
Group of Clinical Physiology of Nutrition and Metabolism

"We are especially focused on body composition, energy metabolism, nutrition and DNA damage in various clinical conditions, both physiological and pathological."

Offer

We are opened to a wide spectrum of collaboration with academic partners, partners from applied research and clinical partners.

We can offer our help particularly in these fields:

- Measurement of energy expenditure and nutrition substrate utilization (indirect calorimetry)
- Examination of body composition and anthropometric parameters (caliperation, bioelectrical impedance analysis, bioelectrical impedance spectroscopy)
- Function tests (dynamometry, spirometry)
- DNA damage and reparation (comet assay)

Expertise

- Measurement of energy need and substrates
- Effects of various diseases, therapy or nutrition on body composition, energy metabolism and nutrition substrate utilization
- Searching for markers giving more accurate estimation of disease progression and mortality
- Parenteral and enteral nutrition individualization of patients according their actual needs

Key research equipment

- Indirect calorimeter Vmax Encore (SensorMedics)
- Multiscan 5000 (Bodystat)
- BCM – Body Composition Monitor (Fresenius Medical Care AG & Co.)
- Abdominal fat analyser AB 140 M Viscan (Tanita corporation)
- Pinch/grip analyser (MIE Medical Research Ltd.)
- Fluorescence microscope Nikon Eclipse 80i (Nikon Instruments) + analyzation software Lucia Comet Assay (Laboratory Imaging Praha), ELFO + Western blot equipment

Partnerships & Collaborations

- Department of Research and Development, University Hospital, Hradec Kralove, Czech Republic (Prof. MUDr. Zdeňek Zadák, CSc.)
- Department of Surgery, University Hospital, Hradec Kralove, Czech Republic (MUDr. Eduard Havel, Ph.D.)
- Department of Obstetrics and Gynecology, University Hospital and Faculty of Medicine, Hradec Kralove, Czech Republic (Doc. MUDr. Marián Kacerovský, Ph.D.)
- Pulmonary Department, University Hospital, Hradec Kralove, Czech Republic (MUDr. Vladimír Koblížek, Ph.D. and MUDr. Michal Hrnčiarik)
- Department of Toxicology, Faculty of Military Health Sciences, Hradec Kralove, Czech Republic (Prof. RNDr. Rudolf Štětina, CSc.)

Achievements

Publications

- Publications in respected international journals with impact factor
- Presentations in domestic and international congresses
- Application of new knowledge into clinical practice

Are you interested in this expertise?

Please contact CPPT UK

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Experts and their department

Assoc. Prof. PharmDr. Miloslav Hronek, Ph.D.

Department of Biological and Medical Sciences

Web: <https://portal.faf.cuni.cz/Groups/Clinical-physiology-of-nutrition-and--metabolism/>