Medical Coverage Policy | Nerve Graft with Radical Prostatectomy

EFFECTIVE DATE: 08|01|2017
POLICY LAST UPDATED: 04|19|2023

OVERVIEW
Nerve grafting at the time of radical prostatectomy, most commonly using the sural nerve, has been proposed to reduce the risk of postoperative erectile dysfunction.

MEDICAL CRITERIA
Not applicable.

PRIOR AUTHORIZATION
Not applicable

POLICY STATEMENT
Medicare Advantage Plans
Unilateral or bilateral nerve graft is considered not covered in individuals who have had resection of one or both neurovascular bundles as part of a radical prostatectomy as the evidence is insufficient to determine the effects of the technology on health outcomes.

Commercial
Unilateral or bilateral nerve graft is considered not medically in individuals who have had resection of one or both neurovascular bundles as part of a radical prostatectomy as the evidence is insufficient to determine the effects of the technology on health outcomes.

COVERAGE
Benefits may vary between groups and contracts. Please refer to the appropriate section of the Benefit Booklet, Evidence of Coverage or Subscriber Agreement for services not medically necessary.

BACKGROUND
Erectile dysfunction is a common problem after radical prostatectomy. In particular, spontaneous erections are usually absent in men whose prostate cancer required bilateral resection of the neurovascular bundles as part of the radical prostatectomy procedure.

A variety of noninvasive treatments are available, including vacuum constriction devices and intracavernosal injection therapy. However, spontaneous erectile activity is preferred by individuals. Studies have reported results from bilateral and unilateral nerve grafts, the latter involving resection of 1 neurovascular bundle. There has been interest in sural nerve grafting to replace cavernous nerves resection during prostatectomy. The sural nerve is considered expendable and has been extensively used in other nerve grafting procedures, such as brachial plexus and peripheral nerve injuries. As applied to prostatectomy, a portion of the sural nerve is harvested from 1 leg and then anastomosed to the divided ends of the cavernous nerve. Reports also indicate the use of other nerves (eg, genitofemoral nerve) for grafting.

For individuals who have radical prostatectomy with resection of neurovascular bundles who receive nerve grafting, the evidence includes a randomized controlled trial (RCT), cohort studies, and case series. Relevant outcomes are functional outcomes, quality of life, and treatment-related morbidity. The RCT did not find that unilateral nerve grafting was associated with a statistically significant improvement in potency rates at 2 years post surgery. Cohort studies also did not result in better outcomes with nerve grafting. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

SUPPLEMENTAL INFORMATION

Clinical Input From Physician Specialty Societies and Academic Medical Centers

While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted.

In response to requests, input was received from 4 academic medical centers while this policy was under review in 2008; no input was received from physician specialty societies. Input from the 4 centers agreed that this procedure is considered investigational.

Practice Guidelines and Position Statements

The National Comprehensive Cancer Network guidelines on the treatment of prostate cancer (v. 3.2022) states: "Replacement of resected nerves with nerve grafts has not been shown to be beneficial" for recovery of erectile function after radical prostatectomy.

National Comprehensive Cancer Network

The National Comprehensive Cancer Network guidelines on the treatment of prostate cancer (v.1.2023) states: "Replacement of resected nerves with nerve grafts has not been shown to be beneficial" for recovery of erectile function after radical prostatectomy.

CODING

Medicare Advantage Plans and Commercial Products

There are no specific CPT code(s) describing sural nerve grafting of the cavernous nerves; the CPT codes describing nerve grafts specifically identify the anatomic site and do not include the cavernous nerves. Therefore, CPT code 64999 (unlisted procedure, nervous system) should be used to describe the nerve harvest and grafting component of the procedure.

RELATED POLICIES

Unlisted Procedures

PUBLISHED

Provider Update, June 2023
Provider Update, July 2022
Provider Update, July 2021
Provider Update, January 2021
Provider Update, January 2020

REFERENCES:

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2. Davis JW, Chang DW, Chevray P, et al. Randomized phase II trial evaluation of erectile function after attempted unilateralcavernous nerve-sparing retropubic radical prostatectomy with versus without unilateral sural nerve grafting for clinicallylocalized prostate cancer. Eur Urol. May 2009; 55(5): 1135-43. PMID 18783876
3. Kung TA, Waljee JF, Curtin CM, et al. Interpositional Nerve Grafting of the Prostatic Plexus after Radical Prostatectomy.Plast Reconstr Surg Glob Open. Jul 2015; 3(7): e452. PMID 26301141
4. Namiki S, Saito S, Nakagawa H, et al. Impact of unilateral sural nerve graft on recovery of potency and continencefollowing radical prostatectomy: 3-year longitudinal study. J Urol. Jul 2007; 178(1): 212-6; discussion 216. PMID 17499797
5. Rabbani F, Ramasamy R, Patel MI, et al. Predictors of recovery of erectile function after unilateral cavernous nerve graftreconstruction at radical retropubic prostatectomy. J Sex Med. Jan 2010; 7(1 Pt 1): 166-81. PMID 19686422

6. Siddiqui KM, Billia M, Mazzola CR, et al. Three-year outcomes of recovery of erectile function after open radicalprostatectomy with sural nerve grafting. J Sex Med. Aug 2014; 11(8): 2119-24. PMID 24903070
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