

TEACHING OF STUDENTS OF MEDICAL FACULTY OF POMERANIAN MEDICAL UNIVERSITY IN SUBJECT OF SURGERY

Jednostka, w której realizowany jest program nauczania przedmiotu:

Department of General and Hand Surgery

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Kierownik jednostki:

prof. dr hab. med. Andrzej Żyłuk

Adiunkt dydaktyczny

dr med. Ireneusz Walaszek

Numbers of effective hours:

Summary: 1635 hours included:

4 hours lectures

20 hours seminars

1611 hours classes

CME points:

LECTURES:

Prof Andrzej Żyłuk MD PhD

Piotr Prowans MD PhD

SEMINARS:

Prof Andrzej Żyłuk MD PhD

General aim of the subject:

The aim of 3-years surgery course for medical students is education of students, future medical doctors and qualify them with updated knowledge and practical skills necessary in successful diagnosis and treatment (in confined extend) of patients with so called surgery conditions. It regards digestive truck, abdominal cavity, thoracic cavity, heart, breast, dermal and subcutaneous TISSUE, head and neck, genito-urinary track, neoplasm conditions and sequelae of trauma included multi-trauma patients, burns, and hand problems.

SEMINARS 5TH YEAR

1. Acute lower extremity ischemia. Venous conditions: deep and superficial vein thrombosis. Pulmonary artery emboli. Professor Piotr Gutowski
2. Acute conditions in urology. Neoplasm of urinary tract. Prostatic conditions. Impotence. Professor Andrzej Sikorski
3. Management of multi-trauma patients. Gastric cancer. Gastric surgery. Small and Large bowel obstruction. Acute appendicitis. Professor Andrzej Żyłuk

4. Diagnosis of acute abdomen conditions. Hernias. Endoscopic surgery. Professor Marek Ostrowski
5. Acute cholecystitis. Pancreatitis. Laparoscopic surgery. Basis of cosmetic surgery. Associate professor Marek Kamiński

SEMINARS 6TH YEAR

1. Occlusive arteriosclerosis. Aortic aneurysm. Professor Piotr Gutowski
2. Abdominal injuries in multi-trauma patients. Hand surgery-elective and acute conditions. Professor Andrzej Żyluk
3. Organ transplantations. Thyroid gland surgery. Professor Marek Ostrowski
4. Surgery in acquired heart disease Professor Mirosław Brykczyński
5. Large bowel and rectum cancer. Professor Józef Kładny
6. Diseases and trauma of thorax. Lung cancer. Professor Tomasz Grodzki

Lectures of surgery included 4 hours in II term of 3 year. Subjects of lectures : history of surgery, aseptic and antiseptic approaches , history of plastic and reconstructive surgery. Lectures are conducted for whole study year by Prof Andrzej Żyluk MD PhD (2 hours)and Piotr Prowans MD PhD (2 hours).

Seminaries of surgery are carried out in groups of 24-30 students per one tutor , who is professor or a clinician MD PhD. Each seminary is conducted by different tutor and lasts 2 effective hours. In course of seminary students are familiarize with new study topic. Multi-medial presentations are used. Devoted time is sufficient also for questions and discussions.

Clinical classes of surgery are carried out in varied clinics and are specified according to main clinic specialization. Classes are conducted in group of maximum 6 students per one clinician. During clinical classes students are thought to obtain personal history, to perform clinical examination, to perform dressing changing and small surgical procedures included in course program such as vain catheter insertion, catheterization of urinary tract, drainage removal. During clinical classes in operating theatre students can assist in operations. During clinical classes in emergency department students are involved in management of admitted patients in process of diagnosis and treatment. Perform simple procedures included in course program such as wound management; wound anesthetizing and suturing, nose-gastric tube implementation, per rectum examinations, splint implementation.

Credit. Material form surgery course in 5th year is tested after each deans group finishes classes and separately for each group with written test.

Final exam form surgery in form of single-choice test (with key) is carried out simultaneously for whole study year. The test material covers the knowledge form recommended books and material introduced during seminaries and lectures. The printed materials with the topics covered in clinics are available as printed material in clinic or on internet pages. Students are also oblige to pass practical exam , which is carried out during the last day of surgery block in 6th year. Practical exam consist of examining the patient and a case discussion with professor or assigned tutor. The test exam can be re-sited twice orally.

It is expected that after completion of the three-years surgery course, student (prospective doctor) will be conversant with the management of:

- ✓ Purulent infections of the skin and subcutaneous tissue
- ✓ Diagnosis and treatment of various kinds of shock, including post-traumatic, haemorrhagic, burn and septic
- ✓ Interpretation of biochemical investigations
- ✓ Principles of live-saving, resuscitation and reanimation
- ✓ Principles of transfusiology and rules of use of the blood, blood products and substitutes
- ✓ Pathogenesis, diagnosis, differential diagnosis and decision-making in surgical conditions of the abdomen, chest and urinary tract
- ✓ Principles of pathology, diagnosing, classification and treatment of neoplasm, with particular attention to the early diagnosis of malignant neoplasm's
- ✓ Principles of the diagnostics and management of multi-trauma injuries
- ✓ Principles of the diagnostics and treatment of disturbances of electrolyte and acid-base homeostasis
- ✓ Diagnosing and treatment of common diseases of endocrine glands, in particular thyroid gland conditions
- ✓ Diagnosing and treatment of surgical diseases and injuries of urinary tract, in particular kidneys, urinary bladder, prostate gland and urethra
- ✓ Principles of pathology, diagnosing, classification and treatment of haemorrhages and decision-making concerning operative or conservative treatment of patients with haemorrhage
- ✓ Causes, diagnosing and management of digestive tract haemorrhages
- ✓ Pathogenesis, diagnostics and principles of management of the burn disease
- ✓ Diagnosis, imaging and management of brain, chest and abdominal injuries
- ✓ Principles of anti-thrombotic prophylactics
- ✓ Diagnosis and treatment of deep venous thrombosis and lungs embolism
- ✓ Diagnosis and treatment of arterial embolism
- ✓ Diagnosis and treatment of aneurysm of the abdominal aorta
- ✓ Diagnosis and treatment of traumatic injuries of the vessels
- ✓ Diagnosis and treatment of varicose veins within lower limb and post-thrombotic syndrome
- ✓ Diagnosis and differentiation of gynaecological diseases in the abdomen
- ✓ Diagnosis and treatment principles of limb fractures
- ✓ Diagnosis and treatment of common hand conditions
- ✓ Diagnosis and treatment of tendon and peripheral nerves lacerations within the upper limb

It is expected that after completion of the three-years surgery course, student (prospective doctor) will acquire the following practical skills:

- ✓ Rules of the safety in the surgical unit (including ward and operative theatre)
- ✓ Principles of aseptic dressing change of the wounds
- ✓ Principles of wounds care, including tidy, contaminated and infected wounds
- ✓ Principles of surgical wound closure. Surgical stitching of wounds.
- ✓ Physical examination of the abdomen.
- ✓ Diagnosis of abdominal aorta aneurysm by clinical examination.
- ✓ Pulse examination in the peripheral arteries
- ✓ Diagnosis of acute ischemia of the upper and lower limb.
- ✓ Principles in the performance of intermittent claudication test on the roller track.
- ✓ Fixation of the ankle-shoulder index.
- ✓ Principles in the diagnosing and management of venous insufficiency of the lower limbs.

- ✓ Diagnosing of profounous thrombophlebitis.
- ✓ Surgical approach to veins and arteries. Femoral vein puncture and insertion of the catheter. Saphenous vein venesection, arterial cannulation.
- ✓ Catheterisation of the urinary bladder. Information on variuos types of urinary bladder catheters
- ✓ Nasogastric tube insertion
- ✓ Pleural puncture (thoracentesis).
- ✓ Setting and service of pleural drainage.
- ✓ Peritoneal puncutre (paracentesis).
- ✓ Knee joint puncture (arthrocentesis).
- ✓ Principles of the immobilization of the limbs after trauma. Techniques of binding up and plastering
- ✓ Local and regional anaesthesia of the operative field
- ✓ Setting of heamostatic tourniquets
- ✓ Resuscitation in the acute circulatory failure. Principles of maintaining of vital function
- ✓ Principles in preparation of the operative field and surgeon's hands to the operation (scrubbing and disinfection)
- ✓ Rules of residing in the operative theatre
- ✓ Introduction with surgical instruments and materials
- ✓ Terminology associated with surgical procedures
- ✓ Preparing of management schedule based on clinical, biochemical and imaging findings in common surgical conditions
- ✓ Rules of procedure in the case of resistant germ carrier, so called „alert pathogen carrier”
- ✓ Technique of tendon suture – exercise on the model of pig trotters
- ✓ Basic techniques of plastic surgery – intra-dermal suture and Z-plasty
- ✓ Principles of clinical examination in the peripheral nerves compression syndromes
- ✓ Dressing change after hand surgery operations
- ✓ Insertion of the nasogastric tube and clinical interpretation of the character of contents of the stomach, with the particular attention to the upper GI tract bleeding, mechanical obstruction and duodeno-gastric reflux
- ✓ Auscultation of the abdomen in the context of various types of digestive tract obstruction

Specific subject matter of classes in the Department of General and Hand Surgery

1. **Gastric cancer.** Epidemiology and risk factors of gastric cancer. Independent prognostic factors. Early diagnosis of the gastric cancer, diagnostic algorithm foe this malignancy. Other than cancer malignant neoplasm of the stomach: malignant lymphomas, MALT lymphomas, gastrointestinal stromal tumours (GIST). Operative techniques in gastric cancer with the particular attention to regional lymph nodes clearance. Post-operative management and chemotherapy.
2. **Obstruction of the digestive tract.** Classification and types of obstructions. Common causes of mechanical and paralytic obstruction. Diagnostics of the obstruction: clinical findings and imaging. Complete (total) and incomplete (subtotal) obstruction – considerations regarding operative or conservative treatment. Strangulating obstruction – fears and dangers. Large bowel obstruction with the particular attention to the different operative strategy. Operative management of the mechanical obstruction. Prevention of the mechanical obstruction of the digestive tract. Paralytic obstruction – causes, investigation and management.

3. **Acute appendicitis.** Clinical picture of the commonest inflammatory surgical disease of the abdomen. Biochemical and imaging investigations helpful in the decision-making. Emphasising of the importance of the history and clinical findings as a basis for exact diagnosis of appendicitis. Differential diagnosis of acute appendicitis. Operative treatment – classical and laparoscopic. Post-operative complications.
4. **Multi-traumatic injuries.** Definition, classification, types and causes of multi-traumatic injuries. Severity scales of these injuries: generic and specific. Principles of the first-aid for victims of accidents with multi-traumatic injuries. Quick, diagnostic path in the Emergency Unit, with regard to diagnostic algorithm for an unconscious and shocked patient. Principles of the decision on immediate operation, without any investigations in the case of patient in critical state. Diagnostic difficulties in post-traumatic intra-abdominal bleeding. CT scanning according to multi-traumatic protocol. Rapid, diagnostic laparotomy in the Emergency unit. Pleural puncture for the treatment of tension pneumothorax. Indications and rules of the operative management of abdominal injuries in multi-traumatised patient. Packing of the abdomen as rescue procedure in cases of uncontrolled intra-abdominal bleeding. Schedule of urgent operations in injuries of particular body parts and organs. Principles of management in haemorrhagic shock, concentrated saline infusions for patients with critically low systemic blood pressure.
5. **Surgery of the hand.** Common hand injuries: phalangeal and metacarpal fractures. Fractures of the distal radius – principles of the management. Contemporary indications to the operative treatment of fractures within the hand and wrist. Tendons and nerves lacerations – diagnosis and management. Post-operative rehabilitation after repair of flexor and extensor tendons. Amputations and replantation of fingers and hands. Principles of the transportation of amputated parts to the reference Hand Unit. Hand conditions requiring surgical treatment: nerve compression syndromes, with particular attention to carpal tunnel syndrome: causes, clinical findings, investigations and treatment. Dupuytren's contracture, trigger finger and ganglion cysts.

Obligatory textbook: Burkitt HG, Quick CR, Gatt D. Essential Surgery. Problems, diagnosis and management. Churchill Livingstone, 2002.