ATHLETIC PUBALGIA SURGERY

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Related Medical Policies: None
Related Coverage Determination Guidelines: None

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COVERAGE RATIONALE
Surgical repair for treating athletic pubalgia is unproven.
Several studies have shown that groin pain and function are improved after surgical repair for athletic pubalgia. However, most of these studies were uncontrolled, used small sample sizes and did not provide comparisons of the surgical methods used to treat athletic pubalgia. Large prospective randomized studies of individuals with athletic pubalgia with more detailed patient outcome measurements are needed to determine optimal treatment.

BACKGROUND
Athletic pubalgia, also known as Gilmore’s groin, sports/sportsman’s hernia or occult hernia is a condition limited almost exclusively to professional or other high-performance athletes. It is characterized by pain around the abdomen, groin, hip or thigh. The pain frequently originates from a muscle or tendon injury in the inguinal area near the attachment of the rectus abdominis to the pubis and in the adjacent internal oblique muscles near the region of the abdominal wall. Pain and weakness in this area are most commonly seen with direct inguinal hernias; however, in this

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case, the pain presents without any evidence of herniation or other medical diagnosis. Athletic pubalgia predominantly affects men and is most common among athletes whose sport of choice requires frequent twisting and turning, such as soccer, football and hockey.

The precise etiology of athletic pubalgia is not known, but is most commonly believed to result from weakness of the abdominal or inguinal wall, associated with tearing of muscles and/or ligaments within the pelvis. A wide variety of anatomical abnormalities that may account for the pain are observed on surgical exploration. There are no objective findings on physical examination or a definitive diagnostic test for athletic pubalgia.

Conservative treatments such as rest, anti-inflammatory drugs and physical therapy may fail to relieve the pain. While a variety of surgical techniques have been used, opinions about the value of surgery differ greatly and there is a lack of consensus supporting any one particular procedure. Most procedures currently being described are minor variations of standard hernia repair. Pelvic floor surgery is another surgical method that has been considered to treat athletic pubalgia. This surgery involves reattachment of the rectus abdominis muscle either unilaterally or bilaterally and often concurrently with an ipsilateral adductor release, rather than protection of the inguinal floor near the internal ring. Given the potentially long recovery time, reportedly from 10 weeks to 6 months after open surgery, laparoscopic interventions have also been investigated.

**CLINICAL EVIDENCE**

A number of reports evaluating a variety of surgical techniques for treating athletic pubalgia were identified in the medical literature.

According to Hayes, searches revealed a paucity of evidence on the efficacy and safety of totally extraperitoneal (TEP) laparoscopic repair for athletic pubalgia. No randomized controlled trials on TEP repair compared with standard surgeries for athletic pubalgia were found. The available evidence is limited to 4 case series involving 15 to 96 patients with chronic groin pain. (Diaco et al., 2005; Susmallian et al., 2004; Paajanen et al., 2004; Srinivasan et al., 2002) All patients had failed conservative therapy, and had undergone TEP repair with insertion of mesh. Among these studies, from 93% to 100% returned to full activities following the procedure, and in one study 95% of patients were still pain free after a mean follow-up of 51 months. No major complications were reported in the reviewed studies although there are risks involved in any type of laparoscopic surgery. Despite the apparent benefits of the surgery and the consistent results across these observational studies, due to weaknesses in study design and execution, there is insufficient evidence to draw definitive conclusions regarding TEP laparoscopic repair for athletic pubalgia at this time (Hayes, 2006, updated 2008, archived 2010).

Three systematic reviews addressed the topic of sports hernias (Caudill, 2008; Jansen, 2008; Swan, 2007).

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.

Jansen et al. (2008) stated that studies describing surgery generally mention failure of conservative measures, although a description of these conservative measures is mostly lacking. During surgery, a reinforcement of the abdominal wall is applied in most cases, using an open or laparoscopic approach. For patients with a positive herniography and/or positive ilioinguinal or iliohypogastric nerve block tests, there are indications (level II) that surgery results in earlier
return to sport compared with exercise therapy. Possibly, laparoscopic intervention might result in an earlier return to sport compared with open approach surgery (level III).

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 orthopaedic 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.

Van Veen et al. (2007) evaluated 55 athletes with undiagnosed chronic groin pain. All patients underwent an endoscopic total extraperitoneal (TEP) mesh placement. Incipient hernia was diagnosed in 36 athletes. In 20 patients (36%), an inguinal hernia was found. All the athletes returned to their normal sports level within 3 months after the operation. The investigators concluded that a TEP repair must be proposed to patients with prolonged groin pain unresponsive to conservative treatment. If no clear pathology is identified, reinforcement of the wall using a mesh offers good clinical results.

A retrospective study included a review of 750 laparoscopic preperitoneal hernias procedures. A sports hernia was defined as a tear in the transversalis fascia that was not evident by preoperative physical exam. A biologic mesh, Surgisis, was placed, uncut, over the myopectinate orifice and fixed with five tacks or fibrin glue. Patients were followed up at 2 and 6 weeks, 6 months, and 1 year. Ten professional and amateur athletes were found to have sports hernias. Operative time averaged 32 minutes and there were no major complications. All athletes returned to full activities in 4 weeks. One patient did not show improvement in his symptoms. No patient developed a recurrent hernia. The investigators concluded that laparoscopic exploration and repair with biologic mesh should be considered in athletes with chronic groin pain that does not improve after conventional treatments have failed (Edelman, 2006).

In a retrospective study, 47 patients with posterior inguinal wall deficiency underwent herniorrhaphy. Seventy-seven percent of the patients were able to return to sporting activities in an average time of 4 months (Steele, 2004).

In another retrospective study, 131 athletes with groin pain due to deficiency of the posterior inguinal wall underwent laparoscopic repair with a trans-abdominal preperitoneal technique for hernias. All patients were back to full sporting activities within 2 to 3 weeks after surgery. There was 1 recurrence after a mean follow-up of 5 years (Genitsaris, 2004).

A prospective cohort study was done to evaluate surgical treatment in 41 male athletes with chronic groin pain who were resistant to medical treatment. The patients were treated using hernia repair and percutaneous adductor longus tenotomy. All patients returned to sports on an average of 6.9 months after surgery. (range 6 to 15 months). Four patients performed at a reduced level and 37 patients performed at the same level after returning to athletic activities (Van Der Donckt, 2003).

In a study by Hemingway et al. (2003), 16 patients with sportsman's hernia were assessed for lower limb and abdominal muscle strength and compared with a control group. The patients were re-evaluated after surgery and rehabilitation. The strength of the oblique abdominal showed the greatest improvement after surgery and patients reported that pain decreased and function increased after surgery.

In a nonrandomized, uncontrolled, prospective study, 157 athletes underwent pelvic floor repair for treatment of athletic pubalgia. (Meyers, 2000). Ninety-six percent of the patients (n=151) had completely stopped their competitive level of activity at the time of examination and all but 6 patients reported having pain for longer than 3 months. At a mean follow-up of 3.9 years (range, 25 months to 12 years), 89% of procedures were considered successful, with all but 5 patients
reporting performing as well or better than before injury. While the results of pelvic floor surgery were not directly compared with medical management, the long duration of symptoms and lack of previous response to medical therapy supports the conclusion that patients would not have done as well with nonoperative treatments.

These studies suggest that groin pain and function are improved after surgical repair for athletic pubalgia. However, most of the studies were uncontrolled, used small sample sizes, and did not provide comparisons of the surgical methods used to treat athletic pubalgia. Large prospective randomized studies of individuals with athletic pubalgia are needed to determine optimal treatment.

**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](http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm). Accessed April 5, 2011.

**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 March 23, 2011)

**APPLICABLE CODES**

The codes listed in this policy are for reference purposes only. Listing of a service or device code in this policy does not imply that the service described by this code is a covered or non-covered health service. Coverage is determined by the benefit document. This list of codes may not be all inclusive.

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**REFERENCES**


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