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## **Department of Topographic Anatomy and Operative Surgery**

questions to examine clinical anatomy students

Generalities

1. N.Pirogov-founder of topographical anatomy.
2. Statements of N. Pirogov about correlation of neurovasular trunks and fascial membranes.
3. Modern ways of sudying of topographical anatomy.
4. The innervation of the skin and segmentary membership of the nerves.
5. Ways of efferent lymphatic drainage, topography of the lymphatic nodes.
6. Individual and age-specific anatomical differentiation.

Topographic anatomy of the head

1. Landmarks and topograpical regions of the cerebral portion of the head.
2. Age-related peculiarities in the structure of cerebral portion of the head, clinical meaning of it.
3. Limits and layers of the frontoparietoocipital region, innervation and vascularization.
4. Cellular spaces and ways suppuration and hematomas spreading in the frontoparietooccipital region.
5. Venous system of the cerebral portion of the head, it’s anastomosys and clinical meaning.
6. Topographical peculiarities of vascularization of the epicranial tissues, clinical meaning.
7. Limits and layers of temporal region, vascularization, innervation and cellular spaces.
8. Ways of spreading of hematomas and suppuration from temporal region.
9. Surgical anatomy of the mastoid region, limits, vascularization, innervation.
10. Trepanation triangle and “square of attack” on the mastoid process, limits, projection, correlation with neighbouring anatomical structures. Possible complication of the trepanation.
11. Topographical anatomy of the cranial meninges.
12. Intermeningeal spaces and cerebral cisterns, their content. Circulation of the cerebrospinal fluid at normal and in case of pathology.
13. Arterial supply of the head, anastomosis of arteries and their clinical meaning.
14. Topographical craniocerebral scheme Kronlein (projection of a. meningea media and it’s branches).
15. Landmarks and topographical regions of the facial portion of the head. Age-specific peculiarities.
16. Facial venous system, anastomosis and their clinical meaning.
17. Explain the spreading of the infection in the cavernous sinus in case of suppurating of nazo-labial triangle.
18. Clinical anatomy of the facial nerve.
19. Projection of outer foramens of terminal branches of n. trigemen. Clinical meaning.
20. Topography of the maxilar branch of the trigemen nerve.
21. Topography of the mandibular branch of the trigemen nerve.
22. Topographical anatomy of the genian region- layers, vascularization, innervation.
23. Topographical anatomy of the parotido-masseteric region, limits, layers, vessels and nerves.
24. Bed and fascial membrane of the parotid gland, limits, vessels, nerves, projection of the Stenon’s duct.
25. Anatomical structures of thr parotid gland.
26. The deep (intermaxillar) region of the face-limits, vessels and nerves.
27. Temporo-pterigoidian and interpterigoidian cellular spaces in the deep (intermaxillar) region of the face-limits, content.
28. Ways os spreading of the suppurations in the deep (intermaxillar) region of the face.
29. Ways os spreading of the suppurations from buccal (cheek) region.
30. Topography of nasal region-lateral wall, vascularization, innervation.
31. Orbital communications with neighborship regions-spreading of suppurations.
32. Cellular space Bichat in the genian region, clinical mening.
33. Topography of the oftalmic branch of trigemen nerve.
34. How to make clinical differentiation between lesion of carotid external and carotid internal arteries in the head region?
35. Projection of the facial artery, temporal superficial artery and the point of measuring of pulse.
36. Peculiarities of evolution of the insfamatory processes of the parotid gland. Possible ways of suppurate spreading, clinical manifestations.
37. Peculiarities of cicatrization (scarring) of wounds in the facial region.
38. Explain anatomically- rational incisions (notches) on epicranial tissues.
39. Explain anatomically the hemostasis from epicranial tissues.
40. Explain anatomically types of hemostasis in case of bleeding from skull bones.
41. Explain anatomically hemostasis in case of injurying of a. meningee media.
42. Explain anatomically – incisions (notches) in lesions of the dura’s mater sinuses.
43. Explain anatomically-rational incisions(notches) in the facial portion of the head.
44. Explain anatomically -peculiarities of the toilette of maxilofacial plaques.
45. Puncture of the maxilar (Highmor) sinus, indications, tenique.

**Topographical anatomy of neck region**

1. Landmarks and topographical triangles of the neck, thier clinical meaning.
2. Cervical fascial layers by statement of V. Sevkunenko, content, practical meaning.
3. Cervical interfascial cellular spaces, possible ways of suppurations spreading.
4. Topography of the cervical superficial vessels and nerves, practical importance.
5. Pain irradiation in cervical’s plexus pathology.
6. Topography of the n. frenicus in cervical region.
7. Critical arterial segments on the neck-topographyc argue. Collateral blood circulation.
8. Previsceral cellular space of the neck-limtis, content and spreading of suppuration.
9. Topography of the sternocleidomastoid region, layers of the scalenovertebral triangle.
10. Projection, content and syntopy of the medial neurovascular bundle of the neck.
11. Topography of the submandibular triangle-limits, layers and anatomical structures.
12. Topogaphy of the Pirogov’s triangle on the neck, limits and content.
13. Topography of the carotid triangle-limits, layers and vasculonervous bundle.
14. Differentiation signs between external and internal carotid arteries, practical meaning.
15. Topography of the scalenovertebral triangle-limits, syntopy of the anatomical structures.
16. Topography of the lateral triangle of the neck-limits, subdivision, vessels and nerves.
17. Ways of suppurations spreading from the lateral cervical triangle.
18. What kind of anatomical structures, covers prevertebaral cervical fascia?
19. Topography of the antescalen cervical space-limits, content, practical importance.
20. Topography of the interscalen space inside of lateral cervical triangle.
21. Thyroid and parathyroid galnds topography-vascularization and innervation.
22. Explain the deviations of fonation and respiratin in case of endemic goitre of thyroid gland.
23. Correlation of recurrents nerves with trachea and esophagus in cervical region, clinical meaning.
24. Surgical anatomy of the thoracic duct on the neck-course, confluence, neighbouring structures.
25. Lymphatic drainage zones of thoracic and right lymphatic ducts.
26. Reflexogenous sinocarotid zone-definition, content, meaning.
27. Congenital fistulas and cysts in the cervical region.
28. Congenital torticollis- anatomical modifications and their influence on the functionality.
29. Explain the compression point of the common carotid artery for assure hemostasis. Risks for venous haemorrhages in cervical region.
30. Projection and ways of finding of the jugular internal vein for catheterization.
31. Skeletopy and holotopy of thyroid and parathyroid glands.
32. Explain anatomically meaning of incisions made in case of flegmonas of fascial membrane of the medial vasculonervous bundle of the neck.
33. Explain anatomically the incisions made in suprasternal flegmona. Layers, complications.
34. Explain anatomicallythe incisions on the neck in case of retrovisceral phlegmon, limits.
35. Explain anatomically the peculiarities in primary surgical toilette of the neck’s wounds.
36. Explain anatomically: incisions in superior tracheostomy-indications, techniques.
37. Explain anatomically: incisions in inferior tracheostomy-indications, techniques, complications.
38. Explain anatomically: incisions in conicotomy-indications, techniques.
39. Explain anatomically: incisions in tracheostomy in children.
40. Explain anatomically: subclavian vein punction-indications, technique and complications.

**The thoracic region**

1. Musculoskeletal landmarks, limits and topographical regions on the thorax.
2. Layer by layer structure of anterior thoracic wall, vascularization, innervation.
3. Layer by layer structure of the posterior thoracic wall, vascularization, innervation.
4. Surgical anatomy of the intercostal space-vessels, nerves, practical meaning.
5. Surgical anatomy of the mammary gland, limits, vascularization and innervation.
6. Lymphatic system of the mammary gland, ways of lymph drainage. The lymph’s role in spredaing of metastasis.
7. Ways of venous drainage of mammary gland, it’s role in cancerous metastasis spreading.
8. Weak points of the diaphragm, their content.
9. Pluera’s topography-limits, plueral sinuses.
10. Topography of the costodiaphragmatic plueral sinus-limits, depth.
11. Segmentary structure of the lungs by International Nomenclature. Clinical meaning.
12. Topogrphy of the lung’s hilum right and left. Content, syntopy in the horizontal and frontal plane.
13. Topography of the anatomical structures of the anterior mediastinum, practical meaning.
14. Skeletopy of the heart and it’s content.
15. Surgical anatomy of the pericardium.
16. Topography of the frenic nerves in thoracic cavity.
17. Topography of the aortic arch and it’s branches. Correlation with neighbouring structures.
18. Topography of the anatomical structures of the posterior mediastinum.
19. Surgical anatomy of the azygos and hemiazygos veins.
20. Topography of the thoracic dusct in posterior mediastinum.
21. Right vagus nerve topography in the thoracic cavity.
22. Left vagus nerve topography in the thoracic cavity.
23. Topography of the thoracic portion of the esophagus. Anatomical structures and clinical importance.
24. Topography of the thoracic portion of the aorta.
25. Topography of the thoracic portion of the sympathetic trunk.
26. Coarctation of the aorta-definition, localization, collateral arteries.
27. The persistently patent arterial duct ( Botallo ) – definition, ways of blood circulation.
28. Explain projection of the heart’s valves on the thoracic wall and points of auscultation.
29. Explain in anatomical way incisions made in purrulent mastitis and retromammary flegmona.
30. Anatomical and clinical peculiarities in plueral’s cavity punction in case of hydrothorax.
31. Anatomical and clinical peculiarities in plueral’s cavity in case of pneumothorax. The area of performing. Layers.
32. Types of pneumothorax in thoracic traumas. Their characteristics.
33. Anatomical and clinical peculiaritiesof the cardiac punction. Points of performing.
34. Anatomical and clinical peculiarities of pericardium punction. Complications.

**The abdomen region**

1. Landmarks, limits, clinical and anatomical subdivisions of the antero-lateral abdominal wall.
2. Projection of the abdominal’s cavity organs on the antero-lateral abdominal wall.
3. Weak areas on the antero-lateral abdominal wall. Practical imporance.
4. Linia alba of the abdomen-characteristics, layers, weak areas.
5. Surgical anatomy of the aponeurotic membrane of the rectus abdominis mascle. Drawing-scheme.
6. Vascular system of the abdominal antero-lateral wall, practical importance.
7. Antero-lateral abdominal wall innervation, practical importance.
8. Surgical anatomy of the ombilical ring and canal in children and adults.
9. Superficial venous system of the antero-lateral abdominal wall. Cavocaval and portocaval anastomosis.
10. Layers of the antero-lateral abdominal wall in the medial portion. Vascularization and inervation.
11. Structure of the internal and external rings of the inguinal canal.
12. Walls and content of inguinal canal.
13. Content of the ingunal canal in males and females.
14. Inguinal space-limits, variants. Practical importance.
15. Umbilical, peritoneal and inguinal’s fossa wounds. Their correlation with inguinal’s canal rings.
16. Abdomen-subdivision, peritoneal cavity, levels and their content.
17. Correlations between abdominal organs and peritoneum. Drawing-scheme in sagital section.
18. Testicle’s descending. Peritoneovaginal canal-it’s role in performing of congenital inguinal hernias.
19. Surgical anatomy of the greater omentum. Clinical importance.
20. Surgical anatomy of the bursa omentalis-limits, clinical importance.
21. Topography of the epiploic foramen (Winslow) - clinical importance.
22. Surgical anatomy of the lesser omentum, ligament which forms it. Vessels and nerves.
23. Surgical anatomy of the Hepatoduodenal ligament and cystohepatic triangle Buddle or Callot.
24. Sugical anatomy of the hepatic bursa-limits, practical importance
25. Ways of suppurations spreading from subhepatic space.
26. Topographycal anatomy of the pregastric bursa-limits, clinical meaning.
27. Lateral abdominal canals-limits, suppuration spreading.
28. Topography of the inferior mezenteric sinuses in the inferior portion of the peritoneal cavity. Their communications and clinical importance.
29. Peritoneal recesses-practical importance.
30. Topography of the abdominal portion of esophagus. Correlation with vagus nerves and peritoneum.
31. Surgical anatomy of vagus nerves in the abdominal cavity.
32. Topography of the stomach-superficial ligaments, vascularization and innervation. Clinical importance.
33. Arterial system of the stomach and liver. Drawing-scheme.
34. Topography of ligamentary system of the liver, practical meaning.
35. Segmentary scheme of the liver by Couinaud, definition of segment, practical importance, vascularization, innervation, lymphatic drainage.
36. Anatomical and clinical peculiarities of liver’s blood system, drawing-scheme.
37. Topograpiy of the portal venous system, tributary veins, deep portocaval anastomosis. Practical importance.
38. Topographical anatomy of the gall bladder and biliar ducts, vascularization and innervation.
39. Topographical anatomy of the pancreas-vascularization, innervation, correlations with neighbouring organs.
40. Topographical anatomy of the spleen-vascularization, innervation.
41. Topographical anatomy of duodenum-correlation with peritonem, vascularization and innervation.
42. Topography of the duodenojejunal flexure, folds, recessus, Treitz ligamen and his procedure of finding it.
43. Topographical anatomy of the small intestin-vascularization, innervation, lymphatic drainage.
44. Topography of the cecum and appendix. Position of appendix towards cecum. Correlation with peritoneum. Vascularization, innervation, reccesses.
45. Topographical anatomy of the large intestine.
46. Critical areas of the conlon’s vascularization. Drawing-scheme.
47. Anatomical and topographycal peculiarities in the structure of oblique inguinal hernia, mechanism of performing.
48. Anatomical and topographycal peculiarities in the structure of direct inguinal hernia, mechanism of performing.
49. Anatomical and topographycal peculiarities of the congenital inguinal hernias.
50. Anatomical and topographycal peculiarities of the sliding hernia.
51. Anatomical and topographycal peculiarities in the structure of umbillical hernia.
52. Anatomical and topographycal peculiarities in the structure of amdominal internal hernia, weak areas.
53. Anatomical and topographycal peculiarities in structure of the strangulated hernia.
54. Anatomical and topographycal peculiarities in laparotomy.
55. Explain anatomically the sugical ways of acces to pancreas.
56. Reflexogenous zones of abdominal cavity and their practical importance.
57. Congenital pyloric stenosis, Gastroschisis, intestinal atresia (imperforation). Anatomical and clinical argue.
58. Meckel diverticulum-definition, types, localization, practical importance.
59. Congenital megacolon (Hirchsprung disease) - definition, morfofunctional modifications.
60. Umbillical fistulas, anatomical and functional types.
61. Revision of the small intestine by Gubarev’s procedure.
62. Anatomical and clinical criteria in differentiation between direct ond oblique hernias.
63. External abdominal hernia-definition, structure, anatomical classification.
64. External abdominal hernia’s classification by the mechanism of procceding and clinical signs.

**The lumbar and retroperitoneal region**

1. Topographical anatomy of the lumbar region-limits, layers, vessels and nerves. Ways of suppuration’s spreading.
2. Petit lumbar triangle and Grynfelt–Lesghaft–Krause triangle-limits and practical meaning.
3. Retroperitoneal fascias and adipose layers, drawing-scheme in cross section.
4. Topography of the proper retroperitoneal fatty tissue, limits, suppuration’s spreading.
5. Topographical anatomy of the paranephron-limits and content.
6. Topography of the retroperitoneal paracolon fatty tissue, limits, content and ways of spreading of the suppurations.
7. Ways of spreading of the suppurations from proper retroperitoneal space.
8. Topographical anatomy, skeletopy and holotopy of the kidneys.
9. Syntopy of the structures of the right and left renal pedicles. Position of the vessels towards vena cava inferior.
10. Anatomical and topographical peculiarities of the renal vascularization (extraorganic and intraorganic).
11. Sympathetic trunk and vegetative neural plexuses in the retroperitoneal space.
12. Projection of the ureters on the antero-lateral abdominal wall and in the lumbar region.
13. Explain the pain irradiation to the external genitalas and antero-medial parst of the thigh in case of ureteral diseases.
14. Explain posible ways of approach to kidneys: extra- and intraperitoneal.
15. Paranepfral blockade-indications, technique and complications.

**The spine region**

1. Musculoskeletal landmarks and segments of vertebral column.
2. Sugical anatomy of the vertebral column-structure, physiological curvatures in frontal and cross sections, ligaments.
3. Topographical anatomy of the vertebral canal.
4. Meninges and intermeningeal spaces of the spinal cord.
5. Clinical anatomy of the spinal cord.
6. Vascularization peculiarities of the spinal cord, clinical importance.
7. Suprahyoid lumbar punction, anatomical and clinical argumentation, layers.
8. Anatomical and clinical argumentation of epidural and peridural anesthesia, limits.
9. Anatomical and clinical argumentation of the spondylodesis of the vertebral column-indications, types.
10. Anatomical and clinical argumentation of the vertebral laminectomy-indications, essentials.

The pelvis and perineal region.

1. Landmarks, osteo-ligamental skeleton and orifices of the pelvis.
2. Pelvic fascias, drawing-scheme.
3. Spaces of the cellular tissue of the pelvis, drawing-scheme.
4. Ways of spreading of urinary infiltrations in lesions of the urinary bladder.
5. Ways of spreading of the suppurations from the adipose cellar space of the uterus (parametrium).
6. Obturator canal-walls, content.
7. Definition of pelvic “floors”. Drawing-scheme.
8. Characteristic of the peritoneal (upper) “floor “ in female pelvis.
9. Content of the subperitoneal (middle) “floor “ of pelvis.
10. Topogpahy of pelvic arteries.
11. Correlation of uterus with uterine artery.
12. Topography of the nerves is pelvis-sacral plexus, sympathetic and parasympathetic plexuses.
13. Topography of ureters in men’s pelvis.
14. Topography of ureters in wemen’s pelvis.
15. Topographical anatomy of the rectum-correlation with peritoneum, vascularization, innervation and venous ebb.
16. Vascularization peculiarities of the rectum.
17. Limits and triangles of perineum (inferior pelvic level).
18. Surgical anatomy of the urogenital triangle, limits, layers.
19. Topographical anatomy of perineum’s anal triangle-layers.
20. What organs and diseases can pe found through vaginal touch?
21. Definitions of the congenital malformations of pelvic organs (exstrophy, diverticulum, epispadia, hipospadia, atresia). Surgical priciplas.
22. Spaces of the cellular tissue of the pelvic floor, ways of spreading purrulent infections.
23. Ways of infiltration of purrulent infection into pararectal cellular space.
24. Ways of acces in prevezical’s space drainage.
25. Punction of the urinary bladder-indications, layers, technique.
26. Cystostomy (suprapubian) - indications, technique, layers.
27. Cystostomy. Peculiarities of sewing of urinary bladder layers.
28. Possible ways of approach to prostate.
29. Punction of the rectouterine space (Douglas) through the bottom of vagina’s sac-indications, technique.
30. Intrapelvic blockade (Skolnikov-Selivanov proceedure)-indications, technique.
31. Blockade of pudendal nerve-indications, technique.

Upper limb

1. Landmarks and topographical subdivisions in shoulder region.
2. Topographical anatomy of the infraclavicular region-limits, layers, vessels and nerves. Adipose and cellular spaces and their communication with simillary spaces.
3. Sbclavicular region. Limits of pectoral traingles. Syntopy of the vessels and brachial plexus.
4. Deltoid region-limits, layers, vessles and nerves.
5. Sudeltoid cellural space-content and ways of suppruations spreading.
6. Correlation of circumflex humeral posterior artery and axilary nerve towards surgical neck of humerus. Practical meaning.
7. Limits,walls and content of axillary cavity, syntopy of the vasculonervous bundle elements.
8. Posterior wall of the axullary cavity-foramen trilaterum and quadrilaterum-limits and content.
9. Possible ways of suppurations spreading from the axillary cavity.
10. Syntopy of the axillary vasculonervous bundle in the clavipectoral triangle.
11. Syntopy of the axillary vasculonervous bundle in the pectoral triangle.
12. Syntopy of anatomical structures of the axillary vasculonervous bundle of the subpectoral triangle.
13. Show critical arterial segments on the upper limb in drawing-scheme.
14. Scapular arterial anastomosis. Drwawing-scheme.
15. Surgical anatomy of scapulohumreal joint-ligaments, muscles, sinovial vaginas, vascularization and innervation.
16. Recesses and vaginas of humeral joint.
17. Explain topographically position of the humeral head in luxations of humerus bone.
18. Topography of the scapular region, vascularization, innervation, suppuration spreading.
19. Fascial membranes of the arm, their content.
20. Content and syntopy of elements of the brachial vasculonervous bundles.
21. The main neruovascular bundleof the arm-syntopy of the medium third of the arm.
22. The main neurovascular bundle of the arm-syntopy of the inferior third.
23. Humeromuscular canal-limits, content, practical meaning.
24. Anatomical structures in cross-section in the medium third of the arm. Drawing-scheme.
25. Moving of the osseous fragments in case of humerus fracture above the insertion of deltoid muscle.
26. Position of the osseous fragments in humerus fracture,distally of deltoid muscle insertion.
27. Topographical anatomy of the anterior cubital region-limits, layers, syntopy of anatomical structures.
28. Topographical anatomy of the posterior cubital region-limits, vessels and nerves.
29. Cubital joint, formation, ligaments, vessels and nerves.
30. Cubital arterial anastomosis.
31. Muscular layers of anterior antebrachial region.
32. Projection and syntopy of the structures of ulnar nerovascular bundle of the forearm.
33. Surgical anatomy of adipose cellular space Pirogov-Parona of the forearm.
34. Surgical anatomy of the neurovascular bundle of the posterior region of the forearm.
35. Explain topographical the evolution of supinator’s canal syndrome. Functional, sensitive and motor acivity disorders.
36. Landmarks and topographical subdivision of the palmar region.
37. Drawing-scheme of the carpal region in cross-section.
38. Aponeurosis and fascial beds of metacarpian region. Drawing-scheme.
39. Ways of spreading of suppurations from fascial beds of metacarpus.
40. Limits and content of the carpal canal in the mesothenar, syntopy of the anatomical structures.
41. Explain topographical: the evolution of median nerve compression syndrome in carpal region. Functional disorders. Position of the hand.
42. Explain anatomical and topographical: carpiulnar syndrome Guyon. Functional disorders, hand’s position.
43. Typical incisions in comisural flegmona. Suppuration spreading.
44. Surgical anatomy of the canals of lumbrical muscle. Practical importance.
45. Surgical anatomy of the synovial membranes and vaginas of the tendons of finger flexors.
46. Ways of spreading of suppurations in tendovaginitis of I and V hand fingers.
47. Topography of the anatomical structures in cross section of the proximal and distal phalanges.
48. Projection of the articular interlines on the hand phalanges.
49. Classification of the hand phlegmons and felons (panaris).
50. Show the critical arterial segments of the upper limb in drawing-scheme.
51. Wherein is manifested syndrom of radial nerve compressiom?
52. Moving of osseous fragments at the different levels in forearm bones fractures.

**Lower limb**

1. Cross section of the thigh in medium third. Drawing-scheme of fascial beds.
2. Lacunavasorum and musculorum in the subinguinal region-limits, content (drawing).
3. Topography of the femoral triangle (Scarpa)-limits, layers and neurovascular bundle syntopy.
4. Surgical anatomy of the femoral canal. “Corona Mortis”.
5. Obturator canal-walls, content, syntopy of the neurovascular bundle.
6. Topography of the vastoadductor canal (Hunter)-limits, foramens, content, syntopy.
7. Femoral neurovascular bundle-projection, content and syntopy.
8. Scheme of the collaterals of femoral artery. Critical segments.
9. Collateral ways of ligaturation of femoral artery proximally towards femoral deep artery.
10. Ways of suppuration spreading from fascial beds of the thigh.
11. Topographical anatomy of the gluteal region-layers, vessels, nerves, cellular spaces.
12. Topography of the foramen supra- and infrapiriforme of the gluteal region-limits, content.
13. Possible ways os suppurations spreading from gluteal region.
14. Coxofemoral joint-structure, ligaments, vascularization, innervation.
15. Possible ways of suppuration spreading from coxofemoral joint.
16. Topographical anatomy of the sciatic nerve. Projection line. Correlation with neighbouring anatomical structures.
17. Topography of the posterior part of the knee region, popliteal fossa, limits, content, suppuration spreading.
18. Projection and syntopy of the popliteal neurovascular bundle.
19. Ways of suppurations spareding from popliteal fossa.
20. Topography of the knee joint.
21. Fascial beds of the shin, content, muscles, vessels and nerves. Drawing-scheme.
22. Topographical anatomy of the posterior part of the shin-fascial and cellular structures, canals, vessels and nerves.
23. Topography of the anterior region of the shin-muscles, vessels and nerves.
24. Surgical anatomy of the cruropopliteal canal (Gruber)–limits, orifices and content.
25. Projection, content and syntopy of the anterior tibial neurovascular bundle.
26. Topography of the superior and inferior musculoperonier canals-limits and content.
27. Projection, content and syntopy of the posterior tibial neurovascular bundle.
28. Superficial and deep venous system of the shin. Their role in venous venous reflux in normal and pathological situations.
29. Wherein are manifested functional disorders in lesion of tibial and peronier nerves?
30. List the superficial neurovascular structures in the ankle region (talocrural).
31. Topography of the medial maleolar canal-limits, syntopy of the anatomical structures.
32. Projection, contents and syntopy of the dorsal nerovascular bundle of the foot.
33. Canals, sulcuses and fascial beds of the foot plantar region.
34. Shopar and Fisfranc joints-practical importance.
35. Areas of arterial trunks compression on the inferior limb in case of abundant bleeding.
36. Moving of the osseous fragments in the fractures of the femoral bone in the inferior third (epycondiloidal fracture).
37. Position of the osseous fragments in fractures of the femoral neck.
38. Anastomosis of the popliteal artery (drawing).
39. What are the causes of the disorders in osseous consolidation in the distal third of tibia?
40. Collateral blood circulation peculiarities in the arterial and venous system of the shin.
41. Fascial and cellular beds of the shin and ways os suppurations spreading.

**Problems situation**

**The topographic anatomy Clinical anatomy of the shoulder.**

1. A patient was operated on the subdeltoid phlegmon. During phlegmon opening and performing of contraincision on the posterior border of deltoid muscle, it was injured some nerve which resulted in motility disorders. Which nerve was injured and what kind of modifications, were did?
2. A patient was hospitalized with shoulder luxation and violent pains. At the examination, has been determined moving of the humeral head in the anteroinferior direction. Which nerve has been compressed?
3. During the revison and toilette of any deep wound in axillary region, has been determined any rupture of axillary artery distally of her subscapular branch. Which will be the collaterl circuit in case of ligaturation of alillary artery at this level?
4. In a patient with the fracture of the humeral sugical neck has been diagnosed a massive haematoma in the subdeltoid space. Lesion whose vessels has caused haematoma?

**Topographic anatomy of the brachial regions, cubital and forearm.**

1. One of the main symptoms is “balance arm” following paralyzation of carpiradial, carpiurlnar, digital extensors. Which nerve has been damaged?
2. Has been detremined diagnosis:deep phlegmon in the medium and distal third of the forearm. Indicate and explain the way of suppuration spreading from this space.
3. It is indicated ligaturation of the brachial artery during the medium third of the arm. List the layers which need to be incised. Determine syntopy of the barchial vessels and median nerve at this level.
4. It is established diagnosis: superficial cubital adenophlegmon. Show exactly localization of the superficial cubital lymphatic nodes.
5. In which adipose cellular space of the forearm can pass infection in case of purulent tendovaginitis of the ulnar and radial synovial membranes?

**Topographic anatomy of the hand and interventions**

**operators charged in this region.**

1. A conservative treatment has been prescribed to a patient wich suffers from the tendovaginitis of the second finger of the hand, but without results- on the next day, the patient's condition worsened. Next, the patient was operated, where besides suppuration, was found the necrosis of that tendon. What kind of structural peculiarities of the finger,led this complcation?
2. In the proximal region of the child’s thenar,has been determined a sectioned wound with size: 0,8 x 1,6 cm. At the patient’s examination has been established an essential disorder of the opposition function of policis. Which anatomical structures has been damaged?
3. To a patient which suffered from tendobursitis of small finger, has been performed a longitudinal incision through the center of hypothenar. At the opening of medial bed, was not determined suppuration. Patient’s condition worsened. In which palmar bed are situated tendon of the small finger flexors and ulnar synovial membrane?
4. A patient with pusatile pain in the distal phalanx of the policis, elevated temperature and sleepless night, has adressed to the polyclinic. Apreciate diagnosis and determine surgical treatment.

**Topographic anatomy of the anterior medial thigh region.**

1. At the performing of femoral herniotomy,has been produced an abundant bleeding from the medial border of internal femoral ring. What was injuried?
2. The surgeon has tied femoral artery proximally towards the origin of deep atery of the thigh. Explain the collateral ways of vascularization of the inferior limb in this case.

**Topographic anatomy of the gluteal region,**

**posterior thigh, knee and coxofemoral articulation.**

1. The patient has adressed with acute pain in the gluteal region. Has been detrermined a phlegmon under the gluteus major muscle. Show possible ways of suppurations spreading.
2. The patient suffers from a purulent disease in the coxofemoral joint, Show the possible ways of the suppurations spreading through the weak ares of thr srticular capsule.
3. An injured (troubled) person has adressed to the doctor with blunt deep wound in popliteal fossa’s region. At the wound examination, has been determined the popliteal artery lesion, which was sutured by a surgeon,who used Jobber’s fossa as a way for access. Name layers and limits of this fossa. Explain anatomically collateral ways of blood circulation.

**Topographic anatomy of the shank**

1. During the clinical examination of the patient with blunt wound of the shin at the level of fibular bone, is determined position of the foot,which is positioned in maximal flexion and supination. What nerve is damaged?
2. The suppurations have been found in the anterior osteofibrous bed of the shin at the patient with phlegomon in popliteal fossa. Explain the way of suppuration spreading in this fascial space.
3. At the traumatological deparment has been hopitalized a patient with closed fracture of the both bones of the shin in medium third with fragments movement. Explain the movind of fragments, taking into consideration the action of the muscles.
4. At the patient with purulent arthritis in the knee joint,disease has been complicated with a phlegmon in the deep region of the shin. Name the possibe ways of suppuration spreading.
5. It was proposed aortocoronary bypass operation to a patient with coronary insufficiency. Which veins of the shin can be used for this opertaion as transplantation material?

**Topographic anatomy of the foot and talocrural articulation region itself**

1. The doctor decided to use any vessel from talocrural region for intavenous infusion. Name the most according vessel and it’s topography.
2. On the plantar surface of the foot,in lateral portion is located a deep wound of a smooth tissues. Have been performed ligaturation of the lateral plantar artery,as a hemostasis measure,but bleeding didn’t stopped. Name other arteries which can be a cause of bleeding in this case.
3. It is indicated the desarticulation in the Chopart’s joint. Name this joint and it’s structures.
4. It was established diagnosis of phlegmon of medium plantar bed. Name the possible ways of suppuration spreading.
5. To a patient with blunt wound and abundant bleeding in the axillary region, has been applied a suture on the dameged artery, distal of subscapular artery. Which complications can be taking in consideration stopped arterial flow. What is the cause of this complications?
6. In the patient with fracture of the surgical neck of the humerus, the abduction of the arm missing. Name the cause of it?

**Surgical anatomy of the large joints and tubular bones.**

## A child with humeral bone fracture in the medium third ,has been hospitalized. At the patient’s examination, has been determined a paralysation of the posterior and lateral groups of muscles of arm and forearm. Which nerve has been injured?

1. After forearm aputation in the inferior third, in the patient had appeared phantom pain in the policis(thumb). Explain the causes of this pains and surgeons tactic.
2. After trepanation of the mastoid apophysis, in a patient has appeared a paralisation of mimic muscles of the face in the corresponding part. Which is the cause of this complication and which is the surgeon’s mistake?
3. After closed trauma, in a patient has been diagnosed intracranial epidural haematoma in the temporal region. Radiological has been determined intact bone. Name the haematoma’s sources, and the mechanism of producing.
4. During performing of mastoid apophysis trepanation in case of purulent mastoiditis, the surgeon exceeded the limits of trepanation triangle. Has been produced an abundant bleeding. Eplain the cause of bleeding.

**Topographic anatomy of the facial region, operations in the region.**

1. Some patient has been adressed to doctor with tumefaction of the mucosa of the buccal roof/At the examination, has been determined a suppuration in that region. Name de possible ways of purulent infection spreading.
2. In the patient with the furuncle (boil) of the superior lip, has been developed the trombosis of cavernous sinus. Name the ways of infection spreading.
3. In a patient with acute parotitis, has been diagnosed asymmetry of the mouth and attentaion of the nasolabial fold. Which is the cause of asymmetry?

**Topographic anatomy of the neck.**

1. After the inferior tracheotomy, in the patient has been developed a phlegom in the anterior mediastinum. Through which of cellular adipose spaces the infection can penetrate to thoracic cavity?
2. During perfoming of the inferior trachetomy, during incision of the smooth tissues, the surgeon has injured some blood vessel positioned in the pretracheal space. This resulted in abundant arterial bleeding. Which vessel has been injured?
3. During the thyroidectomy, the surgeon has injured some nerve during the separtion of the left lobe from the tracheea. This resulted in patient’s dysphonia. Which nerve has been injured and where to find it?
4. During the tongue cancer surgery,in pateint has appeared abundant bleeding. The surgeon has decidedto stop that bleeding by suture of lingual’s artery passing. Show the triangle where it can be produced, and layers of it.
5. To the patient with severe hiccup,has been performed a blockade of phrenic nerve on the neck. Appreciate the projection of the phrenic nerve and possible areas of needle introduction for blockade.
6. To a patient with acute intoxication, has been decided to perform a drainage of the lymphatic thoracic canal. Show the landmarks, ways of opperation acces and the layers wich you shold dissect.
7. To a patient with abundant bleeding, which was severe traumatized, for saving his life,has been proposed to suture right carotid common artery. Name the collateral vessels which can assure adequate vascularization.
8. During performing of esophasotomy, the voice timbre has changed, caused by foreign body. The voice has becomed hoarsed, has appeared dysphony. What is the cause of this phenomenon? What is the surgeon’s mistake?

**Topographic anatomy of the thorax**

1. It was established diagnosis: opened external pneumothorax. Namre the layers of the thoracic wall which does objects nwas injured?
2. The presence of glandular metastasis was established on the opposite side of the existing malignant tumora of the left mammary gland. Explain the way of metastasis spreading from one gland to another.
3. Plueral punction performed on the medioaxillary line in the VII intercolstal space, was followed by severe pain and bleeding more abundant than usually. What can be the cause of this symptoms?
4. It was established the presence of the foreign body in the right bronchus. Argue from structural point of view, why more frequently, foreign bodies get to the right bronchus.
5. In a patient has been produced a penetraiting wound in the IV intercostal space btween the sternal and parasternal lines from left side. Which cardiac chamber could be injured?
6. During the respiratory act, has been established a reducing of the diaphragm’s amplitude. The lesion of which nerves, can produce this symptom?

Operations on the neck and the thorax

1. A patient has adressed to a doctor, complaining on changes of the voice timbre. Radiological has been determined an aortic aneurism. Name the anatomical structures which was comprimated by this aneurism and has produced dysphony.

Surgical anatomy of the anterolateral abdominal

wall and external abdominal hernias. Hernias

1. Name he anatomical structures which predispose to inguinal herniation appearing (oblique, direct and congenital).
2. During the surgery of an old inguinal herniation, the surgeon has observed that henial bag is situated in a common membrance with spermatic chord, but the neck of the bag towards inferior epigastric artery is positioned laterally. What kind of herniation it was?

Topographic anatomy of the organs of the peritoneal cavity.

1. During the cholecystectomy, has appeared necessity for pancreas examination. Through which anatomical structures it can be done and apreciated the organ’s limits?
2. To perform a gastroenteroanastomosis to a patientwith inoperable stomacal cancer is necessary to mobilize the proximal portion of the jejunum. What is the mode and procedure of finding of the deudenojejunal curvature (Treitz ligament)?
3. After laparotomy perfomed to a patient with intestinal oclusion, has been observed a trombosis of mezenteric superior artery. Name the segments of the intestine which can become necrotized.
4. Show in what case the stomach’s content or blood drained after the perfotating ulcer can pass in the cavity of the bursa omentalis and right lateral canal.
5. After stomacal rezection, during the posopratory time, has been produced a necrosis of transversal portion of the large intestine, as consequence of surgeon’s mistake in case of incision of the gastrocolic ligament, which has been performed to mobilize pyloric portion of the smomach. Which vessel has been injured?
6. After spleenectomy and consecutive suture of all vessels of the lienal hilum, in the posoperatory time, was observed a bleeding in the region of cuted spleen. Name the source of bleeding.
7. After spleenectomy, in the postopertory time, a patient has been develpoed acute pancretitis. Which is the cause of this complication?

Topographic anatomy of the lumbar region, organs retroperitoneal space

1. During surgical approach of the kidney by Fiodorov procedure, in a patient has developed signs of a pneumothorax. Which is the anatomical and topographical base of this complication?
2. A patient with renal colic was hopitalized in the urological department. The pacient complains on the pain in lumbar region with irradiation to the inferior part of the abdomen, inguinal region, external genitale organs and medial part of the thigh. Which anatomical and topographical correlations explain this irradiation?
3. A patient with a severe form of ulcerous colitis accompanied by fever and shiver was hospitalized. At the patient’s examination, the diagnosis was confirmed. Also, was detrmined a phlegmon in the retroperitoneal space. Give the arguments of the ways of suppuration spreading.

Topographic anatomy of the pelvis

1. An inflamatory process in the uterine annexes, has been complicated with a phlegmon of the parietal cellular space of the pelvis. It was perfomed the drainage of this phlegmon through the fossa ischirectalis, but after some time, has appeared asevere bleeding. Which vessels was injured?
2. A patient was hospitalized with primiray diagnosis: ectopic pregnancy with salpinxes rupture”. For confirming diagnosis, was decided to perform a punction of the vaginal fonix. Show,where usually can be accumulation of the blood in case of uterine tubes rupture. Throuhg which layers, punction is performed?
3. The perineal rupture, was produced during the birth. Which nerves is necessary to block and what is the adequate mode of anesthesia for perineum suture?
4. A patient with rupture of the anterior wall of the urinary bladder was hopitalized in the surgical department. Which are the possible ways of urine spreading in this case?