

EXCELLENCE OF CARE
AT THE SERVICE OF PEOPLE.



IEO Proton Center

Project pillars



HIGH LEVEL
OF TECHNOLOGY



DEDICATED
BUILDING



CONNECTIVITY
AND INTEGRATION

European Institute of Oncology (IEO) is the first Comprehensive Cancer Centre with its own Proton therapy facility in Italy. This type of treatment completes the Institute's therapeutic offer and confirms IEO's role as a pioneer in innovative therapies.

Situated behind the IEO 1 building and connected directly to the Division of Radiotherapy, the Proton Center guarantees the patient's **full integration in the IEO's treatment pathways**, based on multidisciplinary, excellence and taking care of the person as a whole.

Thanks to this unique element compared to existing facilities, Proton therapy at the IEO will contribute to international clinical research into Proton therapy applications.

What is Proton therapy?

Proton therapy is a **very high precision radiotherapy** which has two important clinical advantages: the sparing of healthy tissues surrounding the target volumes (resulting in a reduced risk of side effects), as well as the possibility, in specific clinical situations, of administering higher doses to the tumour increasing the probability of recovery.

This is possible because, compared to conventional photon-based radiotherapy, protons are heavier nuclear particles and are characterized by a higher energy and are therefore able to act, exerting maximum destructive effect precisely on the diseased tissue.

Proton therapy flanks and complements the therapeutic action of conventional Radiotherapy, which is also undergoing strong technological progress.





What oncological diseases can be treated with Proton therapy?

According to international indications (for example ASTRO and ASCO), the greatest benefits are obtained in the treatment of:

- **Tumours located close to critical healthy tissues**, because they are surrounded by sensitive structures.
- **Tumours resistant to conventional radiotherapy** for which a dose-escalation approach can be useful, as well as in cases where there is a need to reduce overall toxicity due to the treatment of large volumes in combination with concomitant chemotherapy.

Proton therapy is also indicated in solid tumours of paediatric patients.

For these applications and any other treatment indications, it is always necessary to request a **specialist evaluation**.

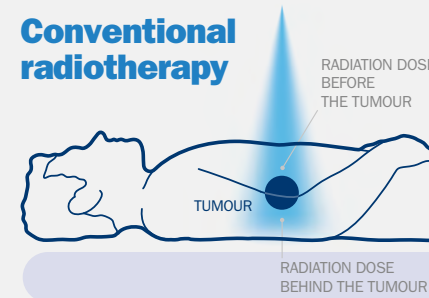
The benefits for the patient

From a clinical point of view, Proton therapy advantages are:

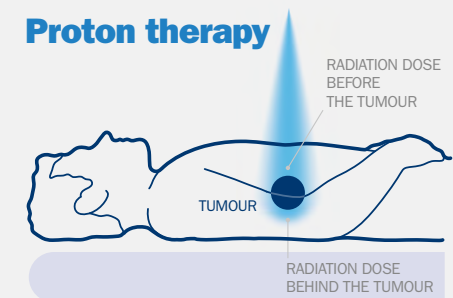
- **Minimum damage to the surrounding tissues**, by making it possible to reach tumours that were hitherto difficult to treat, because they are located next to vital organs and structures or in areas complex to reach.
- **Increase in the dose delivered to the tumour**, which means greater effectiveness of the treatment and a higher possibility of recovery.
- **Reduced risk of side effects** during and after treatment, which results in faster patient's recovery.
- **Increased protection of healthy tissue** during irradiation, reducing the risk of developing secondary tumours.

At the Proton Center, each case is always carefully assessed by IEO's multidisciplinary team. If Proton therapy does not prove to be the most advantageous treatment approach, the Institute offers the most advanced and appropriate radiotherapy treatment option for each patient.

Conventional radiotherapy



Proton therapy



Clinical pathway and access modes



The first step to accessing the Proton Center is to book a clinical evaluation **made by a Radiation Oncologist of the IEO Radiotherapy Division**. Remote web consultations are also offered but should be always followed by an in-person outpatient visit if an indication to Proton therapy is given. Both in-person outpatient visit and remote consultation are bookable on a private basis.

In some cases, it is possible to undergo the visit in agreement with the National Health System; such requests will be subject to verification of the accessibility criteria dictated by the Italian Ministry of Health.

During this visit, the Radiation Oncologist will perform a clinical assessment to determine whether and how the patient is suitable for Proton treatment.

Before starting Proton therapy, usually a week in advance, a **simulation CT scan** will be performed to acquire detailed radiologic images of the tumour and the surrounding organs.

Access steps



EXAMINATION WITH A IEO SPECIALIST



POSSIBILITY OF HEALTH REMOTE CONSULTATION



MULTIDISCIPLINARY CLINICAL ASSESSMENT



SIMULATION CT SCAN

The Proton therapy cycles

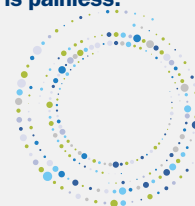
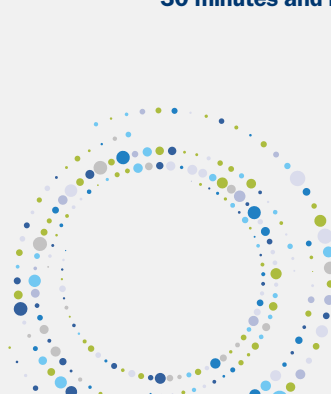


Proton therapy cycles can be of 3 types:

- **COMPLETE CYCLE (averaging 14 sessions)**, indicated for patients with an on-site or surgically removed tumor. In this case, Proton therapy constitutes a unique radiotherapy treatment (curative, cytoreductive or adjuvant).
- **BOOST (up to 6 sessions)**, indicated for patients for whom Proton therapy is part of a combination of radiotherapy treatments (a course of conventional large-volume radiotherapy combined with a dose of Proton therapy on the part of the tumour at greatest risk of recurrence/persistence of malignancy).
- **STEREOTACTIC (1-3 sessions)**, indicated for patients with primary tumours and recurrences of very limited size. Proton therapy can be administered in a few sessions with a high dose per session (ablative dose).

Proton therapy is delivered using a highly sophisticated device known as Gantry, and **treatment takes place on an outpatient basis**, without the need for hospitalization.

During the treatment session, the patient is positioned and immobilized on a dedicated couch in order to ensure the accuracy of the whole treatment. **The irradiation itself lasts about 30 minutes and is painless.**





IEO
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of Oncology



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To book a visit

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For more information



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