (1 hr)**

1. Definition
2. Classification of cysts
3. Differential Diagnosis
4. Treatment of liver cysts
5. Other liver cysts
6. Treatment of complications, prevention.

Recommended reading for the class:
[3] pp. 445–450

**Class 4**

**Key questions covered in Practice class №4: Injuries of the chest and abdomen. (1 hour)**

1. Classification of chest injuries.
2. Clinical picturevarious types of chest injuries.
3. Examination of victims with chest trauma. Surgical tactics. Complications.
4. Classification of abdominal trauma. Diagnosis of injuries of the abdominal wall and abdominal organs.
5. Treatment of patients with blunt trauma to the abdominal wall. Surgical tactics.
6. Features of assistance to victims with combined injuries.

Recommended reading for the class:
[1] pp. 460–472

**UNIT №4 "Diseases of the chest and heart"**

**Contents of Unit 4**

**Class 1**

**Key questions covered in Practice class №1: Heart diseases. (2 hours)**

1. Anatomy of the cardiovascular system
2. Physiology of the cardiovascular system
3. Classification of heart diseases.
4. Heart failure: definition, classification, clinic, treatment
5. Ischemic disease: definition, classification, clinic, treatment
6. Heart valve defects: definition, classification, clinic, treatment

Recommended reading for the class:
[3] pp. 700-725

**Class 2**

**Key questions covered in Practice class №2: Postinfarction aneurysm. Pericarditis. (2 hrs)**

1. Postinfarction aneurysm: clinical picture, diagnosis, modern methods of treatment.
2. Aneurysm: clinical picture, diagnosis, modern methods of treatment.
3. Aneurysm: definition, classification
4. Pericarditis: clinical picture, diagnosis, modern methods of treatment.
5. Pericarditis: definition, classification
6. Types of complications, treatment of complications

Recommended reading for the class:
[2] pp. 753–754

**Class 3**

**Key questions covered in Practice class №3: Myasthenia gravis. Diseases of the thymus. Diseases of the mammary gland. (2 hrs)**

1. Myasthenia gravis: definition, classification
2. Myasthenia gravis: clinical picture, diagnosis, modern methods of treatment.
3. Diseases of the thymus gland: definition, classification

4. Diseases of the thymus gland: clinical picture, diagnosis, modern methods of treatment.
5. Breast diseases: definition, classification
6. Diseases of the mammary gland: clinical picture, diagnosis, modern methods of treatment.

Recommended reading for the class:
[2] pp. 666–689

**Class 4**

**Key questions covered in Practice class №4: Benign tumors of the lungs and mediastinum. (2 hrs)**

1. Benign lung tumors: definition, classification
2. Benign lung tumors: clinical picture, diagnosis, modern methods of treatment.
3. Benign tumors of the mediastinum: definition, classification
4. Benign tumors of the mediastinum: clinical picture, diagnosis, modern methods of treatment.
5. Benign lung tumors: differential diagnosis, treatment of complications
6. Benign tumors of the mediastinum: differential diagnosis, treatment of complications

Recommended reading for the class:
[2] pp. 827–833

**UNIT №5«Vascular diseases»**

**Content of Unit № 5**

**Class 1**

**Key questions covered in Practice class №1: Occlusive atherosclerosis of the renal arteries, mesenteric arteries, aorta and iliac arteries. (2 hrs.)**

1. Concept of atherosclerosis. Types of acute disorders of mesenteric circulation, differential diagnosis.
2. Causes of acute disorders of mesenteric circulation.
3. Variants of the clinical course of acute disorders of the mesenteric circulation.
4. Methods of laboratory and instrumental diagnostics.
5. Modern approaches to the choice of treatment tactics for various types of acute disorders of the mesenteric circulation, features of preoperative preparation and postoperative management of patients.
6. Causes of atherosclerosis of renal arteries, classification.
7. Pathogenesis of atherosclerosis of renal arteries.
8. Clinical presentation of atherosclerosis renal arteries.
9. Differential diagnosis of atherosclerosis of renal arteries.
10. Methods of laboratory and instrumental diagnosis of atherosclerosis of renal arteries.
11. Causes of atherosclerosis of aorta and iliac arteries. Classification.
12. Pathogenesis of atherosclerosis of aorta and iliac arteries.
13. Clinical presentation of atherosclerosis of aorta and iliac arteries.
14. Differential diagnosis of atherosclerosis of aorta and iliac arteries.
15. Methods of laboratory and instrumental diagnosis of atherosclerosis of aorta and iliac arteries.
16. Treatment options of atherosclerosis of renal arteries, mesenteric arteries, aorta and iliac arteries.

**Recommended reading for the class:**
MEDSCAPE.COM: Peripheral Vascular Disease

**Class 2**

**Key questions covered in Practice class №2: Takayasu syndrome. Aortic aneurysm. Pulmonary thromboembolism. (2hrs.)**

1. Etiology and pathogenesis of Takayasu Arteritis.
3. Variants of the clinical course of Takayasu Arteritis.
4. Methods of laboratory and instrumental diagnostics.
5. Classification and treatment options of Takayasu Arteritis.
6. Causes of Abdominal Aortic Aneurysm, classification.
7. Pathogenesis of Abdominal Aortic Aneurysm.
8. Clinical presentation of Abdominal Aortic Aneurysm.
9. Differential diagnosis of Abdominal Aortic Aneurysm.
10. Methods of laboratory and instrumental diagnosis of Abdominal Aortic Aneurysm.
11. Causes of Pulmonary thromboembolism. Classification.
12. Pathogenesis of Pulmonary thromboembolism.
13. Clinical presentation of Pulmonary thromboembolism.
14. Differential diagnosis of Pulmonary thromboembolism.
15. Methods of laboratory and instrumental diagnosis of Pulmonary thromboembolism.
16. Treatment options of Takayasu syndrome, abdominal aortic aneurysm and pulmonary thromboembolism.

**Recommended reading for the class:**
MEDSCAPE.COM: Takayasu Arteritis
MEDSCAPE.COM: Pulmonary embolism
MEDSCAPE.COM: Abdominal Aortic Aneurysm
Pulmonary thromboembolism: Manipal Manual of Surgery 4th edition p 142

Abdominal aortic aneurysm: Manipal Manual of Surgery 4 th edition p 1031

**Class 3**

**Key questions covered in Practice class №3: Deep thrombosis of the iliac-femoral vein. Acute thrombosis of the inferior vena cava. Superior vena cava and innominate vein thrombosis. (2hrs.)**

1. Concept of thrombosis in vascular system. Virchow's triad.
2. Etiology and pathogenesis of deep thrombosis of the iliac-femoral vein.
3. Clinical sings and complications deep thrombosis of the iliac-femoral vein.
4. Laboratory tests of diagnosing deep thrombosis of the iliac-femoral vein.
5. Treatment of deep thrombosis of the iliac-femoral vein
6. Complication of deep thrombosis of the iliac-femoral vein
7. Etiology and pathogenesis of acute thrombosis of the inferior, superior and innominate vein thrombosis
8. Clinical presentation of acute thrombosis of the inferior, superior and innominate vein thrombosis
9. Laboratory tests of diagnosing of acute thrombosis of the inferior, superior and innominate vein thrombosis.
10. Differential diagnosis of acute thrombosis of the inferior, superior and innominate vein thrombosis
11. Treatment options of of acute thrombosis of the inferior, superior and innominate vein thrombosis

**Recommended reading for the class:**

MEDSCAPE.COM: Deep venous thrombosis

MEDSCAPE.COM: Inferior Vena Caval Thrombosis

**Class 4**

**Key questions covered in Practice class №4: Post-thrombotic syndrome. Lymphedema (2 hrs.)**

1.Etiology and pathogenesis of Post-thrombotic syndrome.

3.Clinical sings and complication of Post-thrombotic syndrome.

4.Laboratory tests of diagnosing of Post-thrombotic syndrome.

5.Treatment of Post-thrombotic syndrome

6. Complication of Post-thrombotic syndrome.
7. The concept of lymphedema, its types.
8. Causes of lymphedema, classification.
9. Pathogenesis of pathological disorders in disorders of the lymphatic and venous circulation.
10. Clinical presentation of lymphedema.
11. Differential diagnosis of lymphedema.
12. Methods of laboratory and instrumental diagnosis of lymphedema.

**Recommended reading for the class:**

MEDSCAPE.COM: Thrombophlebitis

*Hematology Am Soc Hematol Educ Program.* 2016 Dec 2; 2016(1): 413–418.
doi: 10.1182/asheducation-2016.1.413

MEDSCAPE.COM: Postthrombotic syndrome and chronic venous insuffiency.

**Methodological instructions for the implementation of independent work on the discipline:**

Independent work of students is carried out on the assignment and with the instructional guidance of the teacher, but without his direct involvement. Independent work is divided into independent work on classroom sessions and on extracurricular independent work. Independent work of students includes both fully independent development of individual topics (sections) of discipline, and development of topics (sections) mastered during classroom work. During independent work, students read and take notes of educational, scientific and reference literature, perform tasks aimed at consolidation knowledge and skills development, prepared for ongoing and intermediate control of discipline.