




MedAustron 



medicine and research
the new dimension
of radiotherapy



“MedAustron presents a new opportunity to fight cancer in Austria.”

medicine

research

Health as our goal

MedAustron represents a substantial milestone for radiotherapy: ion beam therapy makes it possible to fight cancer in places that conventional methods cannot reach. This particle therapy targets the tumor with pinpoint accuracy, sparing the healthy tissue surrounding it. In Europe, MedAustron is the fourth institution to offer this innovative ion beam therapy. Other centers are located in Germany and Italy.

Knowledge for the future

MedAustron is driven by a strong commitment to research to complement its state-of-the-art medical provision. The particle accelerator and medical engineering - both developed in close collaboration with CERN, several universities, and other comparable tumor centers - provide the foundation for applied medical research as well as non-clinical research. Consequently, Austria has become one of the first international centers of excellence in high-tech equipment and medical research.

The modern ion beam therapy center is divided into a treatment area and a research department.

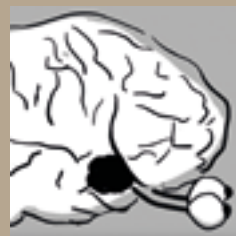


The Therapy

“We transform high energy into effective therapy.”

Unique precision in a relaxed atmosphere

All the complex innovations facilitated by ion beam therapy are concealed behind the relaxing surroundings of our treatment rooms. The centerpiece is the treatment table, an outstanding feat of robotics. Its computer-controlled positioning system guarantees that the patient is perfectly aligned to the ion beam. The tissue-protecting treatment is generally completed within just a few minutes. The ion beam irradiation is painless for the patients.



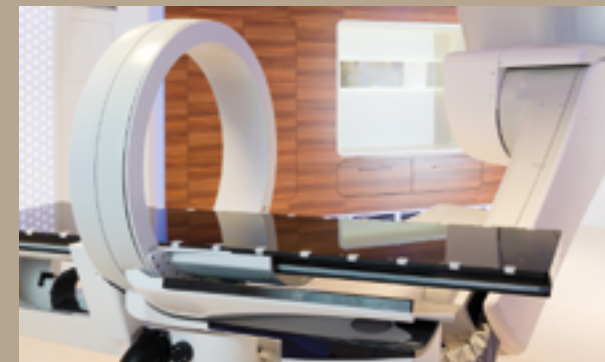
The tumor is identified. A CT scan provides the information necessary to plan the radiotherapy.



Before the treatment starts, an Imaging Ring System (IRS) verifies the location of the tumor.



The ion beam can be placed with a precision of 0.5mm, meaning that side effects are minimized.



The remotely operated treatment table with the ring in which the imaging and positioning system (IRS) is integrated.

The Accelerator

“The particles are accelerated to two thirds of the speed of light.”

200,000 kilometers per second

The particle accelerator has a circumference of 80 meters, contains 700 tons of steel, and occupies a quarter of the MedAustron facility. Protons and carbon ions are accelerated up to two thirds of the speed of light to produce a concentrated beam that is able to destroy the tumor cells in the patient's body to millimeter accuracy. To meet these rigorous demands, a unique high-performance control and surveillance system was developed in Wiener Neustadt near Vienna.



The path of the particles begins in the circular accelerator.



The beam reaches a speed of about two thirds of the speed of light.



MedAustron's accelerator is unique in Austria.

The path taken by the particles is equivalent to the distance between the moon and the earth.

High Tech

“There is hardly any other facility in which so many highly sensitive areas have to be so closely linked.”

Superlative technology with people at its heart

MedAustron is not only a patient treatment center, but also a technical facility with extremely high standards. The regulation regarding cooling water temperature for the parts of the accelerator, exact compliance with the compulsory humidity levels, and provisions for radioprotection are only a small selection of the parameters that need to be taken into consideration at a specialized institution like this. Our technical engineers are dedicated to ensuring smooth operations around the clock.

Patients cannot see the majority of the technology.



Surveillance, positioning, controlling, and documentation using custom-made software.



Medicine and research under a single roof



Research

“Combining research and therapy in one place provides the best conditions for innovation.”

Unique opportunities for top pioneers

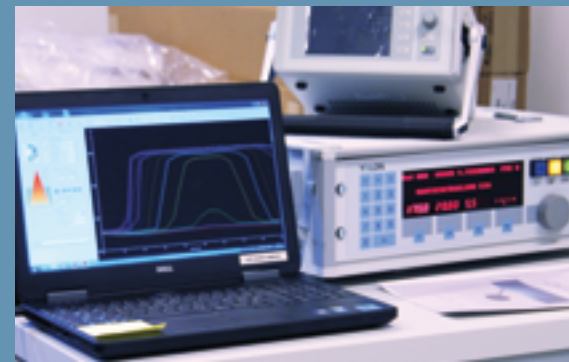
Alongside medical operations, interdisciplinary research into ion beam therapy is a crucial part of MedAustron. The company offers over 20 scientific positions and an irradiation room, which is designed exclusively for non-clinical research experiments. Research is being conducted into radiation physics and radiobiology, as well as into the further development of highly complex treatment techniques.

By conducting non-clinical research, too, MedAustron is able to contribute to prestigious international scientific research.



Experiments are defining new applications for ion beam therapy.

Experimental physics and fundamental research are developing the next stages of science.



MedAustron is the home of research into the medical technology of the future.



How to find us



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