

REQUIREMENTS

Semmelweis University, Faculty of Medicine Name(s) of the Institute(s) teaching the subject: Department of Surgical Research and Techniques
Name of the subject: Basic Surgical Techniques Credits: 2 Total number of hours: 28 lectures: 7 practices: 21 seminars: Type of the course (mandatory/elective): mandatory
Academic year: 2019/2020
Code of the course¹:
Course director (tutor): Dr. Andrea Ferencz Contact details: 1-459-1500/56575, mutettan@gmail.com Position: Associate Professor Date of habilitation and reference number:
Aim of the subject and its place in the 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 provide 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. Pelvitrainer skill program is for developing the eye-brain-hand coordination which is essential for laparoscopic surgery.
Location of the course (lecture hall, practice room, etc.): 1089 Budapest, Nagyvárad tér 4., Green Lecture Hall, Operating Lab
Competencies gained upon the successful completion of the subject: Knowledge of the rules of asepsis (scrub area, scrubbing, gowning, gloving, 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.
Prerequisite(s) for admission to the subject: anatomy and physiology
Minimum and maximum number of students registering for the course: minimum 12, maximum 400 students Student selection method in case of oversubscription:
How to register for the course: Neptun

Detailed thematic of the course²:*Lectures*

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).

Andrea Ferencz: Basic surgical tools and suture materials.

Andrea Ferencz: 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.

György Wéber: Basics of laparoscopic surgery.

Practices

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. Tissue dissection and suturing tasks on anesthetized rats (removal of „pigmented naevus”, median laparotomy and splenectomy).

Potential overlap(s) with other subjects:

no

Special training activities required³:

no

Policy regarding the attendance and making up absences:

„Basic surgical techniques” practices will be held seven times during the semester. The attendance is mandatory for each practice. The presence will be regularly checked and documented by the Department. Everybody should visit the group in which he/she is registered in Neptun. It is not allowed to have more than 12 students in a group – 10 registered place + 2 free place for re-taking the missed practice. The number of missed practices and lectures may not exceed more than 25%. That means only ONE absence is acceptable during the semester. If any student misses two or more practices, the Department will refuse to sign the subject. Due to the limited capacity of the Operating Lab, only one absence can be repeated during the semester by joining another group. Students must register before re-taking a missed practice.

Means of assessing the students’ progress during the semester⁴:

There is only oral feedback of progress, no demonstrations during the Semester.

Requirement for acknowledging the semester (signature):

The number of missed practices and lectures may not exceed more than 25%. That means only one absence is acceptable during the Semester.

Type of the examination:

colloquium

Exam requirements⁵:

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 hand-washing 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 behaviour 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 thoracalaparotomy 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 Veres 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?

Type and method of grading⁶:

The exam starts with a written test. It is successful if the result is minimum 80 %.
The successful test gives permission to start the colloquium.

The colloquium comprises of two parts:

1. a practical – and 2. a theoretical part

The practical exercises:

- 1.) scrubbing- in – gowning and gloving
- 2.) knowledge of the basic surgical instruments
- 3.) manual knots
- 4.) making stitches
- 5.) knowledge of laparoscopic instruments
- 6.) laparoscopic practice in pelvitrainer

During the oral exam, the student chooses an item with 5 questions.

grading:

- 0-59 points: failed (1)
- 60-69 points: satisfactory (2)
- 70-79 points: moderate (3)
- 80-89 points: good (4)
- 90-100 points: excellent (5)

How to register for the exam:

Neptun

Opportunities to retake the exam:

see Examination and Studies Regulation

Literature, i.e. printed, electronic and online notes, textbooks, tutorials (URL for online material):

‘Basic Surgical Techniques’ Texbook can be downloaded from <http://semmelweis.hu>
Recommended textbooks: R. M. Kirk: Basic Surgical Techniques ed. Elsevier