

REQUIREMENTS

Semmelweis University, Faculty of Medicine – single, long-cycle medical training programme Name of the host institution (and any contributing institutions): Heart and Vascular Center, Department of Surgical Research and Techniques			
Name of the subject: Kísérletes és Sebészeti Műtéttan in English: Basic Surgical Techniques in German: Grundlegende Chirurgische Technik Credit value: 2 Semester: 6th (as defined in the curriculum)			
Total number of classes per week: 3 practice bi-weekly	lectures: 7	practical lessons: 21	seminars:
Type of subject: <u>compulsory</u> optional elective (PLEASE UNDERLINE AS APPLICABLE)			
Academic year: 2023/2024			
Language of instruction, for optional or elective subjects: English			
Course code: AOKKMI020_1A (In the case of a new subject, this cell is filled in by the Dean's Office, following approval)			
Course coordinator: Dr. Andrea Ferencz Place of work, phone number: Budapest, Nagyvárad tér 4., tel.: 1-459-1500/565569 Position: Head of the Department Date and number of habilitation: 2010, 39/2010/habil			
Objectives of the course and its place in the medical curriculum: The aim of this subject is to practice the basic surgical techniques, to present hygienic approach which attainments are indispensable for clinical doctors working in manual field of medicine. This subject provides basics about special behavior in the operating room, aseptic techniques e.g. preparation the patient and surgical team before operation, introduction the surgical tools and instruments, teaching the basics of the wound management e.g. suturing and knotting techniques, and introduction of laparoscopic instruments and techniques. Pelvitainer skill program is for developing the eye-brain-hand coordination which is essential for laparoscopic surgery.			
Place of instruction (address of lecture hall or seminar room etc.): 1089 Budapest, Nagyvárad square 4., Green Lecture Hall, Operating Lab			
Competencies acquired through the completion of the course: Knowledge of the rules of asepsis (scrub area, scrubbing, gowning, glowing, preparation of the surgical field), basic surgical instruments, knotting techniques by hand and by instruments, suturing and suture removal techniques, FLS for training eye-brain-hand coordination.			

<p>Prerequisites for course registration and completion: anatomy and physiology</p>
<p>Conditions for concurrent course registration and permission thereof in the case of a multi-semester subject:</p>
<p>Student headcount conditions for starting the course (minimum, maximum) and method of student selection: minimum 16, maximum 400 students no selection</p>
<p>Detailed course description: <i>(Theoretical and practical instruction must be broken down into lessons (weeks), numbered separately. Please provide the names of lecturers in both types of lessons, indicating guest lecturers. This information is not to be attached separately. CVs of guest lecturers, however, must be attached.)</i></p> <p><i>Lectures</i> Andrea Ferencz: Introduction and the curriculum of the department. The structure and equipments of the operating room. József Sándor: Asepsis, antisepsis, disinfection. Surgeon in the operating room. Prevention of Surgical Site Infection (SSI). Daniella Fehér: Basic surgical tools and suture materials. Béla Debreceni: Basic and special suturing techniques in surgery. Györgyi Szabó: Classification and management of wounds, principle of wound-healing. Haemorrhage and bleeding control. Masashi Yoshida MD, PhD: Surgical procedures: acute, elective. Preoperative patient management. Surgical approaches. József Sándor: Basics of laparoscopic surgery.</p> <p><i>Practices</i> 1. Knotting and basic suturing techniques on the skill models (simple interrupted suture). 2. Getting acquainted with the operating room, rules and behavior in the operating room, scrubbing-in and preparation of the surgical field. Basic surgical instruments and their usage. 3. Basic suturing techniques on ex-vivo animal model (interrupted sutures). 4. Basic suturing techniques on ex-vivo animal model (continuous sutures). 5. Demonstration of the laparoscopic tower and instruments. 6. Practicing eye-brain-hand coordination and fine hand movements using a laparoscopic pelvitrainer. 7. Practical examination.</p> <p>Practical teachers: Dr. Andrea Ferencz, Dr. Györgyi Szabó, Dr. Domokos Csukás, Daniella Fehér, Dr. Krisztina Berner-Juhos</p>
<p>Related subjects due to interdisciplinary fields (both compulsory and elective) and potential overlaps between subjects: Surgery; no overlaps</p>
<p>Attendance requirements; conditions under which students can make up for absences and the method of absence justification: Attendance is obligatory in all practices. Due to the limited capacity of Operating Lab, only one missed practice can be retaken. Absence from practices is not to exceed 25%. One practice can be retaken in another group after registration on our website (https://semmelweis.hu/mutettan/en/).</p>
<p>Form of assessment in the study period:</p>

(including the number, topics and scheduling of oral and written tests, their share in the overall evaluation, make-up tests and improvement tests) -
Number and type of assignments for individual work and the deadline for submission: There is only oral feedback of progress, no demonstrations during the Semester.
Requirements to obtain the teacher's signature: The number of missed practices may not exceed more than 25%. That means only one absence is acceptable during the Semester.
Type of assessment (<i>comprehensive examination, end-term examination, term-grade, term-grade on a three-grade rating scale, no examination</i>): colloquium, assessment based on a five-grade rating scale
Examination requirements: (<i>list of examination topics, subject areas of tests / examinations, lists of mandatory parameters, figures, concepts and calculations, practical skills</i>) In the 13th and 14th weeks of the Semester the students have the practical exam. REQUIREMENTS OF THE PRACTICAL EXAM: <ol style="list-style-type: none"> 1.) Scrub-in, gowning and gloving 2.) Basic surgical instruments – see the list below* 3.) Hand-tie knots 4.) Stitches in ex vivo tissue 5.) Laparoscopic instruments 6.) Pelvitrainer exercise If someone gets 0 points for scrub-in-gowning-gloving and for stitches the exam is finalized, she/he is failed. * SURGICAL INSTRUMENTS TO BE RECOGNIZED IN THE EXAM: <ol style="list-style-type: none"> 1. Reusable handle of the scalpel and disposable blade 2. Disposable scalpel 3. Cooper-scissors 4. Mayo-scissors 5. Blunt-sharp scissors 6. Angular iris scissors 7. Lister's bandage cutting scissors 8. Esmarch-type plasters cutting scissors 9. Mosquito haemostatic forceps (Halsted forceps) 10. Pean haemostatic forceps 11. Abdominal Pean 12. Kocher forceps 13. Lumnitzer-type forces 14. Dissecting forceps 15. Amputating knife 16. Charriere's amputating knife 17. Gigli saw 18. Raspatory 19. Monopolar diathermy active electrode 20. Bipolar forceps 21. Disposable inactive electrode 22. Anatomical forceps 23. Surgical forceps 24. Dental forceps 25. Bayonet forceps

26. Bachaus towel clips
27. Schadel towel clips
28. Bulldog (Dieffenbach forceps)
29. Cooley occlusion clamp
30. Satinsky clamp
31. Mathieu-type needle holder
32. Hegar-type needle holder
33. Duval clamp
34. Allis clamp
35. Ringed organ clamp
36. Intestinal clamp (Klammer clamp)
37. Gross-Maier dressing forceps, sponge holding forceps
38. Swab, gauze
39. Deschamps ligature needle
40. Payr probe
41. Spatula
42. Hook
43. French retractor
44. Doyen abdominal retractor
45. Volkmann retractor
46. Luer retractor
47. Roux retractor
48. Weitlaner self-retaining retractor
49. Collin self-retaining retractor
50. Nasal retractor
51. Vaginal speculum (Cusco)
52. Michel clip applier and removal
53. Steri-strip
54. Hammer
55. Chisel
56. Raspatory
57. Volkmann spoon
58. Bone cutting
59. Bone nibblers
60. Stapler

The theoretical exam test is in the exam period.

REQUIREMENTS OF THE THEORETICAL EXAM:

List the periods of the history of surgery! What were the milestones!

When was the "Ether Day"? Who did and what on this day?

When and by whom was the chlorine water handwashing introduced? What were his findings?

Who created the "antiseptic theory"?

Who introduced the antiseptic theory?

Name 4 surgical instruments which refer to doctors involved in the development of surgery!

What does the acronym "NOTES" mean?

What is the definition of surgical intervention?

What do the septic and aseptic operating theatres stand for?

How shall the staff and the patient enter the operating room?

Describe the structure of the operating room!

List 8 equipments /instruments within the operating room!

Explain the rules of behavior in the operating room!

Describe the general rules of the aseptic operating room!

Explain the definition of asepsis!

Explain the definition of antisepsis!

How to prevent the evolution of postoperative wound infections before the surgery?

How to prevent the evolution of postoperative wound infections during the surgery?

How to prevent the evolution of postoperative wound infections after the surgery?

What is the definition of sterilization!

What is the definition of disinfection!

Explain the steps of the two-phase surgical hand scrub!

What is the purpose of isolation? How do we do it?

List the basic surgical instrument groups!

What is the function of the dissecting instruments? List some of these dissecting instruments!

Explain the use of electric/diathermy knife! What kind of diathermy knives do you know?

Is it accepted to use electric knife on patients with pacemaker?

What do you know about the ultrasonic cutting device?

Name the non-locking grasping instruments! Explain their functions!

List organ clamps!

List the hemostatic instruments! Explain their functions!

List the retracting instruments! Explain their functions!

What do you know about the CT and MRI examination of patient carrying metallic clips?

What is the Steri-Strip? When to use it?

List special instruments!

Describe the conventional (close-eye, French-eyed) needles!

Describe the atraumatic needles!

What are the main groups of the circular needles?

Explain the difference between conventional and reverse cutting needles!

What are the main characteristics of the surgical suture materials?

What are the advantages and disadvantages of natural and synthetic suture materials?

What does the term "thread memory" stand for?

What are the advantages of monofilament threads?

What are the disadvantages of multifilament (twisted or braided) threads?

Which one is better: monofilament or multifilament thread?

List the advantages and disadvantages of natural suture materials!

List the advantages and disadvantages of synthetic suture materials!

Describe the enzymatic and hydrolytic absorption processes of suturing materials!

What do you know about the size classification of the suturing materials?

What do you know about the simple interrupted suture?

What do you know about the vertical mattress suture?

Where do we use the simple continuous suture line?

Where do we use the purse-string suture?

When it is suggested to remove the stitches? What are the influencing factors?

What is a wound?

What areas are injured in case of a simple wound?

What areas are injured in case of a compound wound?

What kind of wounds do you know based on their origin?

List the wounds of mechanical origin!

What do you know about the incised wound?

What do you know about the shot wound?

Classify the wounds according to bacterial contamination?

What does the primary wound management stand for?

What does the term "primary delayed suture" stand for?

What is the "early secondary wound closure"?

What is the "late secondary wound closure"?

What holding positions of the scalpel do you know?

Describe the phases of wound healing!

What is happening in the granulation-proliferation phase of wound healing?
 What is happening in the remodeling phase of wound healing?
 Describe the types of wound healing!
 List the influencing/delaying factors of wound repair!
 What early complications of wound healing do you know?
 What are the characteristics of the seroma?
 What are the characteristics of the hematoma?
 What are the characteristics of the wound disruption?
 What forms of superficial wound infection do you know?
 List the local and general symptoms of wound infection!
 What are the late complications of wound healing?
 What are the characteristics of hypertrophic scar?
 What are the characteristics of keloids?
 What is hemostasis and what are the factors of it?
 What are the characteristics of diffuse bleeding?
 What could be the direction of bleeding from clinical point of view?
 What methods of surgical haemostasis do you know?
 List the mechanical methods of surgical haemostasis!
 List haemostatic methods based on thermal effects!
 What are the mechanisms of haemostasis based on chemical and biological materials? List 3 materials!
 Give examples of vital, absolute, and relative indications!
 What are the components of surgical risk?
 What factors increase surgical risk?
 What should be examined before the operation to estimate the surgical risk? Why does obesity increase surgical risk?
 List the organs and systems whose preoperative examination is essential from the point of view of the assessment of surgical risk!
 What can be applied for thrombosis prophylaxis during pre-, and postoperative phase?
 List the forms of vertical laparotomy!
 List the forms of transverse and oblique laparotomy!
 What abdominal approaches would you suggest in case of open cholecystectomy, appendectomy, or gynecological surgery?
 What do you know about the muscle-splitting incisions? What are the advantages and disadvantages?
 What does thoracotomy mean? When it is used?
 What are the disadvantages of open surgery?
 What are the advantages of laparoscopic surgery?
 What does pneumoperitoneum mean?
 What kind of gas can be used for pneumoperitoneum?
 Introduce the usage of the Veress needle!
 How and on what level of pressure can the pneumoperitoneum be used safely?
 What type of telescope is popular in laparoscopy?
 What do you know about the laparoscopic light sources?
 List the difficulties of the laparoscopic technique!
 How would you describe the main characteristics of patient safety in ambulatory surgery?
 What are the contraindications of ambulatory surgery?

Method and type of grading:

(Share of theoretical and practical examinations in the overall evaluation. Inclusion of the results of the end-of-term assessment. Possibilities of and conditions for offered grades.)

The points of the practical (60 points maximum) and theoretical examination (40 points

maximum) is summarized.

Grading:

0-59,99 points: failed (1)

60-69,99 points: satisfactory (2)

70-79,99 points: moderate (3)

80-89,99 points: good (4)

90-100 points: excellent (5)

List of course books, textbooks, study aids and literature facilitating the acquisition of knowledge to complete the course and included in the assessment, precisely indicating which requirement each item is related to (e.g., topic by topic) as well as a list of important technical and other applicable study aids:

A. Ferencz, Gy. Wéber, J. Sándor: Basic Surgical Techniques, ed. Semmelweis Kiadó

Signature of habilitated instructor (course coordinator) announcing the course:



Signature of the director of the host institution:



Date of submission:

27/04/2023