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# Department of Dentistry

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The Department of Dentistry of the Faculty of Medicine in Hradec Králové and University Hospital Hradec Králové is an institution that represents a combination of clinical practice and advanced scientific research in the field of dentistry. The department is recognised for its innovative work in stem cell research, regenerative medicine, 3D printing, milling and the development of new materials for dental applications. Scientific teams here work on projects to improve diagnostic and therapeutic procedures whose indications go beyond the field of dentistry. Collaboration with major national and international institutions enhances the quality of research and education. In addition, the department regularly achieves significant successes, which are published in prestigious scientific journals and presented at professional conferences. Thanks to its focus on innovation and technology transfer, the clinic has had a significant impact on the quality of care provided to patients and on the overall progress of the field.

## Main research topic

- Research on stem cells isolated from dental tissues (isolation, characterization, cryopreservation)
- Research in regenerative medicine and oral health (treatment of periodontitis, sinusitis of odontogenic origin, regenerative endodontics)
- Diseases of the oral mucosa, salivary glands and periodontium
- Covid-19

## Equipment

- Equipped Tissue Culture Laboratories
- 3D Scanner, CNC milling machine, 3D printer
- Miseq (Illumina) - microbiome sequencing (Department of Clinical Microbiology)
- Luminex 200 - measurement of pro-inflammatory and anti-inflammatory factors in gingival fluids (Department of Clinical Immunology and Allergology)

## Cooperation within the Czech Republic

- Contipro a.s.: doc. RNDr. Vladimír Velebný, CSc.
- KÚČOCH - LF MUNI (COVID)
- Research projects with IV. INT Clinic

## International Cooperation

- University of Tennessee, Heath Science Center, Memphis, Tennessee, USA: George T.-J. Huang, DDS, MSD, DSc