LITHUANIAN UNIVERSITY OF HEALTH SCIENCES

International Summer School Practice

Clinical Outcomes of Carotid Artery Revascularization: A Retrospective Single-Centre Cohort Study

Background and aim:

Carotid artery stenosis is an important cause of ischemic stroke. Carotid endarterectomy (CEA) and carotid artery stenting (CAS) are established revascularization techniques aimed at reducing stroke risk in selected patients. However, treatment outcomes depend on patient characteristics, procedural factors, and perioperative management.

This research project aims to evaluate the clinical outcomes of carotid revascularization procedures performed at Kaunas Clinics, Lithuanian University of Health Sciences, through a retrospective cohort study. The primary objective is to assess perioperative complications, including stroke, myocardial infarction, and mortality, and to explore potential factors associated with adverse outcomes.

Research activities:

The student will actively participate in a retrospective analysis of patients who underwent carotid endarterectomy or carotid artery stenting between 2021 and 2026.

The main research activities will include:

- Clinical data collection
- Neuroradiological assessment
- Database development and management
- Clinical outcome assessment
- Statistical analysis
- Scientific communication

The project will be conducted in collaboration with Lithuanian medical students, facilitating clinical documentation review, interdisciplinary teamwork, and international academic exchange.

Clinical exposure and educational activities:

In addition to research activities, the student will have the opportunity to experience the daily work of a tertiary neurosurgical centre. The internship will include participation in departmental meetings, clinical case discussions, and observation of neurosurgical and neurovascular procedures in the operating theatre, subject to institutional requirements and clinical availability.

Expected learning outcomes:

By the end of the internship, the student is expected to:

- Understand the principles of retrospective clinical research, including study design, data collection, and research ethics.
- Develop practical skills in interpreting neurovascular imaging.
- Gain experience in clinical database management and basic biostatistical analysis.
- Gain insight into the multidisciplinary management of patients with cerebrovascular disease and the daily practice of a neurosurgical department.

The initial on-site research and clinical activities are planned for a four-week period, with the possibility of continuing statistical analysis and scientific writing remotely under supervision.

Eligibility: The internship is intended for medical students who have completed at least three years of medical studies (fourth-year students or above at the time of the internship). Applicants should have a basic understanding of neuroanatomy, cerebrovascular physiology, and clinical medicine. Good command of English, motivation for clinical research, and an interest in neurosurgery, neurology, or interventional neuroradiology are expected.

All patient data will be handled in accordance with institutional ethical approvals, data protection regulations, and approved access procedures.