Laser Prostatectomy

Medical Policy

Section  
Surgery

Original Policy Date  
12:2013

Last Review Status/Date  
Reviewed with literature search/12:2013

Issue  
12:2013

Description

Laser prostatectomy, using a variety of lasers, has been investigated as a less invasive alternative to transurethral resection of the prostate (TURP). A variety of lasers have been used in a variety of ways to vaporize or coagulate prostate tissue. For example, Nd:YAG lasers have been used in either a contact or non-contact mode to treat prostatic tissue at its surface. In the contact mode, the Nd:YAG laser directly ablates prostatic tissue, producing an effect similar to a slowly progressive TURP. In the non-contact (side-firing) mode, the laser uses refraction to coagulate tissue and/or vaporize the urethral margin. More recently holmium (Ho):YAG lasers and high power KTP lasers have been investigated. These 2 non-contact lasers have different absorption properties. The Ho:YAG laser is maximally absorbed at a wavelength of 2000 nm and is selectively absorbed by water. In contrast, the KTP laser (also referred to as a green light laser or photospective vaporization) is maximally absorbed at a wavelength of 600 nm and is selectively absorbed by oxyhemoglobin. Advocates of the green light laser propose that its absorption by oxyhemoglobin is an advantage since the laser energy is not dissipated in an aqueous environment, and is selectively absorbed by vascular tissue.

Interstitial laser prostaticectomy using either Nd:YAG or diode lasers has also been investigated as a technique to achieve coagulation necrosis inside the adenoma. In this procedure the laser (either an Nd:YAG laser or a diode laser) is inserted into the prostate and activated. After treatment the coagulated tissue is gradually reabsorbed with subsequent shrinkage of the treated areas. An interstitial laser procedure is similar in concept to transurethral needle ablation (TUNA, see policy No. 7.01.59), which is also intended to induce interstitial coagulation necrosis, although it uses a different energy source.
Policy

Laser prostatectomy, using either contact, non-contact, or interstitial techniques, may be considered medically necessary for patients with benign prostatic hypertrophy who are candidates for transurethral resection of the prostate (TURP).

Policy Guidelines

While CPT codes 52647 and 52648 describe non-contact and contact laser coagulation of prostate, respectively, no specific CPT code describes interstitial laser coagulation. CPT code 52647 may be used, as this code essentially describes coagulation necrosis of the prostate using a laser.

Rationale

This policy is based on a 1996 TEC Assessment (1), which was updated in 2005 with further information on different types of lasers used for laser prostatectomy, specifically the diode laser used for interstitial laser coagulation necrosis and the KTP laser (2-6). However, the policy statement regarding laser prostatectomy, which does not distinguish among the various lasers that may be used, is unchanged. A literature search did not identify any clinical trials that directly compared the outcomes using different lasers; therefore, there are inadequate data to determine the equivalence or superiority of different approaches. A recent review suggests that Ho:YAG lasers and high-power KTP lasers (i.e., green light lasers) are most commonly used, while there is declining enthusiasm for interstitial or contact laser coagulation. (7)

References:

1. 1996 TEC Assessment


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<tr>
<th>Codes</th>
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<th>Description</th>
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<tr>
<td>CPT</td>
<td>52647</td>
<td>Non-contact laser coagulation of prostate (code descriptor revised 1/1/06 - Laser coagulation of prostate, including control of postoperative bleeding, complete (vasectomy, meatotomy, cystourethroscopy, urethral calibration and/or dilation, and internal urethrotomy are included if performed)</td>
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<td>52648</td>
<td>Contact laser vaporization of prostate (code descriptor revised 1/1/06 – Laser vaporization of prostate, including control of postoperative bleeding, complete (vasectomy, meatotomy, cystourethroscopy, urethral calibration and/or dilation, internal urethrotomy and transurethral resection of prostate are included if performed)</td>
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<td>Transurethral laser-induced prostatectomy</td>
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<td>Benign prostatic hypertrophy (BPH) code range</td>
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