

Quality Cancer Treatment in Resort Environment

# PROTON THERAPY

## BENEFITS

- Reduced side effects
- Better quality of life outcomes
- Minimal disruption to daily life
- Proven to be effective among all age groups

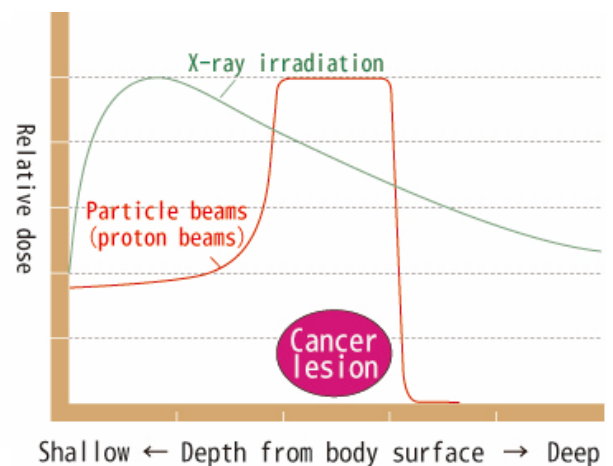
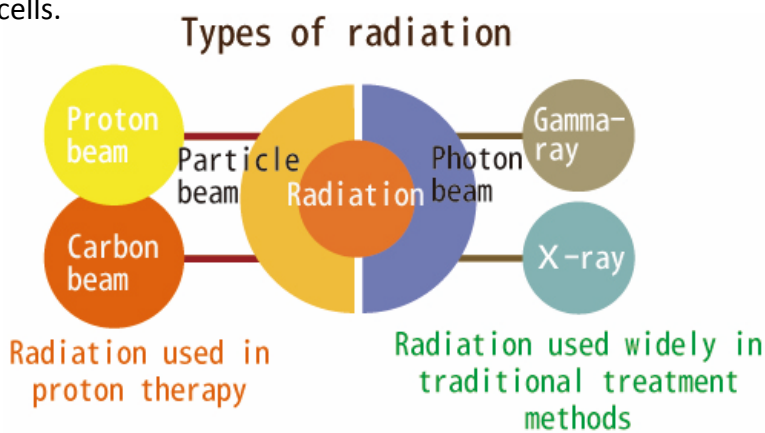


Medipolis Medical Research Institute  
**Medipolis Proton Therapy and Research Center**

# What is proton therapy?

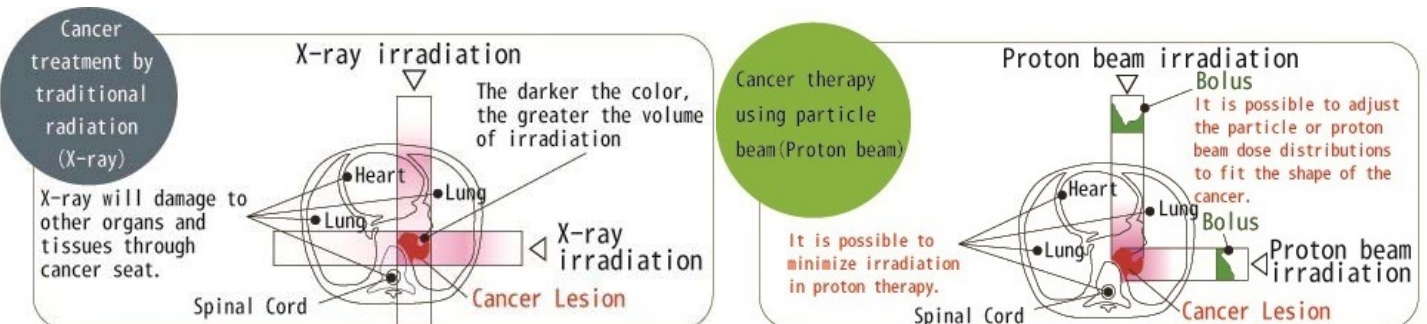
Proton beams are a flow of particles generated from hydrogen gas. By using an accelerator, a synchrotron accelerating these particles to near the speed of light, cancer can be accurately targeted. The proton beams have the ability to focus and affect cancer lesions with minimal impact on surrounding muscle and tissues. Thus it is possible to minimize detrimental effects on healthy tissues. Established in 2011, Medipolis Proton Therapy and Research Center has treated about 2,150 patients as of June, 2017 with favorable results.

There are 2 kinds of radiation used for cancer treatment: photon and ion beams. The photon beams are an electromagnetic wave used in traditional radiation therapy such as X-rays and gamma rays. Ion beam radiation uses hydrogen or carbon atoms, and the radiation therapy using these particles is called particle therapy. One of the characteristics of particle therapy is that the particle beam has a physical property of energy emission called the Bragg peak, by which it can inflict lethal and concentrated damage on cancer cells.



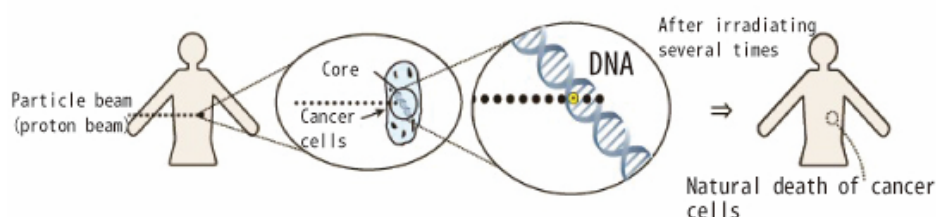
## Difference between X-ray and proton beam treatments

While X-ray delivers radiation not only to the tumor but also to healthy organs and tissues around the tumor, proton beams can release its maximum energy at the tumor and stop there. Therefore it can minimize the effect on healthy organs and tissues.



## What happens in the body after the irradiation with proton beams?

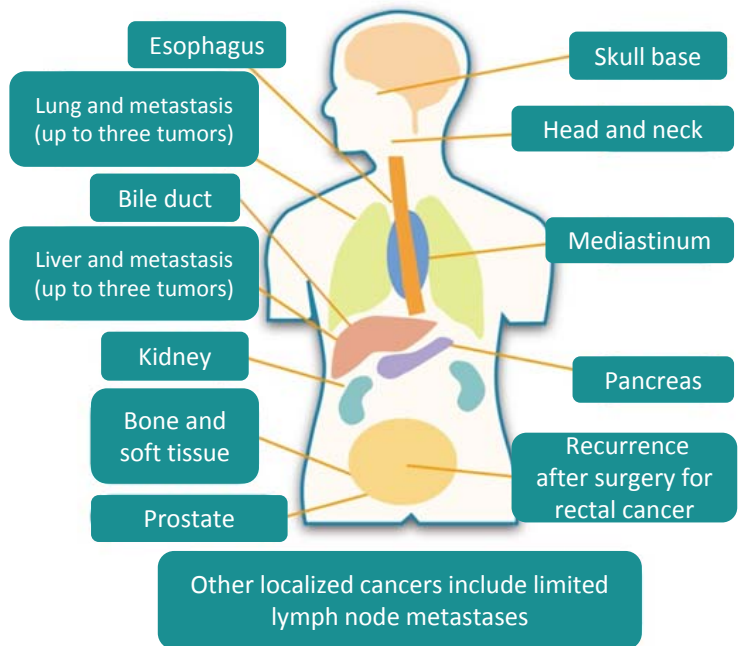
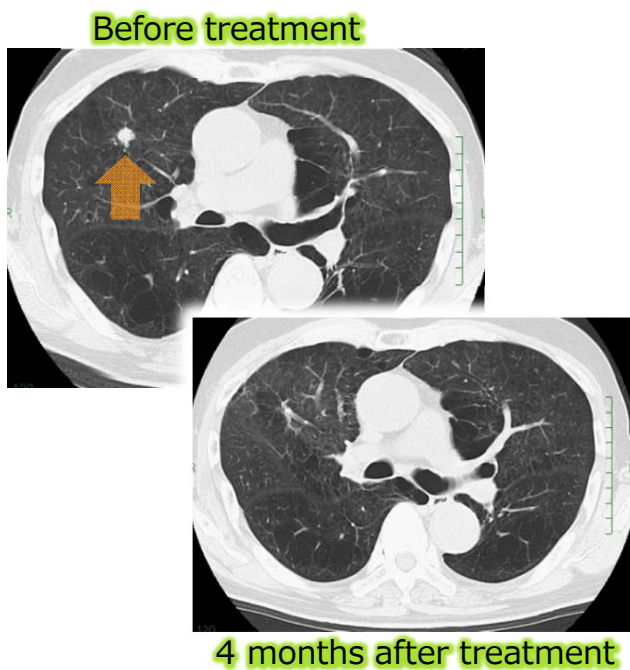
When the body is irradiated with a proton beam, the beam reaches a tumor with a minimal effect on surrounding normal tissues. It then attacks DNA in the core of the cancer cells. The cancer cells damaged by the proton beam are unable to reproduce which then followed by a gradual disappearance of the tumor.





# Treatable cancers

Proton therapy is highly effective when the tumor is solid, well-defined, localized, and non-metastasized. MPTRC provides proton therapy for cancers of the prostate, lung, liver, bile duct, pancreas, head and neck, esophagus and more. A team at MPTRC has been developing expertise in cancer and currently focusing on breast cancer. Meanwhile, proton therapy offers no benefit in gastrointestinal and blood cancers. Length of treatment depends on the type, size, and position of the cancer; For example, it takes 5.5 weeks for prostate cancer and 2 weeks for lung cancer, after a week preparation which includes medical examinations, creation of a treatment plan and a simulation of the treatment.



## Approach to breast cancer treatment

**A phase I/II study of proton beam therapy for early breast cancer evaluating safety and effectiveness (ID:UMIN000017579)**  
Proton therapy can be another option for breast cancer treatment. We performed a phase 1 clinical trial for early breast cancer with proton beams using our own-developed system, and the result was favorable. We have just started a phase 2 trial and accepted applicants. We will inform you of the detailed information about eligibility criteria and treatment cost if you could send an email inquiry.

### References:

1. Takeshi Arimura, MD. et al. Innovative proton beam therapy for breast cancer and pancreatic cancer: the Medipolis experience
2. Takeshi Arimura, MD. et al. A New Breast-Immobilization System for Early Breast Cancer
3. Takeshi Arimura, MD. et al. Initial Experience With the Use of the HyBIS in a Phase 1 Clinical Trial for Early Breast Cancer Using Proton Beams



# Resort Environment

Conventional cancer treatments such as surgery and chemotherapy are often painful, and possibly burden patients with physical and mental problems. As we have explained, proton therapy is non-invasive, and it doesn't cause much side effects. In addition to these advantages, another strong characteristic of MPTRC is its location. It is located in a resort city named Ibusuki, famous for hot springs. Treatment itself takes only few minutes a day, letting you carry on your quality of life while staying here for treatment. You will have plenty of time to relax in hot springs. You can enjoy not only hot springs but also beaches, mountains for hiking, a big lake, fresh food, fishing, golfing or even take off touring around. You and your family may stay at Bay Hills and Spa, a resort facility next to MPTRC as you can see some of the photos below.



## Joint Commission International (JCI) Accredited

MPTRC is the world's first proton therapy specialized organization which were accredited by JCI, a globally recognized accreditation organization which evaluates the patient safety and quality of health care organizations.

The Joint Commission (JC) has accredited over 21,000 healthcare organizations in the United States, and JCI, international version of JC has accredited 1013 organizations in 69 countries, 24 of which are in Japan (as of November 6, 2017).

Through the accreditation process, quality of medical services improved significantly by leadership and innovative solutions that JCI provided us. We will continue to improve our quality of cancer treatment and enhance it for patient safety.



## Treatment Cost: ¥5,000,000 (approximately \$50,000 ¥100/\$)

The treatment cost is inclusive of administration fees. Please note, that the cost above does not include travel costs or living expenses. If you would like further information such as the payment method and detailed estimated fees, please contact us by e-mail.

## Access

### **By airplane**

- 7hrs from Singapore to Tokyo and 2hrs from Tokyo to Kagoshima
- 3hrs and 15mins from Hong Kong to Kagoshima
- 2hrs from Shanghai to Kagoshima
- 1hr and 35mins from Seoul to Kagoshima

### **By airport shuttle bus**

95mins from Kagoshima Airport to JR Ibusuki Station and 15mins from JR Ibusuki Station to MPTRC by taxi

## Contact Us

If you have any questions, please do not hesitate to contact us. We will be happy to help you.

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