Kansas City

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Surgery for Athletic Pubalgia

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Origination: 9/2014
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Policy

Blue Cross and Blue Shield of Kansas City (Blue KC) will not provide coverage for Surgery for Athletic Pubalgia. This is considered investigational.

When Policy Topic is covered

Not Applicable

When Policy Topic is not covered

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

Description of Procedure or Service

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, footballers groin injury complex, hockey groin syndrome, athletic hernia, sports hernia and core muscle injury.

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)

An association between femoroacetabular impingement (FAI) and athletic pubalgia has also been proposed. 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 (eg 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, 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 (TEP) 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 to surgical treatment 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. 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.

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.

Rationale

This policy was created with a search of the MEDLINE database through June 25, 2014

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.

RCTs

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 ($p<0$ .0001). 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 III 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 (TEP) 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

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Billing Coding/Physician Documentation Information

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

Additional Policy Key Words

Sports Hernia

Policy Implementation/Update Information

9/1/14 New policy; considered investigational.
