

News Release

FOR IMMEDIATE RELEASE

Shonan Kamakura Advanced Medical Center Begins Treatment with Hitachi's First Dedicated Compact Proton Therapy System



Proton Therapy System

Tokyo, February 1, 2022 --- Hitachi, Ltd. (TSE: 6501, "Hitachi") today announced that "Shonan Kamakura Advanced Medical Center" at Shonan Kamakura General Hospital of Tokushukai Medical Group, where Hitachi's compact proton therapy system (hereafter, "the system") has been installed, has commenced treatment with the system on 31 January 2022. This is the first order for Hitachi's dedicated compact proton therapy system.

Shonan Kamakura Advanced Medical Center is a medical facility providing comprehensive cancer treatment, including advanced radiotherapy, built adjacent to the site of Shonan Kamakura General Hospital by Tokushukai Group Medical Corporation, which operates approximately 400 medical facilities and nursing homes throughout Japan. Until now, there have been no proton therapy facilities in Kanagawa Prefecture, where the center is located, but the compact proton therapy system, with its reduced footprint, makes it possible to install a proton therapy facility on a limited site close to the city center.

< Features of the installed system >

In response to the growing worldwide demand for smaller proton therapy systems, Hitachi has developed the proton therapy system, which is specifically designed for a single treatment room. The system is a compact proton therapy system which, by optimizing the layout of the machine, reduces the installation area to about 70% of that of conventional solutions, making it possible to install the system on a limited site in an urban area and reducing the cost and time involved in its installation. It is equipped with advanced technologies such as spot scanning irradiation technology, which allows the proton beam to be delivered according to the shape of the cancer, a 360° rotating gantry with cone-beam CT^{*1} for high-precision positioning, and Real-time image Gated Proton Therapy (RGPT)^{*2}, making it both compact and highly functional.

Hitachi is committed to accelerating the global development of particle therapy system and contributing to cancer treatment around the world, as well as to further expanding its healthcare services.

^{*1} Cone beam CT provides three-dimensional anatomical images of patients, at isocenter immediately prior to being treated. Information on the location of bone is obtained from traditional orthogonal x-rays and the motion of tumors is captured by RGPT. These are then combined with the ability to identify healthy tissue surrounding a tumor, particularly the location and shape of soft tissue, via Cone beam CT.

^{*2} RGPT allows real-time beam irradiation to the tumor while compensating for movement associated with respiration. This technology was collaboratively developed between Hokkaido University and Hitachi, and supported by the Funding Program for World-Leading Innovative R&D on Science and Technology (FIRST) of the Japan Society for the Promotion of Science.

Overview of Particle Therapy

Particle Therapy is an advanced type of cancer radiotherapy. Protons extracted from hydrogen atoms, or carbon ions are accelerated up to 70% of the speed of light. This energy is concentrated directly on the tumor while minimizing radiation dose to surrounding healthy tissue. Particle therapy improves the quality of life for cancer patients since the patient experiences no pain during treatment and the procedure has very few side effects compared to that of traditional radiotherapy. In most cases, patients can continue with their normal daily activities while undergoing treatment.

Website of Hitachi's Particle Therapy System

<https://www.hitachi.com/businesses/healthcare/products-support/pbt/>

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About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, contributes to a sustainable society with a higher quality of life by driving innovation through data and technology as the Social Innovation Business. Hitachi is focused on strengthening its contribution to the Environment, the Resilience of business and social infrastructure as well as comprehensive programs to enhance Security & Safety. Hitachi resolves the issues faced by customers and society across six domains: IT, Energy, Mobility, Industry, Smart Life and Automotive Systems through its proprietary Lumada solutions. The company's consolidated revenues for fiscal year 2020 (ended March 31, 2021) totaled 8,729.1 billion yen (\$78.6 billion), with 871 consolidated subsidiaries and approximately 350,000 employees worldwide. For more information on Hitachi, please visit the company's website at <https://www.hitachi.com>.

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
