

GUIDELINES FOR ELECTIVE CLASSES «MICROSURGICAL TECHNIQUE»

PRACTICAL STUDY N 1.

Topic: MICROSURGERY – MODERN TREND IN OPERATIVE SURGERY.

I. Questions

1. Microsurgical technique as a modern trend in operative surgery.
2. Technical support of microsurgical operations.
3. Optical devices for microsurgical operations, structure and working principles.
4. Instruments in microsurgery and specific requirements to it.
5. The needles and suture material in microsurgery.

II. The practical part

1. Research structure of operating microscope.

PRACTICAL STUDY N 2.

Topic: BASICS OF MICROSURGICAL TECHNIQUE.

I. Questions

1. Workplace of the microsurgeon.
2. Installation of configurations of the operative microscope at different magnifications.
3. The effect of external and internal factors on the accuracy of manipulation in microsurgery.
4. Manipulations with needle and filament during microsurgical operations.
5. Training exercises in the formation of knots, loops, loops formation by «team» technique for microsurgical operations.
6. Assisting during microsurgical operations.
7. Manual training of microsurgeon (gymnastics for hands).

II. The practical part

1. Installation of the microscope and organization of microsurgeon`s workplace.
2. Stereotactic skills training.

PRACTICAL STUDY N 3.

Topic: MICROSURGICAL TECHNIQUE IN OPERATIONS ON BLOOD VESSELS

I. Questions

1. Types of arteries and veins. Features of the structure of the vascular wall.
2. The features of working with the artery and vein in microsurgical vascular suture.
3. The connection of blood vessels by manual uninterrupted and interrupted suture.
4. Features of microsurgical technique with arterial anastomosis ("end to end" "end-to-side" "side to side").
5. Features of microsurgical technique with venous anastomosis ("end to end" "end to side" grafting veins).

II. The practical part

1. Uninterrupted manual suture technique on the blood vessel.
2. Interrupted manual suture technique on the blood vessel.

PRACTICAL STUDY N 4.

Topic: MICROSURGICAL TECHNIQUE IN OPERATIONS ON PERIPHERAL NERVES.

I. Questions

1. Formation of somatic nerve plexus, structure of peripheral nerves.
2. Types of microsurgical operations on peripheral nerves.
3. Types of sutures on the peripheral nerves (epineural, perineural and combined).
4. Transplantation of nerve (technique preparation of graft and its transplant).
5. Evaluation of the adequacy of the nerve suture.

II. The practical part

1. Technique of epineural and perineural sutures formation.

PRACTICAL STUDY N 5.

Topic: MICROSURGICAL TECHNIQUES IN TRAUMA AND GENERAL SURGERY.

I. Questions

1. Topographical features of neurovascular bundles hand, forearm, leg and foot.
2. Clinical characteristics of hand and fingers injuries.
3. Basic principles of debridement of open injuries of hand and finger.
4. Microvascular free muscle transplantation.
5. Microvascular free transplantation of bones and joints.

II. The practical part

1. The experimental operations on the animal muscle.

PRACTICAL STUDYN 6.

Topic: REPLANTATIONS OF LIMBS.

I. Questions

1. The concept about the limb replantation, indications and preclinical stage.
2. Tools for microsurgical replantation of the limb.
3. Stages of replantation, features of technology-linking tendons, nerves, blood vessels, skin defects closure.
4. Transplantation of the great toe to the hand.
5. Postoperative complications of limb replantation (arterial anastomosis failure, venous anastomosis failure, infection and tissue necrosis).

II. The practical part

1. The vascular anastomosis by uninterrupted suture using a simulator.

PRACTICAL STUDYN 7.

Topic: MICROSURGICAL TECHNIQUE IN OPERATIONS ON THE EXCRETORY DUCTS

I. Questions

1. Microsurgical technique for connection of the bile ducts by manual and mechanical sutures.
2. Microsurgical technique in the reconstruction of the main pancreatic duct.
3. Microsurgical technique in the reconstruction of the ureter.
4. Microsurgical technique in the reconstruction of the vas deferens.
5. Microsurgical technique in operations on the fallopian tubes.

II. The practical part

1. Training of bile duct manual sutures on the simulator.

PRACTICAL STUDYN 8.

Topic: MICROSURGICAL TECHNIQUES IN PLASTIC SURGERY OF THE MAXILLOFACIAL REGION, IN SURGERY OF EYE AND HEARING ORGAN.

I. Questions

1. Topographic anatomy of the eyeball.
2. Microsurgical operations for diseases of the cornea, lens, retina and glaucoma.

3. Topographic anatomy of the larynx.
4. Microsurgical surgery on the vocal cords, larynx cartilages.
5. Topographic anatomy of the tympanic cavity.
6. Microsurgical operations on the auditory bones and tympanic membrane.

PRACTICAL STUDY N9.

Topic: MICROSURGICAL TECHNIQUE IN OPERATIONS ON THE LYMPH VESSELS AND LYMPH NODES.

I. Questions

1. Topographic-anatomical features of the structure of lymphatic vessels, lymph nodes.
2. Microsurgical connecting of the collector lymphatic vessels.
3. Microsurgical technique in the formation of lympho-venous anastomoses.
4. Microsurgical connecting of the lymph nodes.

II. The practical part

1. Technique of overlay microsurgical suture on the venous vessel (with the use of laboratory animal).

PRACTICAL STUDY N 10.

Тема: ИТОГОВОЕ ЗАНЯТИЕ.

I. Questions

1. Test.
2. Submission of practical skills.

BASIC BOOKS:

1. O'Brien B. M. C. Microvascular reconstructive surgery.
2. Jay I. Sandlow Microsurgery for fertility specialists.
3. Philippe A. Liverneaux, Stacey H. Berner. Telemicrosurgery.
4. Maria Z. Siemionow, Marita Eisenmann-Klein. Plastic and reconstructive surgery.
5. Maria Z. Siemionow. Tissue Surgery.