Our laboratory is concerned with the study of the regeneration of parenchymal organs in relation to extensive surgical procedures. Our goal is to experimentally verify all possibilities that can be used for the treatment of patients with cancers, especially liver malignancies. We are checking the significance of stimulated regeneration of the future liver remnant damaged for example by oncologic experimental treatment in large animals (established are experimental models of steatohepatitis associated with chemotherapy, model of toxic alcoholic liver disease, model of biliary cirrhosis etc.)

We also develop special software models and advanced imaging analysis to predict regeneration capacity of the liver parenchyma and diagnose focal and diffuse liver diseases.

There is also included imaging of a portal system microcirculation as well. Finally, we use our findings to spread our clinical treatment possibilities. We closely cooperate with the Labs of Pharmacogenomics, Tumor Biology and Quantitative Histology and we try to transfer their research results to our clinical requirements and applications.

Our team is fully instrumentally equipped to perform experiments in large animals. We also have a skilled team of experts (including surgeons, anaesthesiologists, radiologists, biomechanics or experts of theoretical and laboratory fields) available to perform a broad spectrum of surgical procedures. This team participates every year in preparing of the Summer School of Experimental Surgery annually held by our medical school.

Long-term aims
- regeneration of liver parenchyma and liver surgery;
- portal micro- and macrocirculation;
- reconstruction of portal system;
- surgical and oncological treatment of malignancies;
- immune system behaviour during progression of tumour disease.

MEMBERS
- Václav Liška, M.D., Ph.D. – Research Group Leader
- Hynek Mírka, M.D., Ph.D.
- Prof. Boris Kreuzberg, M.D., Ph.D.
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- Jan Brůha, M.D.
- Ondřej Fiala, M.D.
- Miroslava Svobodová, Ph.D., M.Sc.
- Petr Hošek, M.Sc.
- Miroslav Jiřík, M.Sc.
- Lada Eberlová, M.D., Ph.D.
- Richard Pálek
- Martin Skála
SELECTED PUBLICATIONS


WE OFFER

• Preparation of experimental large animals models including surgical and anesthesiological parts.
• Follow-up of animals by imaging, biochemical and immunological methods.