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Minimally invasive and endoscopic management of Benign Prostatic Hyperplasia, office based, include transurethral needle ablation of the prostate (TUNA), INDIGO laser interstitial coagulation (ILC), and transurethral microwave thermotherapy (TUMT). Heat treatment of whatever kind to the prostate is intended to reduce outflow resistance and the volume of obstruction by increasing the temperature within the prostate and inducing necrosis (sloughing) of the prostatic tissue. Transurethral needle ablation of the prostate uses low-level radiofrequency energy which is delivered by needle into the prostate and produces localized necrotic lesions in the hyperplastic tissue. This procedure is usually performed in the office with a periprostatic local anesthetic block in addition to local anesthetic urethral instillation. A very similar procedure is the INDIGO laser coagulation which again requires a periprostatic block as both procedures are performed with a rigid instrument (cystoscope).

Transurethral microwave therapy (TUMT) has been much evaluated in the past decade and widely used. The most common one is the TherMatrx device which creates a temperature of 50°C in the transitional zone of the prostate ensuing tissue necrosis. The procedure is very simple and involves the introduction of a soft Foley-like catheter with a coil microwave antenna with thermosensors tracking the surface of the catheter in contact with the prostatic tissue for temperature monitoring. The procedure is usually performed with a topical anesthetic and requires only an oral analgesic and takes approximately 40 minutes to perform. Studies at the Cleveland Clinic have demonstrated it to be an effective office-based procedure for even medically refractory BPH patients, irrespective of the gland size and type of symptoms. There is no blood loss, no associated erectile dysfunction, and no retrograde ejaculation reported. It can be safely performed in elderly patients with multiple comorbidities who have high risk for surgery with significant decrease of over 60% in the BPH symptom score at 3 months. Duke University studies have demonstrated its durability, and the suggestion is that thermal damage to the adrenergic fibers was behind the improvement in symptoms after TUMT.

More invasive procedures requiring general and regional anesthetics usually performed in a hospital and ambulatory facility setting include the gold standard transurethral resection of the prostate (TURP), transurethral incision of the prostate (TUIP) for smaller prostate glands, and prostatic vaporization procedure (PVP) by the KTP laser. PVP can be performed in an inpatient and outpatient hospital setting, as well as in well-equipped urology offices in select patients with efficacy similar to that of the TURP with comparable long-term durability. These latter procedures result in significantly better voiding outcomes, however, with 50%-70% chance of retrograde ejaculation which could be objectionable to patients.