

## Evidence Based Guideline

### Transurethral Microwave Thermotherapy for Benign Prostatic Hyperplasia

**File Name:** transurethral\_microwave\_thermotherapy\_for\_benign\_prostatic\_hyperplasia  
**Origination:** 1/1997  
**Last CAP Review:** 11/2011  
**Next CAP Review:** 11/2012  
**Last Review:** 11/2011

#### Description of Procedure or Service

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Transurethral microwave thermotherapy (TUMT) has been proposed as an alternative to transurethral resection of the prostate (TURP), or daily medical therapy, for patients who have benign prostatic hyperplasia (BPH). Although TURP has been historically considered definitive treatment, complications from this treatment have encouraged the development of less invasive techniques.

##### Background

Benign prostatic hyperplasia (BPH) is a condition which may lead to lower urinary tract symptoms such as urinary frequency, nocturia, urinary hesitancy and feeling of incomplete voiding. Histologic evidence of BPH is present in approximately 50% of men at age 50 and the prevalence increases with advancing age.

Glandular overgrowth causes progressive occlusion of the prostatic portion of the urethra in men, and will cause lower urinary tract symptoms to varying degrees. Transurethral resection of the prostate (TURP) is one of the most commonly performed surgeries and is generally well tolerated, but is not without potential complications, such as blood loss (with or without the need for transfusion), retrograde ejaculation and incontinence. Transurethral resection syndrome is an adverse effect that can occur in up to 2% of cases. The syndrome is caused by absorption of bladder irrigation fluids during the TURP procedure. Depending on the severity, this syndrome can lead to hyponatremia and fluid overload with subsequent neurological and cardiac complications.

Less invasive techniques have been investigated using various energy sources, such as laser, direct heat, microwave, radiofrequency, and ultrasound. With these techniques, a calculated amount of prostate tissue is destroyed and reabsorbed while leaving the epithelium of the urethral canal relatively intact. This policy addresses the use of microwave energy in the reduction of urethral occlusion and lower urinary tract symptoms.

The goal of microwave thermotherapy is destruction of the prostatic adenoma in the lateral lobes of the prostate to achieve improvement in symptoms and voiding. A transurethral catheter containing a microwave antenna that limits microwave radiation is placed at the prostatic level. Water circulating through the catheter cools the urethra. A Foley-type balloon at the end of the catheter inflates to position the catheter, and fiberoptic sensors are positioned to monitor rectal and urethral temperatures. The correct position of the catheter is verified using transrectal ultrasound of the prostate. The electromagnetic waves emit high-energy photons that interact with molecules in prostatic tissue, producing heat.

Transurethral microwave thermotherapy (TUMT) produces coagulation necrosis of the lateral lobes of the prostate for a distance up to 17 mm from the urethra with the preservation of the urethral surface, distal sphincter, urethral mucosa, bladder neck, and peripheral prostate.

# Transurethral Microwave Thermotherapy for Benign Prostatic Hyperplasia

In October 2000, the FDA issued an alert regarding 16 unexpected cases of fistula formation or urethral or penile tissue damage following the use of transurethral microwave thermotherapy devices. In this alert, the FDA recommended ensuring the patient meets criteria for eligible prostate size and had not previously received radiation to the area. It further recommended that the physician remain with the patient throughout the procedure, to verify placement at all times, and to monitor any unusual pain reported. The patient is not to be oversedated.

In December 2002, the “Prostalund® CoreTherm™ System” (Prostalund Operations AB, Concord, MA) was approved by the FDA through the premarket approval (PMA) process for use in men with a prostate size of 30 to 100 grams and prostatic urethra length of 35 mm or greater. Although similar to previous microwave thermotherapy devices, the company sought premarket approval due to the addition of temperature feedback features intended to address the safety concerns noted in the 2000 FDA alert described above.

The American Urological Association (AUA) last updated clinical guidelines for BPH in 2010. The guideline states that, based on a review of the data and consensus of an expert panel, TUMT is a treatment option for BPH. According to the guideline, TUMT is effective in partially relieving lower urinary tract symptoms secondary to BPH and may be considered for men with moderate or severe symptoms.

**\*\*\*Note: This Evidence Based Guideline is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

## **Evidence Based Guideline for Transurethral Microwave Thermotherapy (TUMT)**

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Transurethral microwave thermotherapy (TUMT) may be appropriate for patients with severe benign prostatic hyperplasia who would be candidates for transurethral resection of the prostate and who have prostatic lengths of 35-50 mm.

## **Medical Evidence regarding Transurethral Microwave Thermotherapy (TUMT) indicates it is not recommended in the following situations**

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Transurethral microwave thermotherapy (TUMT) is not recommended for any indication other than shown above.

This procedure is contraindicated for patients with cardiac pacemakers or implanted defibrillators.

For technical reasons, transurethral microwave thermotherapy is not suitable for patients who have median lobe enlargement, bladder neck stenosis, or in whom the prostate gland exceeds 50 mm in length or 70 g in volume.

Microwave thermotherapy is not to be confused with an earlier technique of microwave treatment, microwave hyperthermia, which has largely been abandoned.

## **Benefits Application**

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This evidence based guideline relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this guideline.

# Transurethral Microwave Thermotherapy for Benign Prostatic Hyperplasia

## **Billing/Coding/Physician Documentation Information**

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This guideline may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at [www.bcbsnc.com](http://www.bcbsnc.com). They are listed in the Category Search on the Medical Policy search page.

*Applicable codes: 53850*

## **Scientific Background and Reference Sources**

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Scientific Background and Reference Sources

TEC Evaluation - 9/11/96

BCBSA Medical Policy Reference Manual - Policy 7.01.52 - 11/30/96

Medical Policy Advisory Group 10/99

Specialty Matched Consultant Review 7/18/2001

BCBSA Medical Policy Reference Manual - Review date: 4/15/02 - Policy 7.01.52

Specialty Matched Consultant Review 5/2003

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.52, 8/12/10

Food and Drug Administration (FDA) Pre-market Approval Letter for ProstaLund® CoreTherm™  
retrieved on August 23, 2010 from [http://www.accessdata.fda.gov/cdrh\\_docs/pdf/P010055b.pdf](http://www.accessdata.fda.gov/cdrh_docs/pdf/P010055b.pdf)

Senior Medical Director review 9/2010

Specialty Matched Consultant Advisory Panel review 12/2010

American Urological Association (AUA) clinical guideline: management of BPH. Revised 2010.  
Retrieved on September 13, 2011 from <http://www.auanet.org/content/guidelines-and-quality-care/clinical-guidelines.cfm>.

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.52, 8/11/11

Specialty Matched Consultant Advisory Panel review 11/2011

## **Policy Implementation/Update Information**

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1/97	Original policy issued - National Association reviewed 11/30/96
1/98	Reaffirmed. Added CPT4 code and Policy Guidelines and Benefit Application.
8/99	Reformatted, Medical Term Definitions added.
10/99	Medical Policy Advisory Group - Statement added that this procedure was contraindicated for patients with cardiac pacemakers or implanted defibrillators.
4/01	System changes.
9/01	Specialty Matched Consultant Review. No change to criteria.

## Transurethral Microwave Thermotherapy for Benign Prostatic Hyperplasia

- 7/03 Specialty Matched Consultant Advisory Panel review 5/2003. No changes to criteria. Description section revised for clarity. Statement re: "Microwave thermography" under Benefits Application moved to Description section and "thermography" corrected to "thermotherapy". Benefits Application statement revised. Policy status changed to "Active policy, no longer scheduled for routine literature review."
- 9/18/06 Medical Policy changed to Evidence Based Guideline. (pmo)
- 6/22/10 Policy Guideline Number(s) removed (amw)
- 11/9/10 Evidence Based Guideline returned to active status for routine review. Description section updated. Added the following statements to the "Not Recommended" section: "For technical reasons, transurethral microwave thermotherapy is not suitable for patients who have median lobe enlargement, bladder neck stenosis, or in whom the prostate gland exceeds 50 mm in length or 70 g in volume. Microwave thermotherapy is not to be confused with an earlier technique of microwave treatment, microwave hyperthermia, which has largely been abandoned." Senior Medical Director review 9/2010. References updated. (mco)
- 1/18/11 Specialty Matched Consultant Advisory Panel review 12/2010. (mco)
- 9/30/11 References updated. Description section updated. (mco)
- 12/20/11 Specialty Matched Consultant Advisory Panel review 11/2011. No changes to Guideline statement. (mco)

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Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.