COVERAGE:

Sural nerve graft in association with radical prostatectomy is considered experimental or investigational.

DESCRIPTION:

Erectile dysfunction is a common problem after radical prostatectomy. In particular, spontaneous erections are absent in patients whose extent of prostate cancer requires 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 clearly preferred by patients.

Recently, there has been interest in sural nerve grafting to replace cavernous nerves resected at the time of prostatectomy. The sural nerve is considered expendable and has been used extensively 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 one leg and then anastomosed to the divided ends of the cavernous nerve.

RATIONALE:

Limited data are published regarding the long-term outcomes of sural nerve grafting; the largest study reported is a case series of 12 men with one-year follow-up. All men had clinically localized, but high volume prostate cancer such that bilateral resection of the neurovascular bundles was considered necessary. Prior to surgery all men reported spontaneous erection. Outcomes included assessment of erectile function based on:

1. the International Index of Erectile Function
2. visual assessment
3. assessment by patient partners.

Patients were also encouraged to use a variety of erectile dysfunction treatments, including intracavernosal injections, vacuum constriction devices, or sildenafil citrate, as needed. The results were compared to a group of 12 men who had undergone prostatectomy with bilateral nerve resection, but who declined nerve graft placement. Of the 12 men undergoing nerve graft, 4 (33%) had spontaneous medically unassisted erection sufficient for sexual intercourse. An additional 5 men (42%) reported 40% to 60% spontaneous erections that were insufficient for intercourse. However, 2 of these 5 men were able to have intercourse with associated sildenafil therapy. The remaining 3 patients had minimal or no spontaneous erectile activity and additional sildenafil therapy had no appreciable benefit. Side effects of the sural nerve
donor site, which included incisional pain and a sensory deficit along the lateral aspect of the foot, were considered tolerable. The authors note that, based on the time required for nerve regeneration, optimal results may not be evident for 3 years. Some surgeons have performed unilateral sural nerve grafts. However, the outcomes of these procedures have not been reported. In addition, without a controlled study in this population, it will be difficult to isolate the contribution of the sural nerve graft compared to the spontaneous recovery of erectile activity.

In summary, bilateral sural nerve grafting met the treatment goal of unassisted erectile function sufficient for intercourse in 4 (33%) patients. Larger studies with longer outcomes are needed to confirm these preliminary results.

PRICING:

There are no specific CPT codes 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, an unlisted CPT code may be used to describe the nerve harvest and grafting component of the procedure.

In some cases the nerve harvesting procedure may be performed by a plastic surgeon or a neurosurgeon. In other cases an urologist may perform both the nerve harvesting, grafting and radical prostatectomy.

REFERENCES:


DISCLAIMER:

State and federal law, as well as contract language, including definitions and specific inclusions/exclusions, takes precedence over Medical Policy and must be considered first in determining coverage. The member’s contract benefits in effect on the date that services are rendered must be used. Any benefits are subject to the payment of premiums for the date on which services are rendered. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically. HMO Blue Texas physicians who are contracted/affiliated with a capitated IPA/medical group must contact the IPA/medical group for information regarding HMO claims/reimbursement information and other general polices and procedures.