„APPROVE”

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**PLAN**

of practical lessons on Clinical anatomy for students of Medicine Faculty

spring semester, 2016-2017 (lesson duration – 3 hours)

**LESSON 1. Contents, purpose and methods of studying of clinical anatomy.** Principles and methods. General surgical instruments – classification, destination, utilization technique. Basic surgical procedures: principles, phases of a surgical act. Methods and principles of incisions and sutures of tissues. Hemostasis. Surgical knots.

**LESSON 2. The shoulder (pectoral) girdle region**. Infraclavicular, deltoid, scapular, axillary regions and shoulder joint. Surgical anatomy of vessels and nerves. Spaces, ways of spreading of pus, evolution of phlegmons and hematomas (incisions performed to drain collections). Collateral blood circulation. Projection lines, surgical approach, revealing and ligation of main arteries on extremities. Level of ligation of axillary artery (optimal and critical segments). Methods of hemostasis. Argumentation of surgical approaches to shoulder joint, vessels (subclavicular artery, axillary artery) and nerves. Puncture of shoulder joint.

**LESSON 3. The brachial, elbow and forearm regions**. Boundaries, layers, fasciae and fascial sheaths, vessels and nerves. Ways of spreading of pus and hematomas. Incisions performed in case of purulent infections, technique and argumentation from anatomical point of view. Positions of the bone segments in case of fractures on different levels of the humerus. Projection lines and surgical approaches to neurovascular bundles of arm, forearm and cubital region. Collateral blood circulation and argumentation of optimal ligation level of main arteries. Critical arterial segments. Methods of hemostasis. Venesection, venipuncture. Vascular sutures.

**LESSON 4. The hand region.** Carpus, metacarpus and fingers. Boundaries, layers, fasciae, sheaths and spaces, fibrous canals and synovial bursas. Ways of spreading of pus. Surgical access to vessels and nerves (critical arterial segments). Projection lines, finding and ligation of vessels of the hand. Incisions made on hand in case of phlegmons and panaritium. Prohibited surgical areas on the hand. Exarticulation and amputation of phalanges. Sutures techniques of tendons and nerves.

**LESSON 5. The anterior-medial region of the thigh.** Subinguinal space, femoral canal, obturator canal, femoral triangle (Scarpa), Hunter canal.Surgical anatomy of femoral hernias. Topographic anatomy of gluteal region, posterior region of the thigh and hip joint. Positions of the bone segments in fractures on different levels of the femur. Ways of spreading of the phlegmons and hematomas. Vessels and nerves, projection lines. Collateral blood circulation and possible complications in case of ligation of femoral artery. Surgical approaches to femoral canal, femoral artery and vein. Herniotomy and hernioplasty of femoral hernias (Bassini, Rudgi, Parlavechio procedures). Amputation of the thigh: principles, types and surgical phases. Saphenectomy.

**LESSON 6. The leg and knee region.** Popliteal and Jobert fossae.Fascial sheaths, canals, neurovascular bundles and spaces. Collateral blood circulation in case of lessions of arteries and possible complication in case of ligation of arteries. Ways of spreading of pus and hematomas and argumetnation of surgical approaces to drain the collections. Positions of the bone segments in fractures on different levels of the leg bones. Projection lines, surgical approaches, revealing and ligation of main arteries. Amputation and disarticulation: principles, types, surgical phases. Operations on vessels and nerves. (saphenectomy, nerve blockage). Operations on bones and articulations.

**LESSON 7.** **The talocrural (ankle) and foot regions.** Osteo-fibrous canals, neurovascular bundles, collateral blood circulation, articulations and ligaments. Topographic anatomy of medial maleolar region, dorsal and plantar regions of the foot – boundaries, layers. Ways of spreading of the pus. Projection lines and surgical approaches to vessels, nerves and bones. Venesection and venipuncture. Collateral blood circulation in case of lessions of arteries. Amputation and disarticulation: principles, types (Lisfranc, Chopart). Surgical procedures on bones and articulations.

**MID-TERM TEST NR.1 OF LECTURES 1-7 .**

**LESSON 8. The cerebral part of the head.** Cranial vault. The boundaries and layers of the fronto-parieto-occipital and temporal and mastoid regions. Particularities of vascularization of the epicranial tissues. Surgical anatomy of the mastoid region. The meninges of the brain, intermeningeal spaces. Surgical treatment of the craniocerebral wounds. Methods of hemostasis. Trepanation of the skull (osteoplastic and decompresive). Cranioplasty. Mastoid antrotomy. Ventriculopuncture and puncture of the superior sagital sinus. Surgical interventions in case of purulent infections of soft tissues of the head.

**LESSON 9. The facial part of the head.** The buccal (cheek), parotido-masseteric regions and deep region of the face. Layers. Fascial spaces. Vessels, nerves. Venous connections. Topography of facial and trigeminal nerves. Surgical anatomy of parotid gland. Orbital, nasal and oral regions. Rational incisions in case of purulent infections of the face. The blockage of trigeminal nerve branches. Ways of spreading of pus. Maxilar sinus puncture.

**LESSON 10. The neck region.** Division into triangles. Fascial layers. Interfascial spaces. Ways of spreading of pus. Suprahyoid region. Topographic anatomy of the medial triangle of the neck. The topography of thyroid and parathyroid glands, larynx, pharynx, neck portion of the trachea and esophagus. Surgical treatment of the wounds of the neck. Surgical acces to organs of the neck, blood vessels and nerves. Puncture of the external and internal jugular veins. Tracheostomy and conicotomy.: indications, complications. Tracheostomy and conicotomy in children.

**LESSON 11. The neck region (continuation)**. Carotid triangle. Sternocleidomastoid region. Lateral triangle of the neck (antescalene and interscalene spaces). Scalenovertebral triangle. Ways of spreading of pus and hematomas. Surgical interventions on the neck. Argumentation of rational incisions made on the neck in case of superficial and deep phlegmons. Cervical plexus block. Puncture of the subclavian vein. Surgical access, revealing and drainage of the thoracic duct on the neck.

**LESSON 12. The thorax**. Layers and spaces of the chest wall. Vessels, nerves. Clinical anatomy of the mammary gland. Surgical anatomy of internal thoracic artery. Sugical anatomy of the anterior and posterior mediastinum (heart, pericard, thoracic aorta, esophagus, azygos and hemiazygos veins, splanchnic nerves, vagus nerves, phrenic nerves, recurent nerves, trachea, bronchi, thoracic duct, sympathetic trunk). Reflexogenous zones. Topographic anatomy of the diaphragm, pleura, lungs, lung roots. Ways of spreading of pus. Basic surgical operations on organs of the thoracic cavity. Rational surgical accesses. Incisions made in case of mastitis. Intercostals block. Thoracocentesis and pericardiocentesis. Surgical treatment of penetrating and non-penetrating thoracic wounds. Thoracotomy and subperiostal resection of the ribs. Puncture of subclavian vein. Principles of surgical treatment of open and tension pneumothorax. Particularities in children. Notions of surgical interventions on the heart.

**MID-TERM TEST NR.2 OF LECTURES 8-12 .**

**LESSON 13. The antero-lateral abdominal wall**. Weak points. Layers. Vascularization and innervation. Venous porto-caval and cavocaval anastomosis. The surgical anatomy of the the inguinal region. Inguinal canal and inguinal space. Surgical anatomy of the external abdominal hernias of the abdominal wall, structure, types, classification. Surgical principles in hernias, peculiarities in children. The basic steps and surgical procedures in white line hernia, umbilical hernia and inguinal hernia. Surgical peculiarities in congenital inguinal hernia, strangulated inguinal hernia and sliding inguinal hernia. Umbilical hernia repair (Lexer-Șpitț, Mayo, Sapejko procedures, techniques with allogeneic materials), inguinal canal plasty (Martinov, Bassini, Kimbarovski, techniques with allogeneic materials). Surgical procedures in children. Ways of spreading of pus. Rational incisions and surgical access to the organs of abdominal cavity. Laparocentesis (celiocentesis).

**LESSON 14**. **Topographic anatomy of the abdominal and peritoneal cavities**. The surgical anatomy of supramesocolic organs: skeletotopy, holotopy, syntopy. Relationship of the organs with peritoneum, folds, ligaments, bursa (omental, hepatic and pregastric). Lesser and greater omentum. Topographic anatomy of the vagus nerves. Vascularization and innervation of the organs of peritoneal cavity. Venous portocaval and cavocaval anastomosis. Typical seats of accumulation of the pathologic fluids in the peritoneal cavity. Principles of surgerical intervention on gastrointestinal tract. Intestinal anastomosis and suture. Surgical operations on the stomach: stomach wound suturing, gastrotomy, gastrostomy, gastroenteroanastomosis, surgical interventions in case of pylorostenosis. Stomach resection (Billroth I and II procedures). Surgical interventions in case of perforated ulcer (Oppel, Judd procedures), on the liver (hepatorrhaphy), gallbladder (cholecystectomy), spleen (splenectomy) and pancreas (surgical access).

**LESSON 15. The surgical anatomy of organs situated in the inframesocolic** **floor** (jejunum, ileum and colon). Relationship of the organs with peritoneum: skeletotopy, holotopy, syntopy. Paracolic sulci, mesenteric sinuses and recesses. Typical seats of accumulation of the pathologic fluids in the peritoneal cavity. The topography of the small and large intestine (cecum and appendix). Critical areas of vascularization. Surgical anatomy of congenital malformations: Meckel diverticulum, megacolon, Hirschsprung's disease (congenital megacolon), atresia. Revision of the peritoneal cavity. Intestinal suture. Intestinal sutures techniques (continuous, separated sutures, Albert, Schmieden, Lambert sutures). Surgical interventions on small intestine (enterostomy, intestinal wounds suturing, intestinal resection, types of anastomoses). Surgical interventions on large intestine (colostomy and artificial anus, appendectomy).

**LESSON 16. The lumbar region (postero-lateral wall of the abdomen), spinal column and retroperitoneal space.** Layers, weak points (Petit and Lesgaft Grynfelt triangles). Topography of the retroperitoneal organs, fascias, adipose layers and neurovascular structures. Ways of pus spreading from retroperitoneal space. The topography of the spinal column and spinal canal (content, osteoligamentar structures). Basic principles of surgery on retroperitoneal organs. Lumbar spinal canal puncture technique. Spinal anesthesia. Surgical operations on spinal column (laminectomy, spondylodesis). Surgical access on kidneys, ureters and retroperitoneal tissues (retroperitoneal and transperitoneal). Nephrectomy, kidney resection and kidney suture. Pyelotomy. Ureteral resection and suture.

**LESSON 17. The** **pelvis and perineum.** Bones, ligaments , muscles, pelvic organs, relationship with the peritoneum, vascularization, innervation, lymphatic and venous drainage. Age particularizations. Division of pelvis into "floors". Pudendal canal. The relationship of pelvic organs with peritoneum in women and men (folds, recesses, ligaments). Fasciae and retroperitoneal spaces, ways of pus and hematomas spreading. Surgical access and surgical interventions on pelvic organs. Pudendal nerve block (Alcock). Rectouterine pouch (Douglas pouch) puncture. Surgical interventions in hydrocele (Bergmann, Winkelman). Catheterization, puncture of the urinary bladder, suprapubic cystostomy. Surgical procedures for hemorrhoids, paraproctitis and anal fistulas. Argumentation of the incisions made in case of abcesses and phlegmon. Surgical operations in anomalies: atresia of the rectum and anus, epispadias, hypospadias.

**MID-TERM TEST NR.3 OF LECTURES 13-17 .**

Approved at the meeting of the department from 01 February 2017.

Chief of medical studies

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