High-precision Cancer Treatment

HKSH Proton Therapy Centre

A member of HKSH Medical Group

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Hong Kong's First Proton Therapy Centre

Nestled within the serene surroundings of A Kung Ngam in Shau Kei Wan, HKSH Proton Therapy Centre (the Centre) is equipped with Hong Kong's first proton therapy system, a unique and cutting-edge radiotherapy facility, marking a new milestone in the city's cancer treatment.

The Centre covers an area of approximately 31,000 square feet across three primary floors, which include:

8th Floor: This floor houses the reception and registration area, doctor's consultation rooms, a conference room, as well as waiting, changing and rest areas for patients.

Basement Level 2 (B2): On this level, you will find the MRI simulator room, synchrotron machine rooms, beam transfer system (BTS) components, and associated machine rooms required for the operations of the proton therapy system.

Basement Level 3 (B3): This floor has two proton therapy treatment rooms furnished with a pencil-beam delivery system, an MRI simulator room, a patient set-up room, and associated machine rooms for the operations of the proton therapy system.

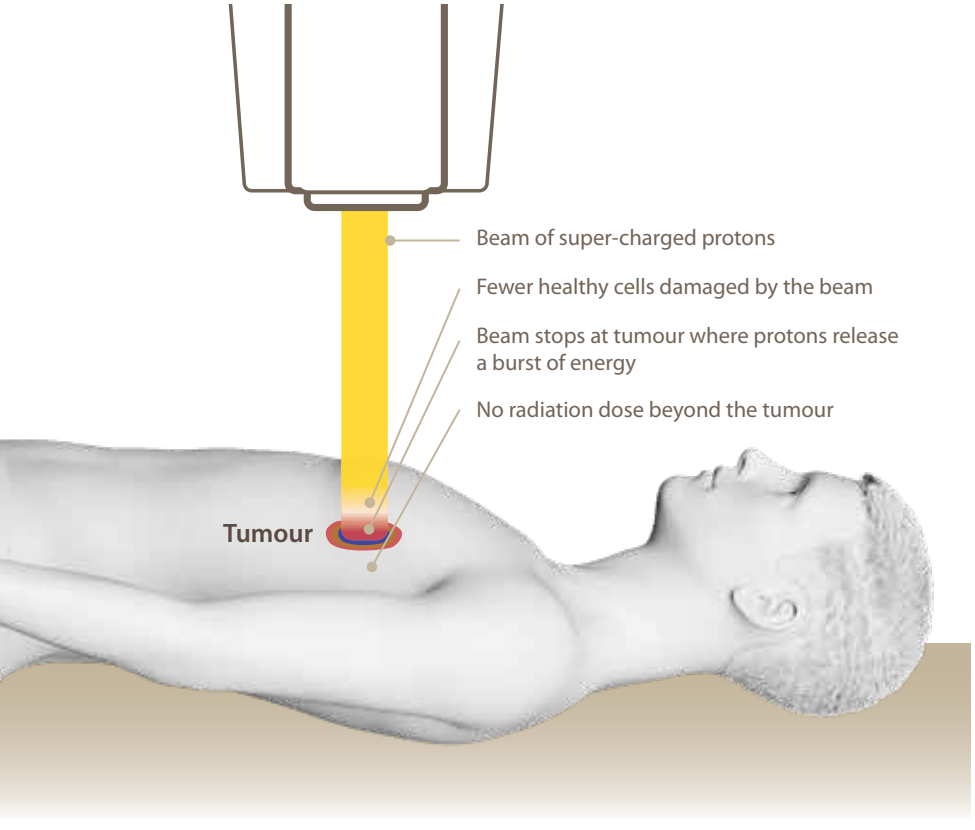
The key components of the proton therapy system include two 190-degree half-rotating proton therapy gantries, a 4-magnet-ring synchrotron-based accelerator with a diameter of approximately four metres, and an advanced beam transport system in a vertically stacked formation.

What is Proton Therapy?

Proton therapy, a form of particle beam therapy, is the most advanced radiotherapy modality used in tumour treatment. In conventional X-ray(photon)-based radiotherapy, the radiation penetrates the target site, causing damage to the normal tissue behind the tumour. However, proton therapy harnesses the physical properties of the "Bragg Peak". It involves meticulous computation and regulation of the precise depth and intensity of the proton beam, enabling it to precisely aim at the tumour and delivering a concentrated burst of energy at the end of its range. This focused release of energy effectively targets and eliminates cancer cells, after which the radiation halts and dissipates instantaneously.

Proton therapy offers the advantage of minimising the radiation exposure to the healthy tissues surrounding the tumour, therefore lowering the risk of complications and side effects associated with conventional radiotherapy treatment, while optimising the radiation dose to kill cancer cells.

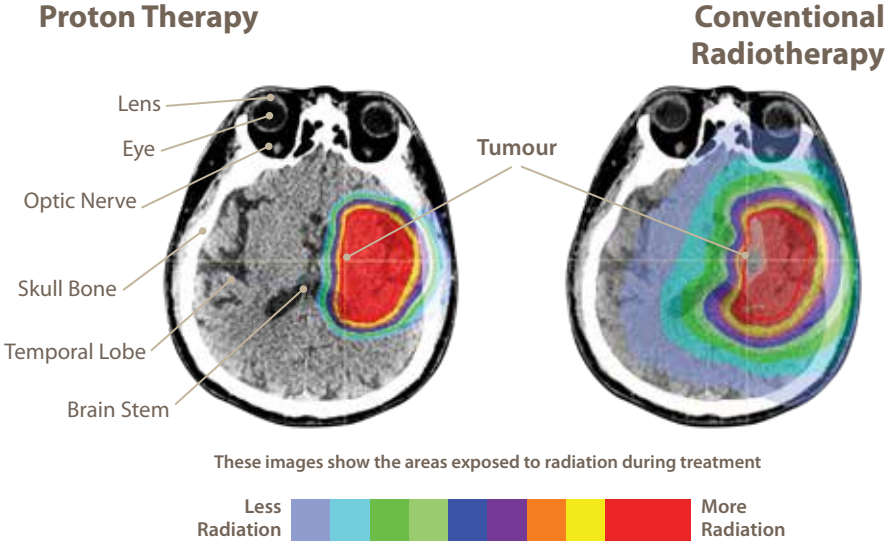
Proton therapy is suitable for various cancer types, including brain cancer, head and neck cancer, lung cancer, liver cancer, breast cancer, prostate cancer, and more. It is particularly beneficial for paediatric cancer patients who are still in the developmental stage.



Why Choose Proton Therapy?

1. **Enhanced precision:** The unique physical attribute of proton therapy enables the proton beam to precisely target tumour cells, minimising damage to surrounding healthy tissues and organs.
2. **Reduced side effects:** Due to its targeted approach, proton therapy reduces the risk of short-term and long-term side effects compared to conventional radiation therapy.
3. **Paediatric-friendly:** Proton therapy is particularly well-suited for treating paediatric cancers, as it spares developing tissues and reduces the risk of inducing secondary cancers later in life.
4. **Sustained quality of life:** Patients are often able to maintain quality of life during and after proton therapy, with relatively minimal disruption to daily activities.

Proton Therapy vs Conventional Radiotherapy



Types of Cancer Treated

Proton therapy allows tumours to be treated with extreme accuracy, delivering cancer-killing energy to the target volume with less damage to surrounding healthy tissues and a lower risk of side effects. Proton therapy is particularly suitable for the following types of cancer:


Brain


Breast


Head & Neck


Liver


Lung

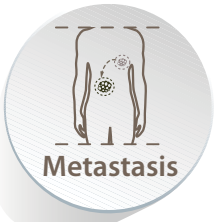

Prostate


Uterus

Others:


Paediatric


Sarcoma


Metastasis

Patient Journey

Consultation
Patient meets with oncologists to discuss treatment options and undergo a thorough evaluation.

Treatment Simulation
Patient undergoes a simulation session, during which patient is set up in treatment position and imaging scans are taken to map out the treatment area .

Target Delineation & Treatment Planning
The medical team defines tumour boundaries using imaging data, creating a personalised treatment plan to balance coverage and minimise radiation exposure.

Treatment
Patient is set up precisely in treatment position. Image verification is done before treatment to validate the position. Each treatment session typically lasts for around half an hour, depending on the pre-determined treatment plan.

Finish Full Course of Proton Therapy Treatment
Patient usually undergoes multiple treatment sessions over the course of several weeks, depending on the pre-determined treatment plan.

Follow-up with Oncologist
Patient will be scheduled for follow-up appointments to monitor the progress.

Frequently Asked Questions

What is the treatment like for proton therapy?

Proton therapy is a painless and non-invasive treatment method that aims to reduce side effects and complications by minimising radiation dose to healthy tissues. The proton therapy team prioritises your comfort during treatment sessions, utilising support cushions and positioning tools to ensure proper alignment.

Is proton therapy safer and more effective than traditional radiation therapy?

The primary concern with radiation treatment is the potential harm to healthy tissues. While traditional radiation therapy has similar effects, the precision of proton therapy allows for a lower dose to healthy tissues, making it better suited for treating specific tumour types such as brain and breast tumours.

How many proton therapy sessions will I need?

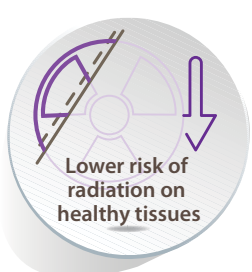
Our medical team will develop a personalised treatment plan for you. Most patients undergo five treatment sessions per week over a period of several weeks. As the side effects are minimal, patients can usually maintain their regular lifestyle and routines throughout the treatment course.

Can proton therapy be combined with other treatment options?

Proton therapy can be used in conjunction with other cancer treatment modalities, such as surgery, chemotherapy and immunotherapy.

Is proton therapy a suitable treatment option for me?

A consultation with a radiation oncologist is necessary to evaluate your specific case and determine if proton therapy is a suitable and beneficial treatment option for you. HKSH's comprehensive and holistic cancer management also encompasses various areas, such as radiotherapy, chemotherapy, targeted therapy, hormone therapy, immunotherapy, cellular therapy, nuclear medicine therapy, and more.



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