



Proton therapy at PSI

The aim of radiation therapy at the Paul Scherrer Institute (PSI) is to use charged particles, known as protons, to destroy tumour tissue. Protons are especially suited for this purpose because they exert their greatest effect deep within the body, inside the tumour itself. The PSI has developed a unique radiation technique able to adapt the radiation dose extremely accurately to the shape of the tumour, which is usually irregular, thus protecting healthy tissue much better than with the most modern conventional radiation therapy techniques.

Current research at PSI aims at improving this radiation technique even more in order to be able to extend the treatment to movable tumours (e.g. breast and lung cancers) with high precision.

Suitable only for specific tumours

Proton therapy is used for the treatment of very specific tumours for which clinical studies can prove a substantial medical advantage.

This is always the case if the radiation needs to be delivered with extreme precision, e.g. if the tumour is located in a sensitive position like the brain or the head area, on the spinal column or in the eye; anywhere, in fact, where it is impossible to operate, where conventional irradiation using high-energy X-rays would cause too much damage to nearby tissue, or where the patient's remaining life expectancy is long (such as in the case of a child). Because proton radiation can penetrate deep into the body, it is predestined to be used to irradiate tumours lying deep within tissue. However, protons do not necessarily provide any advantage where widespread radiation is medically necessary – and proton therapy is also unsuitable if the tumour has already produced metastases.

INDIVIDUAL INFORMATION

Contact with the doctors providing the treatment can be arranged through the secretarial office at PSI's Center for Proton Therapy. The secretarial office and the Center's doctors would be pleased to provide further information.

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