
Department of Oncology and Radiotherapy

The Department of Oncology and Radiotherapy is an important oncological workplace in the whole Czech Republic. It is the main workplace providing care in the fields of clinical oncology and radiation oncology in the Hradec Králové Region, it is the leading workplace of the Comprehensive Oncology Centre of the University Hospital Hradec Králové, it is responsible for the coordination of oncological care within the regional oncology group of the Hradec Králové Region. From the professional point of view, the clinic provides specialised and highly specialised care in clinical and radiation oncology for patients in the Hradec Králové Region, for some rare diseases and specialised treatment techniques for other regions. Specialists from the clinic are invited to national expert committees and boards within the fields of clinical oncology, radiation oncology and palliative medicine. The experience from the application of some therapeutic methods, which were first introduced at the clinic in the Czech Republic or significantly modified, is transferred to other departments.

In addition to medical activities, the clinic provides teaching activities within the Faculty of Medicine in Hradec Králové, namely undergraduate, postgraduate and specialisation training, and scientific research activities.

Scientific research activities include preclinical research and academic clinical trials in the following areas:

- Predictive and prognostic factors in cancer treatment
- Modern methods of anti-cancer systemic therapy
- Modern techniques of external radiotherapy and brachytherapy
- Supportive and palliative care

He is currently the investigator or co-investigator on three AZV grants and the principal investigator on one "investigator-initiated" study. Publication outputs over the last 5 years (2019-2023) include 37 peer-reviewed articles, of which 20 have been published in impact factor journals. The clinic is the investigator or co-investigator of 4 AZV grants and one AZV junior project.

Main research topics

- Predictive and prognostic factors in cancer treatment
- Modern techniques of external beam radiotherapy and brachytherapy
- Supportive and palliative care

Scientific research groups

- Predictive and prognostic factors in cancer treatment ([Doc. MUDr. Milan Vošmik, Ph.D.](#) , [MUDr. Jindřich Kopecký, Ph.D.](#) , [MUDr. Ondřej Kubeček Ph.D.](#))
- Modern techniques of external beam radiotherapy and brachytherapy ([Prof. MUDr. Jiří Petera, Ph.D.](#) , [Doc. MUDr. Igor Sirák, Ph.D.](#))
- Supportive and palliative care ([Prof. MUDr. Stanislav Filip, Ph.D., DSc.](#))

Equipment

- Three Varian TrueBeam linear accelerators (Varian, Palo Alto, California, USA)
- Afterloading brachytherapy device GammaMed iX
- Sonotherm hyperthermia

Achievements

- Introduction of the whole-body irradiation technique before horizontal hematopoietic stem cell transplantation
- Clinical applications of accelerated partial breast irradiation using the interstitial brachytherapy technique
- Organization and implementation of the CA209-9KH clinical trial (investigator initiated trial)

The department is a member of the CZECRIN ONCO academic research network and international academic research groups, such as the European Organisation for Research and Treatment of Cancer and the Central European Cooperative Oncology Group. Specialists from the clinic are members of national and international expert committees and boards in the fields of clinical oncology, radiation oncology and palliative medicine.