The specialization

in

Orthopedics and traumatology

The basic program for doctors on postgraduate internship
(Without any specialization)

1 - PURPOSE OF STUDY specialization

Learning objectives

The aim of study is to get messages specialization and practical skills to such an extent that allows self-fulfillment specialist diagnosis and treatment in accordance with the current level of knowledge in this field, as well as the implementation of preventive and health promotion.

Another objective of study is to develop a set of personality traits and increased knowledge with its progress and development, and to provide a theoretical basis for research and teaching.

Acquired competence

Doctor after completing specialization and received the title of specialist in the field of orthopedics and traumatology get specifically qualified to:

- stand-alone or as part of a multidisciplinary konsyli um, diagnosis, treatment, rehabilitation planning and monitoring and to take preventive measures for diseases, congenital and acquired defects, damage and post-traumatic changes in the musculoskeletal system,
- Primarily self-ing patients, independent work in outpatient clinics and in the field of orthopedics and traumatology,
- independently carry out beds in the ward, an independent conservative and surgical treatment of patients, conducting roster as team leader,
- provision of medical consultations in the field of orthopedics and traumatology physicians in other specialties,
- decide on the need for medical rehabilitation, disability, incapacity or labor on the farm, injury and disability due to diagnosed and treated diseases
- preparing the opinion of certificates and applications for treated patients,
- appear in court as an expert,
- management specialization in orthopedics and traumatology other doctors,
- conducting health promotion and prevention of diseases and injuries,
- to apply for the position of Chief of the departments of orthopedics and traumatology clinic or manager in the specialty,
- work done and a personal, specialist medical practice or the provision of health services under group medical practice in the field of orthopedics and traumatology,
- training of other health professionals,
-

2 - REQUIRED KNOWLEDGE

It is expected that after completion of medical specialization in orthopedics and traumatology demonstrate their knowledge of:

- physiology, pathophysiology and musculoskeletal biomechanics, physiology and disorders of bone union, physiology and pathology of the articular cartilage, biomaterials, biochemistry and blood transfusion,
- musculoskeletal clinical research and imaging techniques in the diagnosis of diseases and traumatic changes in the musculoskeletal system,
- pathomechanics, recognition, differentiation, knowledge of complications, prognosis and treatment of traumatic lesions,
- diagnosis and treatment of cranio-cerebral injuries, injuries of peripheral nerves, arteries and veins, traumatic chest and its organs, abdomen, genitourinary,
- symptoms, diagnosis, prognosis, treatment of traumatic injuries of the spine with spinal cord injury,
- diagnosis and treatment of complications in the healing of bone fractures and dislocations of joints,
- amputation and prosthetic limbs,
- hand surgery in cases of injuries and deformities, reconstructive procedures and skin arts,
- emergency medicine (disaster), diagnosis and treatment of multiple injuries and the cooperation of specialists in this field,
- transplantation of organs and tissues, including bone tissue and cells,
- pharmacodynamics, mainly with respect to mobility,
- pathogenesis, prevention, diagnosis and treatment of behavioral and operational birth defects, defects in acquired systemic diseases and musculoskeletal

- pathogenesis, diagnosis, conservative and surgical treatment of flaccid and spastic,
- pathogenesis, diagnosis and treatment of degenerative arthritis,
- pathogenesis, diagnosis and treatment of non-specific and specific inflammation within the musculoskeletal system,
- pathogenesis diagnosis and modern treatment of primary tumors, secondary and musculoskeletal like changes,
- diagnosis and treatment of rheumatoid diseases,
- diagnosis and treatment of bone metabolic disorders (such as osteoporosis, osteopenia, rickets),
- functional principles of treatment of orthopedic and traumatic changes including the use of movement and its limitations, and physical and occupational therapy in patients treated conservatively and surgically, teamwork skills with the vertical rehabilitation and rehabilitation treatment planning skills and the use of physical therapy,
- team work department of emergency medicine
- give temporary inability to work, ability to work, sheltered employment, medical disabilities,
- issues of injury prevention and treatment organizations orthopedic Traumatology,
- orthotics and prosthetics (orthopedic)
- aspects of palliative medicine,
- foundations of health promotion and public health issues,
- ability to work with a team of anesthesiologists and other specialists,
- knowledge of medical liability laws, patients' rights and the principles of professional conduct,
- history of orthopedics Polish and world
- skills in using multimedia techniques, the use of global literature, use of computer programs in medical work, the principles of scientific work, research planning, collection of literature according to the principles of "evidence based medicine" (EBM), research in accordance with the principles of 'good clinical practice' (GCP)

3 - PRACTICAL SKILLS REQUIRED

It is expected that after completion of medical specialization in orthopedics and traumatology demonstrate the ability to:

- establishment of plaster casts, and other immobilization bandages,
- thromboprophylaxis and antibiotic
- conservative and surgical treatment of the musculoskeletal system and distortions in adults and children,
- conservative and surgical treatment of traumatic musculoskeletal injuries in adults and children,
- conservative and surgical treatment of complications of traumatic musculoskeletal injuries,
- conservative and surgical treatment of multiorgan injury and multi-site musculoskeletal
- behavioral and functional treatment of fractures and dislocations,
- improvement in diseases and traumatic changes in the musculoskeletal system,
- prosthetics and orthotics.

4 - FORMS AND METHODS OF INSTRUCTION

A - Specialization Courses

Note: It belongs specialized doctors will participate only in those courses of specialization, which received a positive opinion of the relevant national and were entered on the list maintained by the Centre for Postgraduate Education courses of specialization and entities covered by the program specialization courses, which is given annually to the specialized doctors on the Internet CMKP: **www.cmkp.edu.pl.**

1) Introductory course-subject courses: "Introduction to specialize in orthopedics and traumatology"

The course content should include:

Fundamentals of orthopedics and traumatology of the locomotor system and the basis of good medical practice, the collection of literature in accordance with the principles of evidence-based medicine (EBM), pharmacoeconomics, the basis of law in force in health care, the legal basis for the medical profession and the professional improvement of doctors.

2) The theme of the course: "hip dysplasia"

The course content should include:

Epidemiology, etiology, clinical recognition, diagnosis using imaging methods, principles of conservative treatment, the principles of surgical treatment depending on the patient's age, the rules work in Outpatient Clinic.

3) The theme of the course: 'the foot "

The course content should include:

Epidemiology, etiology clubfoot and flat-valgus innate equine foot, feet flat-valgus static, recognizing, medical treatment, surgical treatment, depending on the age of the patient, the rules in a variety of orthopedic foot deformities.

4) Subject of the course: "Modern issues osteosynthesis"

The course content should include:

Physiology of bone healing, bone morphogenetic proteins, bone fragments history anastomoses, suture bone zaspolenia plate, intramedullary, intramedullary locked, external fixators, pathomechanics bone healing disorders and methods of treatment.

5) The theme of the course: "arthrosis, joint replacement surgery"

The course content should include:

Epidemiology and etiology of degenerative arthritis, prevention principles, principles of conservative treatment, palliative procedures, indications for joint replacement surgery, the types and designs of hip prostheses, the principles of surgical technique, the types and designs of knee replacement, the principles of surgical technique, prosthesis-scapular humeral joint - Types and principles of the surgical technique, prosthetic elbow, upper ankle, wrist and hand joints, surgery revision hip and knee - the epidemiology, causes, surgical techniques.

6) The theme of the course: "Spine Surgery"

The course content should include:

Epidemiology, etiology spinal deformities (scoliosis, kyphosis), the principles of clinical evaluation, imaging studies, post-traumatic changes, the principles of conservative treatment, operational, etiology disc disease and instability of the spine, the principles of diagnosis and treatment.

7) Subject of the course: "Hand Surgery and Reconstructive Surgery"

The course content should include:

Policy trial arm, instrumental diagnostics, imaging techniques in the diagnosis of disease and injury hand, diagnosis and treatment of diseases and basic hand injury, diagnosis and

treatment of compression syndromes of forearm and hand, a diagnostic arthroscopy and operating the forearm and hand, Conservative and surgical treatment of intra-articular fractures and przystawowych hand, the principle of immobilization and rehabilitation of hand the possibility microsurgical reconstruction after limb injuries, skin grafts.

8) The theme of the course: "Tuberculosis"

The course content should include:

Epidemiology, etiology, principles of diagnosis, treatment conservative surgery.

9) Subject Course "knee surgery"

The course content should include:

Etiology, distributions of fresh and inveterate instability, conservative treatment, operational, meniscal tear - principles of diagnosis and treatment, arthroscopy of the knee cartilage injury - diagnosis, treatment conservative and operative, gonartrrozę - conservative treatment, palliative procedures, osteotomies, replacement surgery,

10) Subject of the course: "disorders of bone metabolism"

The course content should include:

Bone metabolism, epidemiology and etiology of osteoporosis and other metabolic disorders, methods of economic evaluation of mineral densitometry testing, prevention and treatment of disorders osteoporotic fractures - prevention and treatment.

11) Subject of the course: "osteoarthritis"

The course content should include:

Epidemiology, etiology of acute and chronic infections, the principles of recognition, the principle of general and local antibiotic therapy, conservative treatment and operational infected pseudoarthrosis - principles of treatment, infection around the prosthesis joint - diagnosis and treatment

12) Subject of the course: "Reumoortopedia"

The course content should include:

Etiopathogenesis of rheumatoid changes in the organ of movement, the principles of functional assessment of the patient's prognosis, indications for conservative and surgical treatment, soft tissue operations, operations deformities of the feet and hands, the operations of large joints, improving patients.

13) Subject of the course: "Oncology mobility"

The course content should include:

Distribution of tumors and musculoskeletal like changes, recognizing, rules of combination therapy, surgery sparing radical operations, treatment of metastatic disease.

15) Revision course: "Advances in orthopedics and traumatology"

The course content should include:

Diagnosis and treatment of congenital upper limb and lower torso, diagnosis and treatment of flaccid and spastic paralysis, diagnosis and treatment of osteoarthritis, indications and technique in arthritis arthroplasty, diagnosis and treatment of lesions of the knee, scoliosis, diagnosis and treatment, traumatic limb , spine and pelvis, arthroscopy of joints, disorders of bone metabolism, the radiological musculoskeletal system, musculoskeletal systemic diseases, diagnosis and treatment of complications in the treatment of bone fractures, back pain, diagnosis and treatment of osteomyelitis and arthritis, musculoskeletal tumors - diagnosis and treatment method of limb lengthening, injuries and illnesses hand, shoulder surgery, aseptic necrosis of bone, childhood hip disease.

16) Course: "Public Health"

Aim of the course

The main objective of the course is to familiarize physicians who specialize in each specialty, with selected public health problems, which are essential for understanding the comprehensive approach to the health conditions of the efficient and effective functioning of the health system and the role of the physician in meeting the needs of individual and collective health.

B - Internships

EDUCATION FOR SURGERY

Training in surgery includes internships in general surgery directional, thoracic surgery, urology and neurosurgery. Total - 12 months of training.

1) internship in general surgery

The curriculum

The scope of theoretical knowledge

During the internship physician must be familiar with:

- pathophysiology of wound healing clean and infected wound healing,
- purulent infections
- pathology, diagnosis and treatment of traumatic shock, hemorrhagic and septic oparzeniowego,
- indications and contraindications for surgery scheduled and carried out urgently,
- postoperative investigation, diagnosis and treatment of post-operative complications
- pathogenesis, detection, differentiation, treatment and prognosis in acute and chronic abdominal surgery,
- diagnosis and treatment of multiple injuries,
- diagnosis and treatment of disturbances in protein, carbohydrate, fluid and electrolyte and acid-base balance,
- pathogenesis, detection, differentiation and treatment of haemorrhage,
- parenteral and enteral nutrition,
- pathogenesis, diagnosis, treatment and prognosis in burn disease,
- pathogenesis, diagnosis and treatment of renal failure
- diagnostic endoscopy and operating in surgery,
- pathogenesis, diagnosis and treatment of disorders of blood coagulation,
- diagnosis and treatment of thromboembolic disease, blockages of the arteries, aortic aneurysm, stenosis and obstruction of the arteries, damage to blood vessels,
- diagnosis and treatment of varicose veins and thrombotic syndrome,
- imaging methods in the diagnosis of injuries and diseases of surgical,
- anesthetic action of essential medicines.

Practical Skills

During the internship the doctor should master the ability to:

- first aid in life-threatening conditions,
- multiple injuries,
- prepare a patient for surgery as a matter of urgency,
- treatment of patients in the postoperative period,

Treatments that during the internship doctor should perform yourself:

- Diagnostic puncture of the abdominal cavity,
- suture artery and vein.

Treatments to which physicians should attend:

- liver rupture,
- excision of the spleen,
- gastrostomy,
- icolorectal surgery,
- ulcer.

Duration of the internship: 8 months
Place internship: appropriate clinic or a branch authorized to specialization or training

2) Internship in thoracic surgery

The scope of theoretical knowledge
During the internship physician should be familiar with:

- pathogenesis, diagnosis and treatment of acute and chronic diseases of the chest,
- pathogenesis, diagnosis and treatment of injuries of the chest,
- pathogenesis, diagnosis and treatment of lung emphysema,
- benign and malignant tumors of the lung - detection, differentiation and treatment
- tumors and mediastinal disorders - recognition, differentiation and treatment
- diagnosis and treatment of damage to the diaphragm.

Duration of the internship: 1 month
Place registered: Clinic, a division of thoracic surgery entitled to specialization or training

3) Internship in urology

The curriculum
The scope of theoretical knowledge
During the internship physician should be familiar with:

- Urine analysis - interpretation of the result,
- diagnostic methods in urology (contrast studies, endoscopy)
- diagnosis and treatment of damage to the kidneys, ureters, bladder and urethra,
- benign and malignant prostatic hyperplasia,
- diagnosis and treatment of cancer of the urinary system.

Practical Skills
Treatments that specializes should do yourself:

- Urinary bladder catheterization,
- bladder puncture

The treatments, which specializes should assist:

- sewing torn urethra,
- damage to the bladder surgery,
- surgery of renal failure, the operation of urolithiasis,
- kidney tumor surgery,
- surgery of benign prostatic hyperplasia,
- prostate cancer surgery.

Duration of the internship: 1 month
Place registered: clinic, urology department authorized to specialization or training

4) Internship in neurosurgery

The curriculum

The scope of theoretical knowledge

During the internship the doctor should master:

- neurological examination,
- pathophysiology, diagnosis and treatment of intracranial lesions,
- pathophysiology, diagnosis and treatment of spinal cord and nerve roots,
- pathophysiology, diagnosis and treatment of spinal canal stenosis,
- pathophysiology, diagnosis and treatment of chronic pain syndromes.

Practical Skills

Treatments that specializes should do yourself:

- lumbar puncture,

The treatments, which specializes should assist:

- intracranial hematoma surgery,
- operation because of the narrowness of intracranial
- operation of spinal canal stenosis.

Duration of the internship: 2 months
Place registered: Clinic, a division of neurosurgery entitled to prow honing specialization or training

EDUCATION in orthopedics and traumatology

5) Internship in the field of adults orthopedics

The curriculum

The scope of theoretical knowledge

During the internship physician should be familiar with:

- physiology, physiopathology and biomechanics of the musculoskeletal system,
- physiology and pathology of the articular cartilage,
- musculoskeletal clinical research,
- evaluation of imaging techniques in the diagnosis of diseases and musculoskeletal defects,
- and transplantation of bone tissue cells,
- pharmacodynamics for the musculoskeletal system,
- pathogenesis, prevention, diagnosis and treatment of behavioral and operational congenital systemic diseases and musculoskeletal
- pathogenesis, diagnosis, treatment conservative and operative flaccid and spastic,
- pathogenesis, diagnosis and treatment of degenerative arthritis,
- pathogenesis, diagnosis and treatment of non-specific and specific inflammation within the musculoskeletal system,
- pathogenesis, diagnosis and modern treatment of primary tumors, metastases and musculoskeletal like changes,
- diagnosis and treatment of disorders of bone metabolism,
- functional principles of treatment of orthopedic rehabilitation treatment planning and use of physical therapy,
- issues in palliative care,
- applied biomaterials,
- orthotics.

Practical Skills

Duration of the internship: 18 months
Place registered: clinic, department of orthopedics and traumatology entitled to specialization or training

6) Internship way of orthopedics children

The curriculum
The scope of theoretical knowledge
During the internship physician must be familiar with:

- physiology, physiopathology and biomechanics of the musculoskeletal system,
- musculoskeletal clinical research,
- evaluation of imaging techniques in the diagnosis of diseases and musculoskeletal defects,
- reconstructive procedures and visual artists of the skin,
- transplantation of bone tissue and cells,
- pharmacodynamics for the musculoskeletal system,
- pathogenesis, prevention, diagnosis and treatment of behavioral and operational birth defects, defects in acquired systemic diseases and musculoskeletal
- pathogenesis, detection and operational maintenance treatment of flaccid and spastic,
- pathogenesis, diagnosis and treatment of non-specific and specific inflammation within the musculoskeletal system,
- pathogenesis, diagnosis and modern treatment of primary tumors, secondary and musculoskeletal like changes,
- diagnosis and treatment of disorders of bone metabolism,
- functional treatment of orthopedic rehabilitation treatment planning and use of physical therapy,
- orthotics.

Practical Skills

.
Duration of the internship: 8 months
Place registered: clinic, department of orthopedics and traumatology entitled to specialization or training

7) Internship of traumatology

The curriculum
The scope of theoretical knowledge
During the internship physician must be familiar with:

- physiology, physiopathology and biomechanics of the musculoskeletal system,
- physiology of bone healing,
- principles of pathogenesis and treatment of disorders of bone union
- musculoskeletal clinical research,
- evaluation of imaging techniques in the diagnosis of traumatic
- pathomechanics, recognition, differentiation, complications and prognosis, modern treatment of traumatic damage to the musculoskeletal system,
- symptoms, detection, prognosis and treatment of traumatic injuries of the spine with and without spinal cord injury,

- diagnosis and treatment of complications in the healing of bone fractures and dislocations of joints,
- limb amputation and implantation,

- dealing with fresh and inveterate hand injury,
- diagnosis and treatment of multiple injuries,
- transplantation of bone tissue and cells,
- pharmacodynamics for the musculoskeletal system,
- prevention of postoperative complications (antibiotics, anticoagulants)
- pathogenesis, diagnosis and treatment of post-traumatic degenerative arthritis,
- pathogenesis, diagnosis and treatment of post-traumatic osteoarthritis,
- diagnosis and treatment of osteoporotic fractures,
- functional principles of fracture treatment, rehabilitation treatment planning and use of physical therapy,
- issues of prevention of accidents and emergency medical organization,
- aparatowania principles, orthotics and prosthetics.

Duration of the internship: 24 months

Place registered: clinic, department of orthopedics and traumatology entitled to specialization or training

8) Internship in rheumatology

The curriculum

The scope of theoretical knowledge

Distribution of rheumatoid diseases, recognizing (clinical, imaging, serological tests), treatment planning, qualification for surgical treatment, prognosis.

Practical Skills

Interpretation of the results of serological tests and other tests.

Duration of the internship: 2 weeks

Place registered: Clinic, a division of rheumatology entitled to specialization or training

9) Internship way in musculoskeletal rehabilitation and orthopedic

The curriculum

The scope of theoretical knowledge

During the internship physician should be familiar with:

- indications and contraindications for physical therapy,
- principles of operation of the various methods of physiotherapy,
- indications and contraindications, and the scope of physiotherapy,
- specific rehabilitation of children,
- foundations of vocational rehabilitation.
- qualification of medical treatment for orthopedic, the granting of orthoses and prostheses, orthoses spine, upper and lower limbs.

Practical Skills

During the internship the doctor is involved: in the planning of rehabilitation and the work of the medical-technical granting orthopedic devices.

Duration of the internship: 1 month

Place internship: rehabilitation clinics, rehabilitation centers and offices authorized to conduct specialized training or internship.

C - Developing skills of the treatments and medical procedures

D - Methods of self-education

Studying literature

Books

Magazines

Participation in the activities of scientific societies

- Mandatory participation in scientific meetings and training branch of the Polish Society of Orthopaedics and Traumatology,
- Mandatory participation in scientific meetings Polish Society of Orthopaedics and Traumatology,
- The share of not less than once a year, in one of the sections of the symposium Polish Society of Orthopaedics and Traumatology, monothematic conference organized by the Centre of orthopedics and traumatology, in Congress another medical or scientific society in Congress foreign

Preparation of the publication

- Preparing and presenting two papers at scientific meetings,
- Preparation of written papers listed below:
-

E - Performing the duty

- Medical ward shifts in orthopedic trauma-granting medical services round the clock (not less than three shifts per month)
- Working in outpatient orthopedic trauma, where patients are admitted with fresh injuries (ER) and where patients are treated stocked earlier because of damage, as well as patients with orthopedic diseases - not less than two months in the first two years of specialization and no less than Two months during the remaining four years.

5 - METHODS FOR ASSESSING KNOWLEDGE AND SKILLS PRACTICE

A - Tests

A doctor specializing in orthopedics and traumatology is required to pass at the head of specialization or a designated specialist symposia during the first two years of specialization in the following areas:

- "Human Anatomy and biomechanics of the musculoskeletal system",
- "Research orthopedic bone healing physiology"
- "Transfusion, basic tissue and organ transplantation",
- "The principles of diagnosis and treatment of musculoskeletal injuries,"
- "Multi-organ damage - guidelines for diagnosis and treatment"
- "General principles of diagnosis and treatment of diseases of the musculoskeletal system and distortions",
- "Tuberculosis of bone and cartilage"
- "Non-specific inflammation within the musculoskeletal system",
- "Metabolic bone disease"
- "General principles of diagnosis and treatment of musculoskeletal tumors"

- "Medical Law - credit with a lawyer appointed by OIL."

The doctor is also required to pass written tests during the remaining four years of specialization in the following areas:

- "Traumatology mobility - a limb"
- "Traumatology mobility - the pelvis, spine, head '
- "Multi-organ damage"
- "Congenital anomalies of the musculoskeletal system",
- "Systemic diseases and metabolic disorders mobility",
- "Musculoskeletal tumors",
- "Inflammation of specific and non-specific musculoskeletal"
- "Complications of musculoskeletal injuries and reconstructive procedures"
- "Osteoarthritis, cartilage damage."

Your doctor will also include:

- test after each course specjalizacyjnym at the head of the course (see courses).
- test after each internship placement code in the head (see internships).
- test in medical law at the person authorized above the regional medical chamber - (test force doctors who have been admitted to the specialization by 30 May 2003), including the procedure to 1.05 - 15.06.2003 r

B - Exam practical skills
Doctor include practical tests at the head of specialization, on the basis of his surgeries.

Assessment of practical skills test after each placement code - confirmed by the head of placement that the doctor performed independently treatments and / or procedures in the internship program or participate (assist) in their performance.

C - Assessment prepared publications
Evaluation and Assessment of written work is made manager of specialization.

6 - FOREIGN LANGUAGES

It is expected that specialized doctor shows a working knowledge of at least one foreign language: English, French, German, Spanish, to the extent that:

a) reading comprehension, particularly those relating to literature and medical literature,
b) b) communicate with patients, doctors and members of other health professions,

7 - DURATION OF EXPERTISE

Duration of specialization in orthopedics and traumatology for doctors on postgraduate internship (without any specialization) is 6 years (including internships, courses and holidays).

8 - NATIONAL TEST OF SPECIALIZATION

Studies specialization in orthopedics and traumatology end state exam specjalizacyjnym composed of a theoretical part and a practical part. The order to pass each part of the exam:

1) 1) test test: (set multiple-choice test questions in the field of specialization listed in the required knowledge
2) 2) practical exam: (Rating specialization manager manual skills of the candidate, his ability to qualify for surgery, operations planning, preparing a patient for surgery, how to perform the surgery, post-operative treatment planning and rehabilitation. assessment is based on the opinions of record internships and on our own observations of specialization manager made during joint operations).

3) 3) oral examination: (a set of oral questions in the field of problem mentioned in the specialization of knowledge required).