7.01.142	Surgery for Athletic Pubalgia	
Section 7.0 Surgery	**Effective Date** September 30, 2014	
Subsection	**Original Policy Date** September 30, 2014	**Next Review Date** September 2015

Description

Athletic pubalgia, commonly known as sports hernia, is characterized by disabling activity-dependent lower abdominal and groin pain that is not attributable to any other cause. Athletic pubalgia is most frequently diagnosed in high-performance male athletes, particularly those who participate in sports that involve rapid twisting and turning such as soccer, hockey, and football. Alternative names include Gilmore groin, osteitis pubis, pubic inguinal pain syndrome, inguinal disruption, slap shot gut, sportsmen groin, footballer's groin injury complex, hockey groin syndrome, athletic hernia, sports hernia and core muscle injury.

Related Policies

- N/A

Policy

Surgical treatment of athletic pubalgia (also known as Gilmore groin, osteitis pubis, pubic inguinal pain syndrome, inguinal disruption, slap shot gut, sportsmen groin, footballer's groin injury complex, hockey groin syndrome, athletic hernia, sports hernia or core muscle injury) is considered **investigational**.

Policy Guidelines

There is not a specific code for surgical treatment of athletic pubalgia. The following unlisted CPT codes may be used:

- 27299 unlisted procedure, pelvis or hip joint
- 49659 unlisted laparoscopy procedure, hernioplasty, herniorrhaphy, herniotomy
- 49999 unlisted procedure, abdomen, peritoneum and omentum

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program (FEP)) prohibit Plans from denying Food and Drug Administration (FDA) - approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Rationale

Background

Athletica pubalgia is thought to be a cause of groin pain in athletic people. It is a poorly defined condition, for which there is not a consensus regarding the cause and/or treatment.(1) Some believe athletic pubalgia to be an occult hernia process, a prehernia condition, or an incipient hernia, with the major abnormality being a defect in the transversalis fascia, which forms the posterior wall of the inguinal canal. Another theory is that injury to soft tissues that attach to or cross the pubic symphysis is the primary abnormality. The most common of these injuries is thought to be at the insertion of the rectus abdominis onto the pubis, with either primary or secondary pain arising from the adductor insertion sites onto the pubis. It has been proposed that muscle injury leads to failure of the transversalis fascia, with a resultant formation of a bulge in the posterior wall of the inguinal canal. (1) Osteitis pubis (inflammation of the pubic tubercle) and nerve irritation/entrapment of the ilioinguinal, iliohypogastric, and genitofemoral nerves are also believed to be sources of chronic groin pain.

An association between femoroacetabular impingement (FAI) and athletic pubalgia has also been proposed (see Policy No. 7.01.118). It is believed that if FAI presents with limitations in hip range of motion, compensatory patterns during athletic activity may lead to increased stresses involving the abdominal obliques, distal rectus abdominis, pubic symphysis, and adductor musculature. Surgery for athletic pubalgia has been performed concurrently with treatment of FAI, or following FAI surgery if symptoms did not resolve.

A diagnosis of athletic pubalgia is based primarily on history, physical exam, and imaging. The clinical presentation will generally be one of gradual onset of progressive groin pain associated with activity. Physical exam will not reveal any evidence for a standard inguinal hernia or groin muscle strain. Imaging with MRI or ultrasound is generally done as part of the workup. In addition to exclusion of other sources of lower abdominal and groin pain (e.g. stress fractures, femoroacetabular impingement, labral tears), imaging may identify injury to the soft tissues of the groin and abdominal wall. (2)

Many injuries will heal with conservative treatment, which includes rest, icing, nonsteroidal anti-inflammatory drugs, and rehabilitation exercises. A physical therapy program that focuses on strength and coordination of core muscles acting on the pelvis may improve recovery. In a 1999 study, 68 athletes with chronic adductor-related groin pain were randomized to 8 to 12 weeks of an active training program (physical therapy [PT]) that focused on strength and coordination of core muscles, particularly adductors (PT+), or to standard physical therapy without active training (PT–). (3) At 4 months after treatment, 68% of patients in the active training group had returned to sports without groin pain compared with 12% in the PT– group. At 8 to 12 year follow-up, 50% of athletes in the active training group rated their outcome as excellent compared with 22% in the PT– group.(4) For in-season professional athletes, injections of corticosteroid or platelet-

rich plasma (see Policy No. 2.01.16), or a short corticosteroid burst with taper have also been used.

Surgical Treatment of Athletic Pubalgia

Surgical treatment is typically reserved for patients who have failed at least 3 months of conservative treatment. One approach consists of either open or laparoscopic sutured hernia repair with mesh reinforcement of the posterior wall of the inguinal canal. Laparoscopic procedures may use either a transabdominal preperitoneal or a totally extraperitoneal approach. A variety of musculotendinous defects, nerve entrapments, and inflammatory conditions have been observed with surgical exploration. Meyers proposes that any of the 17 soft tissues that attach or cross the pubic symphysis can be involved, leading to as many as 26 surgical procedures and 121 different combinations of procedures that address the various core muscle injuries. (5) The objective of this approach is to stabilize the pubic joint by tightening or broadening the attachments of various structures to the pubic symphysis and/or loosening the attachments or other supporting structures via epimysiotomy or detachment.

Because there are a variety of surgical procedures used to treat athletic pubalgia that have all reported success, it has been proposed that general fibrosis from any type of surgery may act to stabilize the anterior pelvis and thus play a role in improved surgical outcomes.

Regulatory Status

Surgical procedures do not require U.S. Food and Drug Administration approval.

Literature Review

Assessment of efficacy for therapeutic interventions involves a determination of whether the intervention improves health outcomes. The optimal study design for this purpose is a randomized controlled trial (RCT) that includes clinically relevant measures of health outcomes. Intermediate outcome measures, also known as surrogate outcome measures, may also be adequate if there is an established link between the intermediate outcome and true health outcomes. Nonrandomized comparative studies and uncontrolled studies can sometimes provide useful information on health outcomes, but are prone to biases such as noncomparability of treatment groups, the placebo effect, and variable natural history of the condition.

Athletica pubalgia has a variable natural history, with an uncertain time course of the disorder and waxing and waning symptomatology. In addition, pain and functional ability are subjective outcomes and, thus, may be particularly susceptible to placebo effects. Because of these factors, controlled trials are essential to demonstrate the clinical effectiveness of surgical treatment of athletic pubalgia compared with alternatives such as continued medical management. Randomized trials are also important because there may be numerous confounders of outcomes and nonrandomized comparisons are prone to selection bias. Therefore, evidence reviewed for this policy focuses on RCTs and other controlled trials.

Randomized Controlled Trials

Mesh alone: In 2011, Paaganen et al reported a multicenter RCT of surgical treatment compared with conservative therapy in 60 athletes with suspected sport's hernia.(6) Of the 60 (including 31 national-level soccer players), 36 (60%) were totally disabled from their sport and 24 (40%) had a marked limitation in training and competing. For inclusion in the study, the location of pain had to be rostral to the inguinal ligament in the deep

inguinal ring at palpation or at the insertion of the adductor tendons. Exclusion criteria were isolated tendonitis of the adductor muscles or tendons without groin pain rostral to the inguinal ligament, obvious inguinal hernias, or suspicion of inguinal nerve entrapment. Participants had to have the desire to continue sports at the same level as before the groin injury. Pubic bone marrow edema was identified by magnetic resonance imaging (MRI) in 58% of patients. For participants (38%) who had a normal MRI in the pubic area, pain was attributed to insufficiency of the posterior wall of the inguinal canal. After at least 3 months of groin symptoms, patients were randomized into operative or conservative treatment groups. Conservative treatment included at least 2 months of active physical therapy that focused on improving coordination and strength of core muscles, along with corticosteroid injections and oral anti-inflammatory analgesics. Surgical treatment consisted of laparoscopic total extraperitoneal repair (TEP) with mesh placed behind the pubic bone and/or posterior wall of the inguinal canal. Ten percent of the patients also underwent open tenotomy of the adductor magnus or longus. Of the 30 surgically treated athletes, 27 (90%) returned to sports activities by 3 months compared with 8 (27%) of the nonoperative group. At 1, 3, 6, and 12 months after treatment, visual analog scores (VAS) for pain were significantly lower in the surgically treated group ($p<0.001$). However, at 12 months, mean VAS for pain was less than 2 in both groups and 60% of patients in the nonoperative group were pain free (23% had undergone surgery and 13% stopped playing the sport).

Observational Studies

A number of observational series have reported on outcomes of surgery. (5, 7-11) However, these studies enrolled variable patient populations and use variations of the surgical techniques. All studies have reported that a high percentage of patients return to full sports activities, but there are no control groups for comparison.

An example of a large case series is a study by Meyers et al in 2008 that reported on the surgical treatment of 5218 patients diagnosed with athletic pubalgia.(5) Patients treated with surgery ranged from 11 to 71 years of age; women comprised about 8% of the group. The authors reported that 95.3% of the patients were able to return to full play within 3 months of surgery. For a subgroup of athletes treated in-season, 90% were able to return to full play within 3 weeks. Adverse events of the surgery included dysesthesias (0.3%), significant hematomas (0.3%), and vein thrombosis (0.1%), all of which resolved within 1 year. It was noted that in the 5 years before the report, the number of patients diagnosed with athletic pubalgia increased from 8 to 25 per week.

Ongoing and Unpublished Clinical Trials

NCT01876342 is a randomized trial by Paajanen at Kuopio University Hospital that will compare open repair with sutures versus endoscopic TEP repair with mesh in 60 physically active adults with chronic groin pain. Sportsman hernia is defined in this study as a weakness or disruption of the posterior wall of the inguinal canal. The primary end point is the patient being free from in tractable groin pain during sports activity or daily work 4 weeks after surgery. Study completion is expected December 2015

NCT00934388 is a phase 3, randomized, double-blinded trial from Australia that will compare preperitoneal mesh placement versus laparoscopy without mesh placement in 80 participants with chronic groin pain. The study describes sportsman hernia as a syndrome of weakness of the posterior inguinal wall, although differing explanations include avulsion of the conjoint tendon from the pubic tubercle, weakening of the transversalis fascia, tears in the internal or external oblique, superficial inguinal ring dilatation, and abnormalities of the rectus abdominus insertion. This study is based on the

theory that the mesh prevents pressure transmission to the damaged structures, allowing them to heal more rapidly. Completion is expected December 2015.

Summary

Athletic pubalgia, commonly known as sports hernia, is characterized by disabling activity-dependent lower abdominal and groin pain that is not attributable to any other cause. Athletic pubalgia is most frequently diagnosed in high-performance male athletes, particularly those who participate in sports that involve rapid twisting and turning such as soccer, hockey, and football.

The evidence to date on the surgical treatment of athletic pubalgia consists of 1 small randomized controlled trial (RCT) that used laparoscopic total extraperitoneal repair with mesh reinforcement behind the pubic bone/posterior wall of the inguinal canal, and a number of uncontrolled case series. The single RCT is insufficient to determine outcomes of surgical treatment for this relatively common condition. Further high-quality RCTs are necessary to determine whether improvements in pain and functional status with surgical treatment of athletic pubalgia exceed that of alternative treatments.

In addition, there is not yet a consensus on the etiology or treatment approach for sports hernia, and there are numerous variations of surgical treatment. Additional trials that select patients with specific anatomic features and that use a standard surgical approach are needed to define the benefit for specific patient subgroups. Because of these deficiencies in the evidence base, surgical treatment of athletic pubalgia is considered investigational.

Practice Guidelines and Position Statements

The American Academy of Orthopaedic Surgeons posted an online educational document in 2010 on Sports Hernia (Athletic Pubalgia).(12) They advise that “in many cases, 4 to 6 weeks of physical therapy will resolve any pain and allow an athlete to return to sports. If, however, the pain comes back when you resume sports activities, you may need to consider surgery to repair the torn tissues.”

The British Hernia Society published a 2014 position statement on the treatment of sportman’s groin. (13) Based on a consensus conference, the term “inguinal disruption” was agreed as the preferred nomenclature as no true hernia exists. Participants agreed that there was abnormal tension in the groin, particularly around the inguinal ligament attachment and that other findings may include the possibility of external oblique disruption with consequent small tears. It was noted that other pathologies also account for symptoms of groin pain, including adductor muscle tendinitis, osteitis pubis, and pubic symphysitis. A multidisciplinary approach with tailored physiotherapy was recommended as initial treatment, with surgery involving releasing the tension in the inguinal canal and reinforcing it with a mesh or suture repair.

U.S. Preventative Services Task Force Recommendations

Surgery for athletic pubalgia is not a preventive service.

Medicare National Coverage

There is no national coverage determination (NCD). In the absence of an NCD, coverage decisions are left to the discretion of local Medicare carriers.

References

1. Litwin DE, Sneider EB, McEnaney PM et al. Athletic pubalgia (sports hernia). Clin Sports Med 2011; 30(2):417-34.

2. Khan W, Zoga AC, Meyers WC. Magnetic resonance imaging of athletic pubalgia and the sports hernia: current understanding and practice. Magn Reson Imaging Clin N Am 2013; 21(1):97-110.
3. Holmich P, Uhrskou P, Ulnits L et al. Effectiveness of active physical training as treatment for long-standing adductor-related groin pain in athletes: randomised trial. Lancet 1999; 353(9151):439-43.
4. Holmich P, Nyvold P, Larsen K. Continued significant effect of physical training as treatment for overuse injury: 8- to 12-year outcome of a randomized clinical trial. Am J Sports Med 2011; 39(11):2447-51.
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6. Paajanen H, Brinck T, Hermunen H et al. Laparoscopic surgery for chronic groin pain in athletes is more effective than nonoperative treatment: a randomized clinical trial with magnetic resonance imaging of 60 patients with sportsman's hernia (athletic pubalgia). Surgery 2011; 150(1):99-107.
7. Ahumada LA, Ashruf S, Espinosa-de-los-Monteros A et al. Athletic pubalgia: definition and surgical treatment. Ann Plast Surg 2005; 55(4):393-6.
8. Steele P, Annear P, Grove JR. Surgery for posterior inguinal wall deficiency in athletes. J Sci Med Sport 2004; 7(4):415-21; discussion 22-3.
9. Paajanen H, Syvahuoko I, Airo I. Totally extraperitoneal endoscopic (TEP) treatment of sportsman's hernia. Surg Laparosc Endosc Percutan Tech 2004; 14(4):215-8.
10. Kumar A, Doran J, Batt ME et al. Results of inguinal canal repair in athletes with sports hernia. J R Coll Surg Edinb 2002; 47(3):561-5.
11. Irshad K, Feldman LS, Lavoie C et al. Operative management of "hockey groin syndrome": 12 years of experience in National Hockey League players. Surgery 2001; 130(4):759-64; discussion 64-6.
12. American Academy of Orthopaedic Surgeons. OrthoInfo: Sportman's Hernia/Athletic Pubalgia. 2010. Available online at: http://orthoinfo.aaos.org/topic.cfm?topic=A00573. Last accessed May, 2014.
13. Sheen AJ, Stephenson BM, Lloyd DM et al. 'Treatment of the Sportsman's groin': British Hernia Society's 2014 position statement based on the Manchester Consensus Conference. Br J Sports Med 2013.
14. Blue Cross Blue Shield Association. Medical Policy Reference Manual, No. 7.01.142 (July 2014).

Documentation Required for Clinical Review

- No records required

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore, contract language should be reviewed before applying the terms of the Policy. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement.

IE

The following services are considered investigational and therefore not covered for any indication.

Type	Code	Description
CPT®	27299	Unlisted procedure, pelvis or hip joint
	49659	Unlisted laparoscopy procedure, hernioplasty, herniorrhaphy, herniotomy
	49999	Unlisted procedure, abdomen, peritoneum and omentum
HCPC	None	
ICD-9 Procedure	None	
ICD-10-PCS	**For dates of service on or after 10/01/2015**	
	0LUH0JZ, 0LUH4JZ, 0LUJ0JZ, 0LUJ4JZ, 0LUK0JZ, 0LUK4JZ	Supplement, tendons, perineum/right hip/left hip, open, percutaneous endoscopic, synthetic substitute –code list
	0WQM0ZZ, WQN0ZZ, 0WQM3ZZ, WQN3ZZ, 0WQM4ZZ, WQN4ZZ	Repair, perineum, male/female, open/percutaneous/percutaneous endoscopic, no device -code list
	0WUM0JZ, 0WUN0JZ, 0WUM4JZ, 0WUN4JZ	Supplement, perineum, male/female, open/percutaneous endoscopic, synthetic substitute - code list
	0YQ50ZZ, 0YQ60ZZ, 0YQA0ZZ, 0YQ53ZZ, 0YQ63ZZ, 0YQA3ZZ, 0YQ63ZZ, 0YQA3ZZ, 0YQ54ZZ, 0YQ64ZZ, 0YQA4ZZ	Repair, inguinal region, right/left/bilateral, open/percutaneous/percutaneous endoscopic, no device -code list
	0YU50JZ, 0YU60JZ, 0YUA0JZ, 0YU54JZ, 0YU64JZ, 0YUA4JZ	Supplement, inguinal region, right/left/bilateral, open/percutaneous endoscopic, synthetic substitute - code list
ICD-9 Diagnosis	All Diagnoses	
ICD-10 Diagnosis	**For dates of service on or after 10/01/2015**	
	All Diagnoses	

Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action	Reason
9/30/2014	BCBSA Medical Policy Adoption	Medical Policy Committee

Definitions of Decision Determinations

Medically Necessary: A treatment, procedure or drug is medically necessary only when it has been established as safe and effective for the particular symptoms or diagnosis, is not investigational or experimental, is not being provided primarily for the convenience of the patient or the provider, and is provided at the most appropriate level to treat the condition.

Investigational/Experimental: A treatment, procedure or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

Split Evaluation: Blue Shield of California / Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a Split Evaluation, where a treatment, procedure or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements

This service (or procedure) is considered **medically necessary** in certain instances and **investigational** in others (refer to policy for details).

For instances when the indication is **medically necessary**, clinical evidence is required to determine **medical necessity**.

For instances when the indication is **investigational**, you may submit additional information to the Prior Authorization Department.

Within five days before the actual date of service, the Provider MUST confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should also be directed to the Prior Authorization Department. Please call 1-800-541-6652 or visit the Provider Portal www.blueshieldca.com/provider.

The materials provided to you are guidelines used by this plan to authorize, modify, or deny care for persons with similar illness or conditions. Specific care and treatment may vary depending on individual need and the benefits covered under your contract. These Policies are subject to change as new information becomes available.