



TECHNOLOGY

Real-time tracking of tumor motion during radiation treatment using a dynamic couch

OVERVIEW

A patient couch is designed to track movement of a target tumor in the patient (due to biological functions such as respiration), and to make compensatory moves so that the radiation treatment site is stabilized.

APPLICATIONS

In 2003, it was estimated that 1.3 million Americans were diagnosed with cancer, and cancer caused 1 in 4 deaths. Cancer rates are rising, but some report that the use of radiation therapy is falling as other, earlier treatments become more successful. 2,009 facilities perform external beam radiation therapy in the U.S. Radiation oncology sites are rapid adopters of new therapeutic techniques and related equipment. Capital budgets for radiation therapy equipment at radiation oncology centers in the U.S. averaged \$980,000 in 2004, up 34% from 2003. This technology can be applied to any procedure where a target tissue must remain stationary in 3D space.

ADVANTAGES

Decreases radiation exposure to non-targeted tissues. Decreases table time for patient. Increases the number of patients that can be treated per day.

STAGE OF DEVELOPMENT

Prototype will be complete in early 2010.

R&D REQUIRED

Proof of concept testing. Regulatory approval.

LICENSING POTENTIAL

UM seeks to develop and commercialize by an exclusive or non-exclusive license agreement and/or sponsored research with a company active in the area.

CONTACT INFO

Office of Technology Transfer
620 W Lexington St., 4th Floor
Baltimore, MD 21201
Email: ott@umaryland.edu
Phone: (410) 706-2380

Additional Information

INSTITUTION

University of Maryland, Baltimore

PATENT STATUS

U.S. Patent 8,042,209 issued 10/25/2011 EP Patent Application 06 758 323.7 Filed October 29, 2007.

LICENSE STATUS

Available for licensing

CATEGORIES

- Devices
- Imaging devices

INVESTIGATOR(S)

Warren DýSouza
Xinsheng Yu
Mohan Suntharali
William Regine

EXTERNAL RESOURCES

- [Real-time intra-fraction-motion tracking using the treatment couch: a feasibility study.](#)
- [Inferential modeling and predictive feedback control in real-time motion compensation using the treatment...](#)

WD-2005-055