
The Department of Pediatric Surgery and Traumatology

The Department of Paediatric Surgery and is a department combining the care of both general surgical paediatric patients and trauma patients. It is one of the few paediatric trauma centres in the Czech Republic. In addition to basic curative and preventive care, the main focus is the pregraduate and postgraduate training of doctors and nurses in the field of paediatric surgery and traumatology within the Department of Surgery of the Faculty of medicine in Hradec Králové. In the field of science and research, several studies are underway, for example, focused on the introduction of new osteosynthetic materials in paediatric skeletal traumatology, the influence of prenatal external factors on neonatal diseases (especially in premature newborns), and surfactant administration in severely injured patients with potential of developing ARDS (acute respiratory distress syndrome). There is an effort to introduce the results of our own research activities into routine practice - a completed study on ductus deferens injury during inguinal hernia surgery in the youngest children. The department cooperates in the field of treatment and prevention as well as scientific research mainly with clinics across the University Hospital in Hradec Králové, as well as with clinics and institutes of the Faculty of Medicine in Hradec Králové, Faculty of Pharmacy in Hradec Králové and the University of Defense. Multicentre studies are carried out in cooperation with other clinics and departments dealing with the diagnosis and treatment of surgical diseases and injuries in children in the Czech Republic and Slovakia. The clinic is a promoter of minimally invasive procedures in the treatment of soft tissue diseases, congenital defects and injuries in children. It participates in the organization of professional and social events of the Czech Paediatric Surgical Society, in whose committee it has a long-standing and permanent representation.

Main research topics

- The use of absorbable osteosynthetic material in paediatric traumatology - prim. MUDr. A. Šafus
= Experimental model using biodegradable osteosynthetic material in growth plate injuries
= clinical part of the research compares the use of conventional and biodegradable OS material in standard fracture of the lower end of the tibia in children.
- Epidemiology, pathophysiology and clinical aspects of intestinal morbidity in immature neonates - MUDr. J. Lešková
= experiment investigating the effect of intra-amniotic inflammation and infection on the rat fetal intestine
= clinical part investigates the influence of prenatal factors on the occurrence and development of intestinal morbidity in newborns from pregnancies complicated by premature amniotic fluid leakage and the influence of postnatal factors on the occurrence and development of intestinal morbidity in immature newborns.
- Effect of intrabronchial application of exogenous surfactant on the contused lung – MUDr. T. Merkl
= An experimental model investigates the effect of intrabronchial surfactant application in severe lung contusion with the potential to develop ARDS. The applied surfactant should prevent alveolar collapse and thus prevent the development of ARDS.

Scientific research groups

- MUDr. Šafus, doc. MUDr. Čečka, Ph.D., MUDr. Štichhauer, Ph.D., doc. MUDr. Pešl, Ph.D.(FTN Praha), MVDr. Radochová, doc. MVDr. Novobilský (Výzkumný ústav veterinárního lékařství Brno)
- MUDr. Lešková, doc. MUDr. Kacerovská Musilová, Ph.D., MUDr. Štichhauer, Ph.D., MUDr. Malý Ph.D.
- MUDr. Tomáš Merkl, MUDr. Štichhauer, Ph.D., doc. MUDr. Astapenko, Ph.D., MUDr. Petěr Kraus, MVDr. Věra Radochová, prof. MUDr. Páral, Ph.D., doc. MUDr. Lochman, Ph.D.

Achievements

- Co-organization and five times active participation in the seventh congress of the World Organization of Pediatric Surgeons WOFAPS, held in Prague in October 2022.
- Participation in an international global study on the treatment of congenital developmental defects in children. The study compared the course and outcomes of treatment for different congenital developmental defects in high, middle and low economic standard countries. The results were published in the Lancet in 2021.