

# ATHLETIC PUBALGIA SURGERY

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[Instructions for Use](#) ⓘ

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## Related Commercial Policy

- [Femoroacetabular Impingement Syndrome](#)

## Community Plan Policy

- [Athletic Pubalgia Surgery](#)

## COVERAGE RATIONALE

**Surgical repair is unproven and not medically necessary for treating athletic pubalgia due to insufficient evidence of efficacy.**

## APPLICABLE CODES

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Coverage Determination Guidelines may apply.

CPT Code	Description
49659	Unlisted laparoscopy procedure, hernioplasty, herniorrhaphy, herniotomy
49999	Unlisted procedure, abdomen, peritoneum and omentum

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## DESCRIPTION OF SERVICES

Athletic groin pain is referred to in the literature by many different terms, including, but not limited to, sportsman's groin, incipient hernia, sports hernia, Gilmore's groin, athletic pubalgia, inguinal disruption, and inguinal-related pain. Athletic pubalgia is a strain or tear of any soft tissue (muscle, tendon, ligament) in the lower abdomen or groin area. It most often occurs during sports that require sudden changes of direction or intense twisting movements. Sports hernias occur mainly in vigorous sports such as ice hockey, soccer, wrestling, and football. Athletic pubalgia diagnosis involves patient history review, physical examination, and imaging studies (ECRI 2017).

Treatment is often targeted to the specific diagnosis. The first line of treatment consists of conservative treatments such as rest, physical therapy and rehabilitation, anti-inflammatory medications, and corticosteroid injections. Persistent symptoms may warrant surgical or laparoscopic intervention. A variety of surgical and laparoscopic techniques have been described in the literature. The aims of these procedures include releasing tension and adding support to weak musculature (Hayes, 2017).

## CLINICAL EVIDENCE

A 2017 ECRI Health Technology report reviewed 28 publications: abstracts of 2 systematic reviews, 1 RCT, and 7 case series and full-text articles of 3 systematic reviews, 3 nonrandomized comparison studies, and 12 case series published between January 1, 2012 to June 26, 2017. The evidence indicated that a multimodal assessment (physical exam, history, and imaging as needed) to exclude other etiologies is recommended for the diagnosis of athletic

pubalgia. Studies report little to modest effectiveness of conservative treatments; limited evidence supports the short- and long-term safety and effectiveness of various open and minimally invasive surgical treatments. Larger controlled studies to assess the clinical validity and utility of individual clinical and imaging tests are warranted. The quality of the evidence assessing surgical treatments is low because no studies compared surgical and conservative treatment in independent groups of patients. Studies comparing surgical procedures were not randomized.

A Hayes 2017 Health Technology report found that based on a low- quality body of evidence totally extraperitoneal (TEP) and transabdominal preperitoneal (TAPP) repair for mesh placement as well as open surgical procedures to treat athletic groin pain appear to grant benefits to patients who do not fully recover with the use of conservative treatments alone. There is insufficient evidence to determine whether a particular laparoscopic or open surgical technique is superior to another. More rigorous studies are needed to establish the relative benefits and harms of different laparoscopic and open surgical procedures for this patient population (Hayes, 2017).

A systematic review was conducted by de Sa et al. (2016) to identify the most common causes of groin pain in athletes requiring surgery. A total of 73 articles and 4655 patients were included in the study. The intra-articular and extra-articular causes of groin pain in athletes requiring surgery were equal. The top five causes for pain were: femoroacetabular impingement (FAI) (32%), athletic pubalgia (24%), adductor-related pathology (12%), inguinal pathology (10%) and labral pathology (5%), with 35% of this labral pathology specifically attributed to FAI. The authors concluded that given the complex anatomy, equal intra-articular and extra-articular contribution, and potential for overlap of clinical entities causing groin pain leading to surgery in athletes, further studies are required to determine how to best treat this patient population.

A prospective clinical cohort study was conducted by Pokorny et al. (2017) to evaluate the role of transabdominal preperitoneal (TAPP) mesh repair in athletes with sportsman's groin resistant to conservative therapy. Thirty-nine professional athletes with chronic groin pain were referred to surgery at a single clinic. A full assessment was carried out on each, including medical history, physical examination, dynamic ultrasound, and pelvic magnetic resonance imaging. TAPP repair was performed on 30 athletes. The outcome measures were early postoperative recovery of 6 weeks and full resumption of athletic activities. Conservative treatment had improved symptoms temporarily or to some extent in 7 athletes and 2 ceased competing altogether. Laparoscopy confirmed posterior wall deficiency in 24 and true inguinal hernia in 6 athletes. Twenty-one (70%) returned to sports activities after 6 weeks. Persistent mild pain was experienced by 5 athletes postoperatively for up to 1 year. Twenty-five participants (85%) reported full satisfaction with the procedure 1 year after treatment; all returned to the same or even higher level of athletic performance. The authors concluded that the study confirmed that the endoscopic placement of retropubic mesh is an efficient, safe, and minimally invasive treatment that enables fast early recovery. This is a small, unblinded, uncontrolled study.

A clinical trial prospective cohort study is underway whose purpose is to describe clinical presentation (physical examination and magnetic resonance imaging findings) for a group of athletes presenting with athletic pubalgia, to describe the different biomechanical diagnoses that exist in patients and to examine the effects of a biomechanics led exercise intervention to rehabilitate chronic groin pain. Three hundred and eighty-two consecutive athletic groin pain patients, all male, are enrolled. All patients underwent MRI and patient-reported outcome (PRO) score to assess recovery. Median time in pain at presentation was (IQR) 36 (16–75) weeks. The most common diagnosis was that of pubic aponeurosis injury. Clinical trial registration number NCT02437942 (Falvey, 2016).

Serner et al. (2015) performed a systematic review of the literature on the efficacy of conservative and surgical treatment options for groin pain in athletes. Nine medical databases were searched in May 2014. Inclusion criteria were treatment studies in athletes with groin pain; randomized controlled trials (RCTs), controlled clinical trials or case series; outcome measures describing number of recovered athletes, patient satisfaction, pain scores or functional outcome scores. A total of 72 studies were included for quality analysis with a mean follow-up time of 27.7 months. The conservative treatment studies included passive physical therapy modalities and/or exercise therapy, or injection therapy (corticosteroids or dextrose). The surgical studies examined open hernia repair, laparoscopic hernia repair and adductor tenotomy. The control group intervention consisted of passive physical therapy modality or exercise therapy, local corticosteroid injection, and surgical adductor repair. The treatment success was defined in terms of the percentage of recovered athletes, percentage of excellent or good patient satisfaction, improvement in pain scores, improvement in functional outcome scores or percentage of athletes returning to play. A mean of 90.6% of the patients returned to play in the intervention groups and the mean reported time to return to play was 11.3 weeks. The mean treatment success in the control groups was 48.7%. A mean of 45.8% of the patients returned to play and the mean time to return to play was 25.6 weeks. The authors state there is moderate evidence that, for adductor-related groin pain, active exercises compared with passive treatments improve success, multimodal treatment with a manual therapy technique shortens the time to return to sports compared with active exercises and adductor tenotomy improves treatment success over time. There is moderate evidence that for athletes with sportsman's hernia, surgery results in better treatment success than conservative treatment. Only four studies were identified as high quality and there were a high number of disagreements between the authors in the quality assessment.

A systematic review was performed by King et al. (2015) of peer review studies which looked at athletic groin pain (AGP) surgery and rehabilitation and their influence on return to play (RTP) rates and/or return to play times. The purpose of this review was to compare the RTP rates and return to play times between surgical and rehabilitation interventions in the treatment of AGP. There were 3332 patients included in 57 studies. The patients were subdivided into three diagnostic groups; the pubic group with diagnosis and interventions related to the pubic symphysis and adjacent bone, the adductor tendons group, and the abdominal group. Surgery interventions included repair via laparoscopy or open incision, tenotomy of adductor longus, debridement of the pubic symphysis, or arthrodesis. Rehabilitation included massage and mobilization, electrotherapy, flexibility, resistance and strength training. Meta-analysis revealed the pubic surgery group had a RTP rate of 86% and returned to play in 23.1 weeks, abdominal group RTP rate of 96% and returned to play in 7.2 weeks, and the adductor group RTP was 84% and returned to play in 18.3 weeks. The pubic rehabilitation group had a RTP rate of 91% and returned to play in 10.5 weeks, the abdominal group had a RTP rate of 83% and returned to play in 7.9 weeks and the adductor group RTP was 81% and returned to play in 16.9 weeks. The authors concluded that this review challenges the belief that surgery offers a superior RTP rate and time across all categories. The review suggested better outcomes with rehabilitation for pubic-related groin pain with no difference between the adductor and abdominal groups. Overall the quality of the evidence available in the surgical and rehabilitation interventions in AGP is low and subject numbers are small. Appropriately designed randomized controlled trials should be conducted comparing rehabilitation and surgical intervention.

Harr and Brody (2017) reported on a case series of 22 individuals with magnetic-resonance-imaging (MRI) confirmation of athletic pubalgia with rectus and adductor tendonitis, who underwent a suture herniorrhaphy with adductor tenotomy. All 22 patients returned to their respective sports and within 6-8 weeks regained their ability to perform at a high level, including professional status. No further surgery was required. The authors concluded that in athletes with MRI confirmation of rectus and adductor longus injuries, tenotomies along with a herniorrhaphy may improve outcomes. Well designed, comparative studies with larger patient populations are needed to further describe safety and clinical outcomes.

Rossidis et al. (2015) conducted a retrospective review of competitive athlete patients with athletic pubalgia from 2007 to 2013. Athletic pubalgia is a syndrome of chronic lower abdomen and groin pain that occurs in athletes. It is the direct result of stress and microtears of the rectus abdominis inserting on the pubis from the antagonizing adductor longus muscles, and weakness of the posterior transversalis fascia and bulging of the inguinal floor. A cohort of 54 patients was examined. Mean age was 22.4 years. Most patients were football players (n = 23), triathlon (n = 11), track and field (n = 6), soccer players (n = 5), baseball players (n = 4), swimmers (n = 3), golfer (n = 1), and tennis player (n = 1). Fifty one were males and three were females. All patients failed medical therapy with physiotherapy prior to surgery. 76 % of patients had an MRI performed with 26 % having a right rectus abdominis stripping injury with concomitant strain at the adductor longus musculotendinous junction. 7 % of patients had mild nonspecific edema in the distal bilateral rectus abdominis muscles without evidence of a tear. Twenty patients had no findings on their preoperative MRI, and only one patient was noted to have an inguinal hernia on MRI. All patients underwent laparoscopic totally extraperitoneal inguinal hernia repair with synthetic mesh and ipsilateral adductor longus tenotomy. All patients were able to return to full sports-related activity in 24 days (range 21-28 days). One patient experienced urinary retention and another sustained an adductor brevis hematoma 3 months after completion of rehabilitation and surgical intervention. The author concluded that athletic pubalgia is a disease with a multifactorial etiology that can be treated surgically by a laparoscopic totally extraperitoneal hernia repair with synthetic mesh accompanied with an ipsilateral adductor longus tenotomy allowing patients to return to sports-related activity early with minimal complications. The significance of this study is limited by small sample size and short follow-up period.

Caudill et al. (2008) found that surgery seemed to be more effective than conservative treatment, and laparoscopic techniques generally enabled a quicker recovery time than open repair. However, in addition to better descriptions of surgical anatomy and procedures and conservative and post-surgical rehabilitation, well-designed research studies are needed, which include more detailed serial patient outcome measurements in addition to basing success solely on return to sports activity timing. This information is necessary to better understand sports hernia pathogenesis, verify superior surgical approaches, develop evidence-based screening and prevention strategies, and more effectively direct both conservative and post-surgical rehabilitation.

Swan et al. (2007) performed an overview of the anatomy and pathoanatomy and a systematic review of the literature to gain insight into the disease and its treatment. Most studies are Level IV. The anatomy involved, diagnostic criteria, and treatment modalities are inconsistently described in the medical, surgical and orthopedic literature. There is no evidence-based consensus available to guide decision-making. Open and laparoscopic repairs produce excellent results, but the latter allows earlier return to play.

The aim of laparoscopic and open surgical procedures for treatment of athletic groin pain is to release tension or provide support to the musculature. Laparoscopic approaches include totally extraperitoneal (TEP) and transabdominal preperitoneal (TAPP) repair for mesh placement, whereas open surgical techniques include both suture and mesh repair. A 2016 Hayes Technology Report found that based on a low-quality body of evidence; there is insufficient

evidence to determine whether a particular laparoscopic or open surgical technique is superior to another. More rigorous studies are needed to establish the relative benefits and harms of different laparoscopic and open surgical procedures for this patient population (Hayes, 2016).

### **Professional Societies**

#### **American College of Radiology (ACR)**

ACR recommends MRI or ultrasound imaging for assessing patients with chronic hip pain, no relevant radiographic findings, and suspected athletic pubalgia (Mintz, 2016).

#### **U.S. FOOD AND DRUG ADMINISTRATION (FDA)**

Laparoscopic surgery is a procedure and therefore not subject to FDA regulation. There are a number of surgical meshes approved for use in pelvic surgery, although none used in the reviewed studies were approved specifically for athletic pubalgia. See the following website for additional information (use product code FTM). Available at: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm>. (Accessed March 25, 2018)

#### **CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)**

Medicare does not have a National Coverage Determination (NCD) for athletic pubalgia surgery. Local Coverage Determinations (LCDs) do not exist at this time. (Accessed April 25, 2018)

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### **POLICY HISTORY/REVISION INFORMATION**

Date	Action/Description
12/01/2018	<ul style="list-style-type: none"><li>Simplified coverage rationale (no change to guidelines)</li><li>Archived previous policy version 2018T0341P</li></ul>

## INSTRUCTIONS FOR USE

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the member specific benefit plan document must be referenced as the terms of the member specific benefit plan may differ from the standard plan. In the event of a conflict, the member specific benefit plan document governs. Before using this policy, please check the member specific benefit plan document and any applicable federal or state mandates. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

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