PREMERA | BLUE CROSS

An Independent Licensee of the Blue Cross Blue Shield Association

MEDICAL POLICY – 7.01.142

Surgery for Groin Pain in Athletes

BCBSA Ref. Policy:	7.01.142
Effective Date:	May 1, 2026
Last Revised:	Apr. 13, 2026
Replaces:	N/A

RELATED MEDICAL POLICIES:

2.01.98	Orthopedic Applications of Platelet-Rich Plasma
2.01.543	Recombinant and Autologous Platelet-Derived Growth Factors for Wound Healing and Other Non-Orthopedic Conditions

Select a hyperlink below to be directed to that section.

POLICY CRITERIA | CODING | RELATED INFORMATION
EVIDENCE REVIEW | REFERENCES | HISTORY

Clicking this icon returns you to the hyperlinks menu above.

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, wresting, 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.

Policy Coverage Criteria

Service	Investigational
Surgery for groin pain in athletes	**Surgical treatment of groin pain in athletes (also known as athletic pubalgia, 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.**

Coding

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

Note: CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

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 individuals 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. In a systematic review involving 1571 individuals, Kraeutler et al (2021) found that the most common terminology used to describe the diagnosis was "athletic pubalgia", followed by "sports hernia".[2]

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.[3] Groin pain in athletes can be divided into 2 primary musculoskeletal categories.[4] The first is medial or inguinal groin pain, which arises from structures outside the hip joint (extra-articular musculoskeletal structures) like the adductor muscles, iliopsoas muscle, inguinal region, and the pubic bone. The second category is intra-articular hip-related groin pain, which originates from inside the hip joint. The most common source of this intra-articular hip pain in both professional and recreational athletes is Femoral Acetabular Impingement (FAI)(see evidence review 7.01.118).op. 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 2015 systematic review of 24 studies that examined the co-occurrence of FAI and groin pain in athletes found an overlap of the 2 conditions that ranged from 27% of hockey players to 90% of college football players who presented with hip and groin pain.[5] Surgery for sports-related 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 a gradual onset of progressive groin pain associated with the activity. A physical exam will not reveal any evidence for a standard inguinal hernia or groin muscle strain. Imaging with magnetic resonance imaging (MRI) or ultrasound is generally done as part of the workup. In addition to the 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.[6]

Treatment

Conservative

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 PT program that focused on strength and coordination of core muscles, particularly adductors, or to standard PT without active training.[7] At four months post-treatment, 68% of individuals in the active training group had returned to sports without groin pain compared with 12% in the standard PT group. At 8- to 12-year follow-up, 50% of athletes in the active training group rated their outcomes as excellent compared with 22% in the standard PT group.[8] For in-season professional athletes, injections of corticosteroid or platelet-rich plasma (see **Related Policies**), or a short corticosteroid burst with taper have also been used.

Surgical

Surgical treatment is typically reserved for individuals who have failed at least three months of conservative treatment. One approach consists of 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 an extraperitoneal approach. A variety of musculotendinous defects, nerve entrapments, and inflammatory conditions have been observed with surgical exploration. Meyers et al (2008) have proposed 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.[9] The objective is to stabilize the pubic joint by tightening or broadening the attachments of various structures to the pubic symphysis and/or by loosening the attachments or other supporting structures via epimysiotomy or detachment.

Because various surgical procedures used to treat sports-related groin pain have reported success, it has been proposed that general fibrosis from any 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, the evidence includes 1 systematic review, 2 randomized controlled trials (RCTs) and a large prospective series. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. The systematic review found that the 2 procedures (rectus abdominis repair and posterior wall mesh reinforcement) performed similarly, with both success rates generally falling within the 70% to 90% range, but the lack of standardized clinical outcomes makes determining which procedure is truly superior difficult. 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 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. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have sports-related groin pain who receive surgical repair or release of soft tissue, the evidence includes 1 systematic review and a large case series. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. The systematic review found that surgical treatment for chronic groin pain in athletes resulted in high return-to-play rates, however, overall low study quality limiting comparisons among techniques. The case series reported surgical repair or release of soft tissue as an alternative approach for the treatment of groin pain; the study included a review (completed in 2008) 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 that the technology results in an improvement in the net health outcome.

Ongoing and Unpublished Clinical Trials

A search of **ClinicalTrials.gov** in December 2025 did not identify any ongoing or unpublished trials that would likely influence this policy.

Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.

Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or the National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Academy of Orthopaedic Surgeons

Reviewed in 2022, the American Academy of Orthopaedic Surgeons has an online educational website on sports hernia (athletic pubalgia).[23] 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, four to six 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."

American College of Sports Medicine Clinical Sports Medicine Leadership Committee

In 2024, a leadership group consisting of medical and orthopedic executive committee physicians directed a committee made up of delegates from each of the following 6 major professional medical organizations to craft a consensus statement on assessment and management of select musculoskeletal Injuries:[4]

- American Academy of Family Physicians (AAFP)
- American Academy of Orthopedic Surgeons (AAOS)

- American College of Sports Medicine (ACSM)
- American Medical Society for Sports Medicine (AMSSM)
- American Orthopedic Society for Sports Medicine (AOSSM)
- American Osteopathic Academy of Sports Medicine (AOASM)

Regarding groin pain, the committee states that initial treatment is frequently managed without surgical intervention. If athletes still have pain and impaired function after all available non-surgical therapies have been tried, then surgery may be an option.

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

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

References

1. Litwin DE, Sneider EB, McEnaney PM, et al. Athletic pubalgia (sports hernia). Clin Sports Med. Apr 2011; 30(2): 417-34. PMID 21419964
2. Kraeutler MJ, Mei-Dan O, Belk JW, et al. A Systematic Review Shows High Variation in Terminology, Surgical Techniques, Preoperative Diagnostic Measures, and Geographic Differences in the Treatment of Athletic Pubalgia/Sports Hernia/Core Muscle Injury/Inguinal Disruption. Arthroscopy. Jul 2021; 37(7): 2377-2390.e2. PMID 33845134
3. Weir A, Brukner P, Delahunt E, et al. Doha agreement meeting on terminology and definitions in groin pain in athletes. Br J Sports Med. Jun 2015; 49(12): 768-74. PMID 26031643
4. Herring SA, Kibler WB, Putukian M, et al. Initial Assessment and Management of Select Musculoskeletal Injuries: A Team Physician Consensus Statement. Med Sci Sports Exerc. Mar 01 2024; 56(3): 385-401. PMID 37847756
5. Munegato D, Bigoni M, Gridavilla G, et al. Sports hernia and femoroacetabular impingement in athletes: A systematic review. World J Clin Cases. Sep 16 2015; 3(9): 823-30. PMID 26380829
6. 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. Feb 2013; 21(1): 97-110. PMID 23168185

7. Hölmich 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. Feb 06 1999; 353(9151): 439-43. PMID 9989713

8. Hölmich 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. Nov 2011; 39(11): 2447-51. PMID 21813441

9. Meyers WC, McKechnie A, Philippon MJ, et al. Experience with "sports hernia" spanning two decades. Ann Surg. Oct 2008; 248(4): 656-65. PMID 18936579

10. Thorborg K, Hölmich P, Christensen R, et al. The Copenhagen Hip and Groin Outcome Score (HAGOS): development and validation according to the COSMIN checklist. Br J Sports Med. May 2011; 45(6): 478-91. PMID 21478502

11. McKeeman J, Johnson B, Rivera JC. Rectus Abdominis Repair Compared to Posterior Wall Mesh Reinforcement in Athletes With Sportsman's Hernia: A Systematic Review. Cureus. Feb 2025; 17(2): e78580. PMID 40062130

12. 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. Jul 2011; 150(1): 99-107. PMID 21549403

13. Ekstrand J, Ringborg S. Surgery versus conservative treatment in soccer players with chronic groin pain: A prospective randomised study in soccer players. Eur J Sports Traumatol Rel Res. 2001;23:141-145.

14. Ahumada LA, Ashruf S, Espinosa-de-los-Monteros A, et al. Athletic pubalgia: definition and surgical treatment. Ann Plast Surg. Oct 2005; 55(4): 393-6. PMID 16186706

15. Steele P, Annear P, Grove JR. Surgery for posterior inguinal wall deficiency in athletes. J Sci Med Sport. Dec 2004; 7(4): 415-21; discussion 422-3. PMID 15712496

16. Paajanen H, Syvähuoko I, Airo I. Totally extraperitoneal endoscopic (TEP) treatment of sportsman's hernia. Surg Laparosc Endosc Percutan Tech. Aug 2004; 14(4): 215-8. PMID 15472551

17. Kumar A, Doran J, Batt ME, et al. Results of inguinal canal repair in athletes with sports hernia. J R Coll Surg Edinb. Jun 2002; 47(3): 561-5. PMID 12109611

18. Irshad K, Feldman LS, Lavoie C, et al. Operative management of "hockey groin syndrome": 12 years of experience in National Hockey League players. Surgery. Oct 2001; 130(4): 759-64; discussion 764-6. PMID 11602909

19. Roos MM, Bakker WJ, Goedhart EA, et al. Athletes with inguinal disruption benefit from endoscopic totally extraperitoneal (TEP) repair. Hernia. Jun 2018; 22(3): 517-524. PMID 29383598

20. Meuzelaar RR, Visscher L, den Hartog FPJ, et al. Athletes treated for inguinal-related groin pain by endoscopic totally extraperitoneal (TEP) repair: long-term benefits of a prospective cohort. Hernia. Oct 2023; 27(5): 1179-1186. PMID 37391498

21. Kopelman D, Kaplan U, Hatoum OA, et al. The management of sportsman's groin hernia in professional and amateur soccer players: a revised concept. Hernia. Feb 2016; 20(1): 69-75. PMID 25380561

22. Hatem M, Martin RL, Bharam S. Surgical Outcomes of Inguinal-, Pubic-, and Adductor-Related Chronic Pain in Athletes: A Systematic Review Based on Surgical Technique. Orthop J Sports Med. Sep 2021; 9(9): 23259671211023116. PMID 34541009

23. American Academy of Orthopaedic Surgeons, Wilkerson R. OrthoInfo: Sports Hernia (Athletic Pubalgia). 2022; **https://orthoinfo.aaos.org/en/diseases--conditions/sports-hernia-athletic-pubalgia/**. Accessed March 16, 2026.

History

Date	Comments
09/08/14	New Policy. Policy created with literature review through June 25, 2014. Surgical treatment of athletic pubalgia is considered investigational.
09/08/15	Annual Review. Policy updated with literature review through June 9, 2015; no references added. Policy statement unchanged.
05/01/16	Annual Review, changes approved April 12, 2016. Policy updated with literature review through December 13, 2015; reference 2 added. Policy statement unchanged.
05/01/17	Annual Review, changes approved April 11, 2017. Policy updated with literature review through December 21, 2016; references 2, 8, 10, and 16 added. "Athletic pubalgia" changed to "groin pain in athletes". Title changed to "Surgery for Groin Pain in Athletes".
10/27/17	Policy moved to new format, no changes to policy statement.
05/01/18	Annual Review, approved April 3, 2018. Policy updated with literature review through December 2017; no references added; reference 17 updated. Policy statement unchanged.
05/01/19	Annual Review, approved April 2, 2019. Policy updated with literature review through December 2018; no references added. Policy statement unchanged.
05/01/20	Annual Review, approved April 7, 2020. Policy updated with literature review through December 2019; no references added. Policy statement unchanged.
05/01/21	Annual Review, approved April 1, 2021. Policy updated with literature review through December 14, 2020; no references added. Policy statement unchanged.
05/01/22	Annual Review, approved April 11, 2022. Policy updated with literature review through December 23, 2021; reference added. Policy statement unchanged.
05/01/23	Annual Review, approved April 10, 2023. Policy updated with literature review through January 2, 2023; reference added. Policy statement unchanged. Changed the wording from "patient" to "individual" throughout the policy for standardization.
05/01/24	Annual Review, approved April 8, 2024. Policy updated with literature review through December 19, 2023; references added. Policy statement unchanged.
01/01/25	Minor update to related policy. 2.01.16 was replaced with 2.01.543 Recombinant and Autologous Platelet-Derived Growth Factors for Wound Healing and Other Non-Orthopedic Conditions.
05/01/25	Annual Review, approved April 7, 2025. Policy updated with literature review through January 6, 2025; no references added. Policy statement unchanged.
05/01/26	Annual Review, approved April 13, 2026. Policy updated with literature review through December 12, 2025; references added. Policy statement unchanged.

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and

local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA).

Scope: Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.