

Odessa National Medical University
Department of General and Military Surgery
Course syllabus
“Cholelithiasis surgery”

Amount	4 credits of 120 hours
Semester, year, study	graduate school
Days, time, place	According to the schedule in the auditorium of the Department of General and Military Surgery, 3 Valikhovsky Lane
Teacher(s)	Mykhailo Arsenievich Kashtalyan, doctor of medicine, professor, head of the department Shapovalov Vitaly Yuriyovych, doctor of medicine, professor Evgeny Anatoliyovych Kvasnevskiy, Doctor of Medicine, Associate Professor of the Department of General and Military Surgery
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Workplace	Study room of the department of general and military surgery
Consultations	Thursday - from 14.00 to 16.00; Saturday - from 9.00 to 13.00 <i>Online consultations:</i> Thursday - from 14.00 to 16.00; saturday - from 9.00 to 13.00 <i>Microsoft Teams</i> or via Telegram/Viber

COMMUNICATION

Communication with graduate students is carried out through face-to-face meetings. In case of transition to distance learning, communication with graduate students will be carried out using e-mail and programs: Microsoft Teams, Moodle, Telegram and Viber.

COURSE ABSTRACT

Subject of discipline study

Program selective educational discipline "Cholelithiasis surgery" is devoted to the problem of surgical treatment of gallstone disease, clinical manifestations and diagnostic methods of cholelithiasis, substantiated indications and contraindications of classical, open and minimally invasive methods of treatment. The principles of modern treatment of cholelithiasis with the determination of the possible limits of surgical intervention both in the disease itself and in possible complications are presented.

Course prerequisites and post-requisites (The place of the discipline in the educational program)

Interdisciplinary connections are based on the study by students of normal and pathological clinical anatomy, histology, general and clinical pathological physiology, microbiology, virology and immunology, pharmacology, propaedeutics of internal diseases and therapy, infectious diseases, family medicine, internal medicine, which involves integration with these disciplines and form the ability to apply knowledge in the process of further education and professional activity.

The purpose of the course

The purpose of the selective educational discipline is to train specialists who are able to competently solve complex problems in the field of professional and research innovation activities when planning and performing their own research and training doctors of philosophy for the high-quality performance of functional duties related to the rational choice of surgical tactics diseases of the gallbladder, which should reduce the frequency or prevent complications and mortality

Tasks of the discipline:

1) -awarding PhD candidates knowledge about frequency and nature of complications minimally invasive surgical interventions in patients with surgical diseases of the gallbladder

2) provision of knowledge about measures for the prevention of intra- and postoperative complications of minimally invasive operations on the gallbladder, depending on the likelihood of complications and determining its effectiveness.

3) provision of knowledge to those obtaining the degree of Doctor of Philosophy clinical manifestations and methods of diagnosis of complications that arose in patients with surgical diseases of the gallbladder during minimally invasive surgery and in the postoperative period

4) provision of knowledge to the holders of the degree of Doctor of Philosophy indications to conversions in the event of intraoperative complications; relaparoscopy and laparotomy in the event of postoperative complications patients with surgical diseases of the gallbladder.

provision of knowledge to the holders of the degree of Doctor of Philosophy efficiency surgical treatment of complications minimally invasive operations in patients with gall bladder diseases.

Expected results

According to the results of studying the discipline, graduate students should **know:**

- Clinical manifestations and methods of diagnosis of complications that arose inpatients with surgical diseases of the gallbladder during minimally invasive surgery and in the postoperative period
- clinic and diagnosis of various types of cholelithiasis
- indications to conversions in the event of intraoperative complications; relaparoscopy and laparotomy in the event of postoperative complications patients with surgical diseases of the gallbladder
- problems of surgical treatment of gallstone disease

be able:

- use the algorithm for diagnosing postoperative complications after laparoscopic cholecystectomy
- apply effective methods surgical treatment of complications minimally invasive operations in patients with gall bladder diseases.
- to master the laparoscopic technique of surgery in difficult clinical situations.
- Apply surgical tactics of prioritizing laparoscopic elimination of intraoperative complications and the use of minimally invasive interventions: relaparoscopy, endoscopic transpapillary operations, percutaneous punctures/drainage under the control of ultrasound navigation in the treatment of postoperative complications of LHE

COURSE DESCRIPTION

Forms and methods of education

The course is taught in the form of seminar classes (60 hours), as well as through the organization of independent work of graduate students (60 hours); total - 120 hours (4 credits).

The study of the discipline is implemented on the basis of the following teaching methods: - according to the dominant means of teaching: verbal, visual;

1. Verbal (lecture, explanation, story, conversation, briefing);
2. Visual (multimedia presentations, video films, broadcasts from the operating room);
3. Practical:
 - preparation for practical classes;
 - independent study of topics that are not part of the classroom lesson plan;
 - solution of test tasks;
 - mastering the technique of performing surgical manipulations.
 - work in a student scientific group, writing scientific articles;
 - thematic discussions;
 - brain storm;
 - Round Table;

- analysis of specific situations (case method);
- simulation tasks; – problematic statement;
- presentations;
- trainings;
- business games

Content of the academic discipline

Topic 1. Anatomical and physiological information about the hepatobiliary system.

Topic 2. Historical essay, statistics of cholelithiasis, cholelithiasis. Gallstones.

Topic 3. Classification of cholelithiasis.

Topic 4. Methods of diagnosis of cholelithiasis and its complications.

Topic 5. Clinic and diagnosis of various types of cholelithiasis.

Topic 6. Traditional planned surgery of cholelithiasis.

Topic 7. Planned surgery of ductal lithiasis.

Topic 8. Non-standard situations during planned operations for cholelithiasis.

Topic 9. Intraoperative complications.

Topic 10. Emergency surgery for cholelithiasis.

Topic 11. Subtotal cholecystectomy.

Topic 12. Peculiarities of the technique of laparoscopic cholecystectomy in patients with liver cirrhosis.

Topic 13. Features of the technique of minimally invasive interventions in acute cholecystitis

Topic 14. Cholecystectomy from minimally traumatic approaches in acute cholecystitis.

Topic 15. Complex treatment of early postoperative complications in patients with calculous cholecystitis and choledocholithiasis.

Topic 16. Complex treatment of late postoperative complications in patients with calculous cholecystitis and choledocholithiasis.

Topic 17. Postcholecystectomy syndrome. Late surgical problems.

Topic 18. Anamnestic, clinical and diagnostic features of patients with bile leakage and their systematization. Selection of surgical tactics for patients with biliary leakage.

Topic 19. Postoperative management of patients.

Topic 20. Control of practical skills and theoretical knowledge.

Topic 21. Credit lesson. Final control of mastering the discipline.

List of recommended literature:

a) main:

1. I. Bily V. Ya., Rusyn V. I., Fomin P. D., Kashtalyan M. A. Essays on the surgery of gallstone disease: Monograph.-Uzhgorod: Karpaty, 2019.-236 p., ill..
2. V. V. Boyko, R. M. Smachilo, O. V. Maloshtan, O. M. Tyshchenko.- Bile fistulae (modern concept of treatment).- Kharkiv: Promin, 2017.-p.160
3. M. A. Kashtalyan. Doctoral abstract "Surgical tactics of treatment of patients with acute cholecystitis" Odesa, 2009

4. Damages and scar strictures of bile ducts: a handbook for doctors / N.N. Artemyeva, V.A. Vyshnevskiy, N.Yu. Kokhanenko - St. Petersburg: SpetsLit, 2018.-359p.
5. Acute cholecystitis/ A.I. Cherepanin – Moscow: GEOTAR-Media, 2016. -224 p. : ill.
6. Litovsky I.A., Gordyenko A.V. Gallbladder disease, cholecystitis and some associated diseases (questions of pathogenesis, diagnostics, treatment. - St. Petersburg: SpetsLit, 2019. - 358p.
7. Early postoperative complications in patients with calculous cholecystitis and choledocholithiasis / D.M. Krasilnikov, A.Z. Farrakhov, I.I. Khairullin, M.I. MAVryn. - Kazan: Medicine, 2008 7-176p.
8. Kvasnevsky O.A. Abstract of the candidate thesis "Prevention and surgical treatment of complications of minimally invasive surgical interventions on the gallbladder" Kyiv.2021

b) additional:

1. Al-Temimi MH, Trujillo C, Shah M, Rangarajan S, Kim E, Chandrasekaran B, Handman D, Johna S. Same-Day versus Conventional Different-Day Endoscopic Retrograde Cholangiopancreatography and Laparoscopic Cholecystectomy: A Multi-Center Retrospective Study. Am Surg. 2018 Oct 1;84(10):1679-1683. PMID: 30747694
2. Alemi F, Seiser N, Ayloo S. Gallstone Disease: Cholecystitis, Mirizzi Syndrome, Bouveret Syndrome, Gallstone Ileus. Surg Clin North Am. 2019 Apr;99(2):231-244. doi: 10.1016/j.suc.2018.12.006. PMID: 30846032
3. Arcerito M, Jamal MM, Nurick HA. Bile Duct Injury Repairs after Laparoscopic Cholecystectomy: A Five-Year Experience in a Highly Specialized Community Hospital. Am Surg. 2019 Oct 1;85(10):1150-1154.
4. Arsic I, Abrahamsen J, Gammelgård L, Vainoriene V, Pahle E, Nielsen MF. Radiology diagnostics and treatment of acute cholecystitis. Ugeskr Laeger. 2017 October 16;179(42):V02170126. PMID: 29053098
5. Augustin T, Muslim MA, Brethauer S, Aminian A, Kroh M, Schneider E, Walsh RM. Obesity and its implications for morbidity and mortality after cholecystectomy: A matched NSQIP analysis. Am J Surg. 2017 Mar;213(3):539-543. doi: 10.1016/j.amjsurg.2016.11.037. Epub 2017 Jan 26. PMID: 28237044
6. Bergeron E, Desilets E, Maniere T, Bensoussan M. Same-day endoscopic ultrasound, retrograde cholangiopancreatography and stone extraction, followed by cholecystectomy: A case report and literature review. Int J Surg Case Rep. 2020;70:115-118. doi: 10.1016/j.ijscr.2020.04.063. Epub 2020 May 11. PMID: 32416480

7. Bhattacharya S. Subtotal cholecystectomy versus cholecystostomy. *Rev Esp Enferm Dig.* 2019 Mar;111(3):248-249. doi: 10.17235/reed.2018.5845/2018.PMID: 30449121
8. Bismuth H, Majno PE. Biliary strictures: classification based on the principles of surgical treatment. *World J Surg.* 2001;25:1241–1244
9. Booij KA, de Reuver PR, Yap K, van Dieren S, van Delden OM, Rauws EA, et al. Morbidity and mortality after minor bile duct injury following laparoscopic cholecystectomy. *Endoscopy.* 2015;47:40–4
10. Booij KAC, de Reuver PR, van Dieren S, van Delden OM, Rauws EA, Busch OR, et al. Long-term impact of bile duct injury on morbidity, mortality, quality of life, and work-related limitations. *Ann Surg.* 2018;268:143–150
11. Chatha SS, Farooq MJ. Gallstone Abscess due to Spilled Gallstones after Laparoscopic Cholecystectomy. *Coll Physicians Surg Pak.* 2019 Mar;29(3):294. doi: 10.29271/jcpsp.2019.03.294.PMID: 30823965
12. Coelho JCU, Dalledone GO, Schiel W, Barbardin JP, Claus CMP, Matias JEF, Freitas ACT. DOES MALE GENDER INCREASE THE RISK OF LAPAROSCOPIC CHOLECYSTECTOMY?. *Arq Bras Cir Dig.* 2019 Aug 26;32(2):e1438. doi: 10.1590/0102-672020190001e1438.PMID: 31460598
13. Comajuncosas J, Hermoso J, Jimeno J, Gris P, Orbeal R, Cruz A, et al. Effect of bag extraction to prevent wound infection on umbilical port site wound on elective laparoscopic cholecystectomy: a prospective randomized clinical trial. *Surg Endosc.* 2017; 31: 249-254
14. Cotton PB. Fifty years of ERCP: a personal review. *Gastrointest Endosc.* 2018 Aug;88(2):393-396. doi: 10.1016/j.gie.2018.04.013. Epub 2018 Apr 12. PMID: 29654739
15. Cremer A, Arvanitakis M. Diagnosis and management of gall stone disease and its complications. *Minerva Gastroenterol Dietol.* 2016 Mar;62(1):103-29. Epub 2016 Jan 15. PMID: 26771377
16. Di Ciaula A, Wang DQ, Portincasa P. An update on the pathogenesis of cholesterol gallstone disease. *Curr Opin Gastroenterol.* 2018 Mar;34(2):71-80. doi: 10.1097/MOG.0000000000000423.PMID: 29283909
17. Dworsky JQ, Childers CP, Copeland T, Maggard-Gibbons M, Tan HJ, Saliba D, Russell MM. Geriatric Events Among Older Adults Undergoing Nonelective Surgery Are Associated with Poor Outcomes. *Am Surg.* 2019 Oct 1;85(10):1089-1093.
18. Ellis PH. The story of gallstones and their treatment. *J Perioper Pract.* 2019 Nov;29(11):382-384. doi: 10.1177/1750458919838450. Epub 2019 Apr 9. PMID: 30963808
19. Elmunzer BJ, Noureldin M, Morgan KA, Adams DB, Coté GA, Waljee AK. The Impact of Cholecystectomy After Endoscopic Sphincterotomy for Complicated Gallstone Disease. *Am J Gastroenterol.* 2017

- Oct;112(10):1596-1602. doi: 10.1038/ajg.2017.247. Epub 2017 Aug 15. PMID: 28809384
20. EASL Clinical Practice Guidelines on the prevention, diagnosis and treatment of gallstones. European Association for the Study of the Liver (EASL). Electronic address: easloffice@easloffice.eu . J Hepatol. 2016 Jul;65(1):146-181. doi: 10.1016/j.jhep.2016.03.005. Epub 2016 Apr 13. PMID: 27085810
 21. Favaro ML, Moran SBS, Iamarino APM, Herrero BM, Gabor S, Ribeiro Junior MAF. During which period should we avoid cholecystectomy in patients who underwent endoscopic retrograde cholangiopancreatography? Einstein (Sao Paulo). 2020 Oct 23;18:eAO5393. doi: 10.31744/einstein_journal/2020AO5393. eCollection 2020. PMID: 33111809
 22. Freitas ACT. Does male gender increase the risk of laparoscopic cholecystectomy? Arq Bras Cir Dig. 2019 Aug 26;32(2):e1438.
 23. Friis C, Rothman JP, Burcharth J, Rosenberg J. Optimal Timing for Laparoscopic Cholecystectomy After Endoscopic Retrograde Cholangiopancreatography: A Systematic Review. Scand J Surg. 2018 Jun;107(2):99-106. doi: 10.1177/1457496917748224. Epub 2017 Dec 26. PMID: 29277136
 24. Garcés-Albir M, Martí-Fernández R, Martínez-Fernández G, Peña-Aldea A, Muñoz Forner E, Sanchiz-Soler V, Dorcaratto D, Gálvez-Castillo C, Martín Arévalo J, Sabater L, Ortega J. The role of endoscopic retrograde cholangiopancreatography in the management of iatrogenic bile duct injury after cholecystectomy. Rev Esp Enferm Dig. 2019 Sep;111(9):690-695. doi: 10.17235/reed.2019.6245/2019. PMID: 31368333
 25. Gnashko AV, Vasilchenko TS, Gabdrakipova AA The experience of using minimally invasive methods of treatment in biliary leakage after cholecystectomy In the collection: Advanced scientific-technical and social-humanitarian projects in modern science Collection of articles of the IV All-Russian Scientific and Practical Conference. 2019. P. 11-12.
 26. Gröne J, Kreis [Indications for conversion of laparoscopic to open cholecystectomy].

EVALUATION

Current control is carried out in seminar classes in accordance with formulated tasks on each topic. When evaluating educational activities, preference is given to standardized control methods: oral survey, structured written works, discussions, role-playing games, reports. When mastering each topic for the current educational activity, the student is given grades on a 4-point traditional scale. The current academic performance is calculated as the average current score, i.e. the arithmetic average of all grades received by the graduate student

(student) on a traditional scale, rounded to 2 (two) decimal places, for example 4.75.

Assessment of current discipline control:

The meaning of the "excellent" assessment: the graduate student shows special creative abilities, knows how to acquire knowledge independently, finds and processes the necessary information without the help of a teacher, knows how to use the acquired knowledge and skills to solve problems, is able to produce innovative ways of solving problems, convincingly argues answers, independently reveals his own gifts and inclinations.

The meaning of the grade "good": the graduate student has a good command of the studied material, applies it in practice, solves exercises and problems in standard situations, independently corrects the mistakes made, the number of which is insignificant.

The value of the rating is "satisfactory": the graduate student is able to master a significant part of the theoretical material, but mainly in a reproductive form, demonstrates knowledge and understanding of the main provisions, can analyze the educational material with the help of the teacher, correct errors, among which there are a significant number of essential ones.

The value of the assessment is "unsatisfactory": the graduate student has mastered the material at the level of individual fragments, which constitute a small part of the educational material.

Only those graduate students who have no academic debt and have an average score for the current educational activity of at least 3.00 are admitted to the final certification.

Forms and methods of final control

The final control in the discipline "Cholelithiasis Surgery" is an exam.

The grade for the discipline is the arithmetic average of two components:

- 1) average current score as the arithmetic average of all current grades;
- 2) traditional assessment for the exam.

The obtained average score for the discipline by multiplying it by 40 (the obtained grade is rounded to whole numbers) is converted into a grade on a 200-point scale, which, in turn, is converted into a traditional grade on a discipline on a 4-point scale.

Average score for the discipline	Evaluation of the discipline on a 200-point scale	Evaluation of the discipline on a 4-point scale (traditional evaluation)
4.62-5.0	185-200	5
3.77-4.61	151-184	4
3.0-3.76	120-150	3

Individual work

Assessment of the independent work of graduate students and applicants, which is provided for in the topic along with classroom work, is carried out during the current control of the topic in the corresponding classroom session, as well as at the final control (exam).

COURSE POLICY ("rules of the game")

Deadlines and Rescheduling Policy

Tasks must be completed on time according to the deadline. For untimely completing the task, the graduate student receives an unsatisfactory grade. If the student of higher education was absent from classes for any reason, then the practice is carried out in the terms set by the teacher in accordance with the "Regulations on the organization of the educational process at ONMedU" (link to the regulations on the university's website <https://onmedu.edu.ua/wp-content/uploads/2020/01/osvitnij-proces.pdf>). Reassembly is carried out in accordance with the approved schedule.

Academic Integrity Policy

The policy of the educational component is based on the principles of academic integrity (link to the regulations on the university website <https://onmedu.edu.ua/wp-content/uploads/2020/07/polozhennja-pro-dobrochesnist.pdf>) and is determined by the system of requirements that the teacher presents to the student when studying the educational component:

- independent performance of educational tasks, tasks of current and final control of learning results (for persons with special educational needs, this requirement is applied taking into account their individual needs and capabilities);
- references to sources of information in case of use of ideas, developments, statements, information.

Attendance and Tardiness Policy

Attendance and work in classroom classes (lectures and seminar classes) is mandatory for obtaining a satisfactory grade. A graduate student is allowed to be late for no more than 10 minutes.

Mobile devices

It is permissible to use mobile devices during the lesson with the teacher's permission.

Behavior in the audience

While in the audience, the following values should be cultivated: respect for colleagues; tolerance for others; receptivity and impartiality; argumentation of agreement or disagreement with the opinion of other participants in the discussion, as well as one's own opinion; respecting the dignity of the opponent's personality during communication; compliance with the ethics of academic relationships.