

# Diffusion tensor MR tractography effective as quantitative tool, treatment marker response

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Preliminary results of a study of patients with prostate cancer show that MR tractography may be a reliable quantitative imaging biomarker to assess prostate cancer treatment response to androgen deprivation and radiation therapy, according to a team of researchers at Brigham and Women's Hospital and Massachusetts General Hospital in Boston. Quantitative evaluation shows higher tract densities after androgen deprivation and radiation therapy, reflecting gland shrinkage and subsequent fibrosis.

Twenty-two patients with elevated prostate-specific antigen and biopsy-proven prostate carcinoma who underwent MRI of the prostate at 1.5 T with endorectal coil were divided into two groups: those who were treated with [androgen deprivation](#), [radiation therapy](#), or both, and a Gleason-matched control group who had not received such therapy.

"Diffusion tensor MR tractography may function as a novel quantitative tool and marker of treatment response," said study coauthor Jennifer W. Uyeda, MD, Brigham and Women's Hospital. "For example, absence of rise in tract density after therapy and persistent or wider gradient can signify poor response."

The study was presented at the ARRS 2015 Annual Meeting in Toronto.

**More information:** [View the abstract.](#)

Provided by American Roentgen Ray Society

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