ENGLISH SPEAKING GROUP NUCLEAR MEDICINE PROGRAM
SEMINARS AND CLASSES III Medical Faculty

LEC. I (2 X 45 min.) E-LERNING
Introduction to nuclear medicine
History of nuclear medicine
Metabolic imaging
prof. dr hab. med. Bożena Birkenfeld

SEM I (2x45 min.)
dr hab. n. med. Hanna Piwowarska-Bilska.
Physical background of nuclear medicine.
Detection and measurements of nuclear radiation. Radionuclide imaging technics

- Structure of the atom.
- Radioactive decay
- Particle and photon interaction with the matter.
- Radiation protection
- Detectors used for radioactivity measurement.
- Gamma counting systems.
- Single-photon emission-computed tomography.
- Positron emission tomography

SEM. II (2 x 45 min.)
prof. dr hab. med. Bożena Birkenfeld
Radionuclide diagnosis and treatment

- Bone scintigraphy
- Myocardial perfusion scintigraphy
- PET/CT in clinical practice

Practical hours 1 (3 x 45 min.)
dr med. Maria H. Listewnik.
Diagnosis and therapy of thyroid diseases.

- Introduction: repetition of anatomy and physiology of thyroid diseases.
- Physiology and pathology of hypothalamic-pituitary-thyroid axis.
- Diagnosis of thyroid function in radioisotope methods:
  - laboratory assessment
  - thyroid imaging in clinical context
- Treatment of thyroid diseases with iodine I-131.
- Parathyroid scintigraphy
- Scintimammography
- Gastrointestinal tract investigations.

Practical hours 2 (3 x 45 min.)
dr hab. n. med. Hanna Piwowarska-Bilska
Radiopharmacy. Radiation protection.

- Radionuclide generators of short-lived nuclides.
- Radiopharmacy laboratory design
- Fundamentals of radiation biology
- Radiation protection of medical staff and patients
- Dosimetry
- Radionuclide for therapy

Practical hours 3 (3 x 45 min.)
dr n. med. Jacek Iwanowski
Detection and measurement of nuclear radiation. Radionuclide imaging technique.

- Detectors used for radioactivity measurement.
- Gamma counting system.
- Single-photon emission-computed tomography
- Positron emission tomography
- Multimodality imaging. SPECT/CT, PET/CT systems

Practical hours 4 (2 x 45 min.)
lek. med Mirela Kurantowicz, Marta Malarz, Piotr Przybylski
Clinical nuclear medicine. Part I

- Neuroendocrine tumours scintigraphy
- Radionuclide therapy - radiosynovectomy.
- Myocardial perfusion scintigraphy
- Lymphoscintigraphy – sentinel lymphnode biopsy
- Radionuclide imaging of central nervous system

Practical hours 5 (2 x 45 min.)
lek. med. Sara Kurkowska
Clinical nuclear medicine. Part II

- Scintigraphy of pulmonary embolism.
- Bone scintigraphy in clinical practice
- Dynamic and static renal scintigraphy
- Imaging of infection