

# Characterizing TUNA® ablative treatments of the prostate for benign hyperplasia with gadolinium-enhanced magnetic resonance imaging

Mynderse, Lance A.

Larson, Benjamin

Huidobro, Christian

Meyer, James J.

Busel, David

Hanson, Dennis P.

Larson, Thayne

**Background and Purpose:** Transurethral Needle Ablation of the prostate (TUNA®) has been accepted as an office-based treatment for benign prostatic hyperplasia (BPH) for many years.

Clinical outcomes have been reported, but the amount and location of the necrosis produced have yet to be characterized. The necrosis caused by TUNA was evaluated by gadolinium-enhanced magnetic resonance imaging (MRI) of the pelvis. **Patients and Methods:** Twelve patients with BPH/lower urinary-tract symptoms underwent standard TUNA, and MRI scans with gadolinium enhancement were performed before and 1 week after treatment. The images were studied using Analyze® software to quantify the amount of necrosis compared with the prostatic volume.

Transverse, coronal, and sagittal images were obtained to identify the location of the necrosis.

**Results:** New gadolinium defects were seen in all patients after TUNA. The lesions coalesced into continuous areas of necrosis and correlated with the site of needle placement. T