

Medical Devices

Stereotactic device for radiotherapy treatment of children

A research group from the Andalusian Public Health System (SSPA) has developed an immobilization device that allows the improvement of cancer treatment through conventional radiotherapy, application of SBRT and resonance for pediatric patients.



Description of the offer

In general, movements of the body make difficult to concentrate the radiation in the target volume to be irradiated when applying a radiotherapy treatment. Furthermore, when working with pediatric patients, patient collaboration is often complicated, increasing the difficulty of maintaining the patient's posture during treatment. Sometimes, this fact requires the sedation of children to be able to carry out the treatment correctly and effectively.

To prevent body movements during the application of the treatment, there are currently various types of immobilization devices whose objective is to immobilize as best as possible the area where the patient is going to be irradiated. However, these devices are not specific for children and due to the low weight of these patients, the resulting molds are not usually very useful, since they tend to be rotated, complicating treatments.

In this context, it is crucial to achieve better patient immobilization than those provided by the presently known devices and obtaining the collaboration of the child, avoiding anesthesia.

Our research group has designed an innovative stereotactic immobilization device specifically for children that helps collaboration and immobilization of the patient during treatment with radiation machines (linear electron accelerators) and image acquisition machines (CAT, PET and MRI), in addition to increasing the reproducibility of the posture in the different sessions. The device mainly consists of a posterior mold of the body, as well as an anterior one with thermoplastic bands, it has a flattening plate that homogenizes the weight of the child to have better results with the molds and a device that holds any type of small screen so that the child can see videos during treatment with your own device. All this, with a specific scale for children.



Advantages of the offer

1. **Reproducibility** between the different sessions, thanks to the molds that are created specifically for the patient, having specific scales for children and a flattening plate.
2. Ensures the **immobilization** of the pediatric patient **more precisely** than the usual devices.
3. It has a device that supports any type of small screen so that the child can enjoy the videos they are watching in the waiting room on their own device without interruption, **improving collaboration and thus reducing the number of anesthetized children.**
4. Compatible with the geometry of the resonances, with anchors for antennas, and does not produce alterations in the magnetic fields of the same.



Intellectual Property

Protected by applying for a community design that is valid throughout the territory of the European Union.



Aims

We are looking for a partner interested in a license and/ or a collaboration agreement to further develop and exploit this innovative technology.



Classification

Area: Medical devices

Pathology: Oncology / Radiology. Pediatric.