

INTRODUCTION TO SURGICAL TECHNIQUES

Compulsory subject for third-year students of the Faculty Dentistry

Teacher in charge of the course: Prof. habil. Mihály Boros, M.D., Ph.D., D.Sc., Head of Department

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Course code: FOG-MA411 (lecture), FOG-MA412 (practice)

Course credit: 2

Course hours per week: 2 (lecture) + 2 (practice)

Prerequisite of registration: Completion of the first two years (basic module) at the Faculty of Dentistry. The subject should be taken up and accomplished in the 5th semester.

The aim of the subject: to achieve the general level of theoretical surgical knowledge and practical skills necessary for the implementation of invasive techniques that are essential for a dentist.

Acquired competence: By applying principles of asepsis, the student is autonomously able to perform bed-side (hospital) hand disinfection, surgical attire, gowning, gloving, surgical knotting, basic surgical stitches and mucosa sutures as well as wound management under simulated sterile operating conditions and to autonomously carry out these procedures under sterile clinical conditions (i.e. in the operating theatre) under supervision.

Method: lectures (6 x 120 min) + practices (7 x 120 min)

Topics of the lectures (6 x 120 min):

- 1. Introduction, general information.** Asepsis and antisepsis. Historical background. Surgical infections, sources of infections. Types, classification, risks and prevention of wound contaminations. Sterilization, disinfection. Preparation of the patient before operation: scrub preparation and isolation of the surgical site. Scrubbing, disinfection, gowning and gloving of the operating team. Personnel attire and movement. Basic rules of asepsis in the operating room. Postoperative wound management. Surgical antisepsis. Design and equipments of the operating room, basic technical background. Operating room personnel and their duties. Positioning of the patient on the operating table.
- 2. Basic surgical instruments, special surgical tools and technologies, suture materials.** Wound closure (sutures, clips, adhesive strips). Failures of suturing techniques. Removal of sutures. Basics of minimally invasive surgery.
- 3. The operation.** Basic surgical interventions. Indications for an operation, informed consent, operative risk, the surgeon's responsibility. Preoperative investigations. Complications of surgery. Preoperative preparation of the patient. Local anesthesia (drugs, types of local anesthesia, complications). Perioperative fluid balance, fluid requirements and fluid therapy
- 4. Bleeding.** Types and classification of hemorrhage. Signs and consequences of blood loss. Bleeding in surgery (pre-, intra- and postoperative bleeding). Factors influencing operative blood loss. Surgical hemostasis (mechanical, thermal, chemical-biological methods). Blood replacement in surgery, autotransfusion.
- 5. Wounds.** Types and classification of accidental wounds. Wound healing, scar formation. Surgical wounds. Wound closure and its complications. Management of accidental wounds. Dressings, types of bandages. Innovations in wound treatment.
- 6. Complications.** Definitions and classifications of complications. Infections. Wound infection: types, classification, risk factors, modalities of prevention. Complications of wound healing. Hemorrhagic complications related to surgery.

Topics of practices (7 x 120 min):

1. **General information.** Scrubbing, gowning and gloving. Practical rules of asepsis in the operating room. Behavior and movement in the operating room.
2. **Basic surgical instruments, suture materials, textiles.** Scrubbing, gowning and gloving. Scrub preparation and draping of the surgical site.
3. **Tying surgical knots** (hand and instrument knots). Knotting under tension and in cavities.
4. **Suturing.** Knotting with instruments using the Suture Tutor program.
5. **Management of accidental wounds.** Dressing, types of dressing. Changing dressing under aseptic conditions. Removing sutures. Closure of mucosal wounds.
6. **Handling of bleedings.** Wound closure in cavities. Mucosal sutures.
7. **Practical exam.** Tasks: (1) Surgical scrubbing and gowning (2) Knotting under tension and in a deep cavity (3) Surgical suture (mounting of a needle holder, closure of a 5 cm-long incision with Donati-stitches, instrumental knotting (max. 15 min)

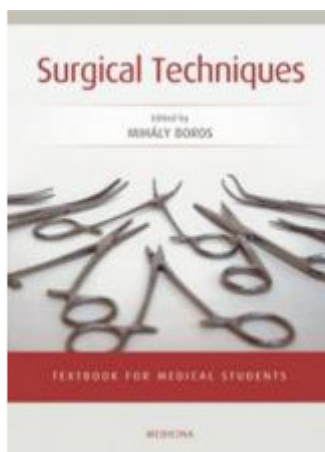
Criteria for completing the course:

- Attendance of lectures is recommended, attendance of practices: a minimum of 75% is compulsory. Making-up of missed practices is possible only if schedule makes it possible and only after obtaining written permission from the course organizers.
- Acknowledgement of absences from practices and exams are based on medical certificate.
- Requirements for acknowledgement of practices is visiting minimum of 75% of practices.
- Practical exam is on week 14, improvement possibility of practical exam marks is on week 15.
- The prerequisite for the theoretical examination is the completion of a successful practical exam, which can be achieved by successful completion of all three practical exam tasks until the end of the semester.

Evaluation:

- We evaluate the performance of the students on all practices and give a continuous feedback of their progress. The practical exam (held in the last two weeks) provides feedback from the acquired practical skills (content and evaluation criteria are shared in advance).
- Written theoretical test (5-grade) + practical exam (5-grade). The five-grade end semester examination mark is based on the average of the mark of the end semester written theoretical test exam and the mark of the practical exam.

Compulsory textbooks:



Surgical Techniques

Textbook for medical students

Mihály Boros (ed.)

Medicina, Budapest, 2009.



Practical Skills Syllabus

Mihály Boros (ed.)

Innovariant Kft., Szeged, 2008.

Recommended literature: Tutorial videos