System for Patient Positioning

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Technology description

A Noninvasive "Smart" Medical Device is disclosed for Effectively Eliminating Head Motion during Radiation Therapy and diagnostic radiology examinations such as CT, MRI, and PET. This patented medical device will provide real-time optical tracking of the patient's head and adjusting in real-time for any movement during ultra-precise radiotherapy for brain tumors and other intracranial lesions. It's use will result in maximizing the radiation to the lesion while sparing the normal tissue and reducing any potential side effects to the patient. In diagnostic radiology procedures the images would have higher contrast and resolution.This medical device includes a system for tracking the head, a microprocessor and memory for receiving and processing signals from the tracking device and for issuing corrective signals to 6 motors coupled to a headholder to reposition the patient's head in 6 degrees of freedom in real time. A particular contemplated use is for Intensity Modulated Stereotaxic Radiosurgery and Radiotherapy,(ISRS or IMRT) using radiation therapy machines such as the Linac in common use worldwide.

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