MEDICAL POLICY – 7.01.142
Surgery for Groin Pain in Athletes

BCBSA Ref. Policy: 7.01.142
Effective Date: May 1, 2018
Last Revised: April 3, 2018
Replaces: N/A

RELATED MEDICAL POLICIES:
None

Introduction

The medical term for sports-related groin pain is athletic pubalgia. More commonly it’s called a sports hernia. But this type of pain doesn’t come from a true hernia. It’s a soft tissue injury that most often is diagnosed in males who take part in sports that require rapid twisting and sudden changes in direction, such as soccer, hockey, wrestling, ice hockey, and football. Most of these injuries will heal with conservative treatment. This treatment includes resting, applying ice, and taking medication like nonsteroidal anti-inflammatory drugs. Physical therapy that focuses on the core muscles acting on the pelvis may improve recovery. Surgery on muscles, tendons, or nerves has been proposed as a way to alleviate the pain from sport-related groin pain. These types of surgery are investigational (unproven). More studies are needed to show whether surgery for sport-related groin pain is effective.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.
<table>
<thead>
<tr>
<th>Service</th>
<th>Investigational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery for groin pain in athletes</td>
<td>Surgical treatment of groin pain in athletes (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.</td>
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</table>

**Coding**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>CPT</td>
<td>Unlisted procedure, pelvis or hip joint</td>
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<tr>
<td>27299</td>
<td>Unlisted laparoscopy procedure, hernioplasty, herniorrhaphy, herniotomy</td>
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<tr>
<td>49659</td>
<td>Unlisted procedure, abdomen, peritoneum and omentum</td>
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**Related Information**

N/A

**Evidence Review**

**Description**

Sports-related groin pain, commonly known as athletic pubalgia or sports hernia, is characterized by disabling activity-dependent lower abdominal and groin pain 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. For patients who fail conservative therapy, surgical repair of any defects identified in the muscles, tendons, or nerves has been proposed.

Background

*Groin Pain in Athletes*

Groin pain in athletes is a poorly defined condition for which there is no consensus on cause and/or treatment.\(^1\) 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.

Some believe the groin pain is 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. A 2015 consensus agreement has recommended the more general term groin pain in athletes, with specific diagnoses of adductor-related, iliopsoas-related, inguinal-related, and pubic-related groin pain.\(^2\)

An association between femoroacetabular impingement (FAI) and groin pain in athletes 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. A systematic review of 24 studies that examined the co-occurrence of FAI and athletic pubalgia found an overlap of the 2 conditions that ranged from 27% of hockey players to 90% of collegiate football players who presented with hip and groin pain.\(^3\) Surgery for groin pain has been performed concurrently with treatment of FAI, or following FAI surgery if symptoms did not resolve.
Diagnosis

A diagnosis of groin pain in athletes 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 magnetic resonance imaging 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.4

Conservative Treatment

Many injuries will heal with conservative treatment, which includes rest, icing, nonsteroidal anti-inflammatory drugs, and rehabilitation exercises. A physical therapy (PT) 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 (PT) that focused on strength and coordination of core muscles, particularly adductors (PT+), or to standard PT without active training (PT−).5 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.6 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

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.7 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 sports related groin pain 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.

**Summary of Evidence**

For individuals who have sports-related groin pain who receive mesh reinforcement or who have surgical repair and release of soft tissue, the evidence includes 2 randomized controlled trials (RCT), and a number of case series. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. The evidence on mesh reinforcement for inguinal-related groin pain includes 2 RCTs and a large prospective series. Results of the RCTs have suggested that, in carefully selected patients, mesh reinforcement results in an earlier return to play. However, a large prospective series from 2016 has indicated that only about 20% of patients with chronic groin pain benefit from inguinal surgery. Further study is needed to define the patient population that would benefit from this treatment approach. An alternative approach to treatment of groin pain in athletes involves repair or release of soft tissue. This approach has been reported in a large series. It included a 2008 review of medical records spanning 2 decades and over 5000 cases. More recent reports on these procedures from other institutions are needed. The evidence is insufficient to determine the effects of the technology on health outcomes.

**Ongoing and Unpublished Clinical Trials**

Some currently unpublished trials that might influence this policy are listed in Table 1.

**Table 1. Summary of Key Trials**

<table>
<thead>
<tr>
<th>NCT No.</th>
<th>Trial Name</th>
<th>Planned Enrollment</th>
<th>Completion Date</th>
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<tr>
<td>NCT01876342</td>
<td>Total ExtraPeritoneal (TEP) Versus Open Minimal Suture Repair for Treatment of Sportsman's Hernia/Athletic Pubalgia: A Randomized Multi-center Trial</td>
<td>60</td>
<td>Dec 2018 (ongoing)</td>
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<tr>
<td>Unpublished</td>
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</table>
Practice Guidelines and Position Statements

**American Academy of Orthopaedic Surgeons**

The American Academy of Orthopaedic Surgeons has an online educational website, last reviewed in 2017, on sports hernia (athletic pubalgia).\(^\text{17}\) The Academy indicated that a sports hernia is a painful soft tissue injury that occurs in the groin area. The Academy advised 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.”

**British Hernia Society**

The British Hernia Society published a 2014 position statement on the treatment of sportsman’s groin.\(^\text{18}\) 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.

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<table>
<thead>
<tr>
<th>NCT No.</th>
<th>Trial Name</th>
<th>Planned Enrollment</th>
<th>Completion Date</th>
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<tr>
<td>NCT02297711</td>
<td>Total ExtraPeritoneal (TEP) Versus Open Minimal Suture Repair for Treatment of Sportsman’s Hernia/Athletic Pubalgia: A Randomized Multi-center Trial</td>
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<td>NCT00934388</td>
<td>A Randomised, Blinded Study on Laparoscopic Mesh Reinforcement for Chronic Groin Pain</td>
<td>80</td>
<td>Dec 2015 (unknown)</td>
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NCT: national clinical trial.
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.

Regulatory Status

Treatment of sports-related groin pain is a surgical procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration.

References


### History

<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
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<tr>
<td>09/08/14</td>
<td>New Policy. Policy created with literature review through June 25, 2014. Surgical treatment of athletic pubalgia is considered investigational.</td>
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<tr>
<td>05/01/16</td>
<td>Annual Review, changes approved April 12, 2016. Policy updated with literature review through December 13, 2015; reference 2 added. Policy statement unchanged.</td>
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<tr>
<td>05/01/17</td>
<td>Annual Review, changes approved April 11, 2017. Policy updated with literature review through December 21, 2016; references 2, 8, 10, and 16 added. &quot;Athletic pubalgia&quot; changed to &quot;groin pain in athletes&quot;. Title changed to &quot;Surgery for Groin Pain in Athletes&quot;.</td>
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<td>10/27/17</td>
<td>Policy moved to new format, no changes to policy statement.</td>
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<tr>
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<td>Annual Review, approved April 3, 2018. Policy updated with literature review through December 2017; no references added; reference 17 updated. Policy statement unchanged.</td>
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Hmoob (Hmong):
Tsab ntawv tsjav tshi xo no muaj cov ntsiab lus tseem ceeb. Tej zaum tsab ntawv tshi xo no muaj cov ntsiab lus tseem ceeb tsoog kaj dain tniaw thov kiv pab lus yoy kog kiov ke pab cuam los nsawt Premera Blue Cross. Tej zaum muaj cov hnb tseem ceeb uas sau rau hauv daim ntawv no. Tej zaum kaj koy juuv tau uq ee yam uas peb kaj tei hauv cov ntawv no. Tej zaum kaj koy juuv tau uq ee yam uas peb kaj tei hauv cov dtawv no. Tej zaum mab genyen dat ki etowo kaj dain tniaw kaj dain tniaw thov kep kiv pab cuam los yoy kiv ke kaj dain tniaw thov kep kiv pab cuam los yoy kiv ke kaj dain tniaw thov kep kiv pab cuam los yoy kiv ke.