

Sports hernia:

a clinical update

Box 1. Typical signs that can be elicited on physical examination

- tenderness on palpation over pubic symphysis and/or pubic tubercle;
- exquisite tenderness and/or dilation of the superficial inguinal ring on direct palpation (by scrotal inversion with the little finger);⁶
- a positive 'Direct Stress Test': palpation over the superficial inguinal ring while the patient is lying supine is uncomfortable, but while continuing to apply the same pressure over the superficial ring and getting the patient to straight-leg raise causes increased pain similar to their presenting symptoms; and
- pain with resisted sit ups.⁷

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INTRODUCTION

Chronic groin pain in young athletic patients poses a difficult diagnostic and therapeutic challenge, especially with such a wide variety of potential causes. Sports hernias were first described in the early 1980s, and are an increasingly recognised cause of chronic groin pain.

Injury to a number of high profile athletes has raised the public awareness of this condition. Typically occurring in young athletic males, sports hernias usually present with insidious onset exercise-related groin pain. It is often disabling and results in cessation of participation in sport.

The diagnosis often goes unrecognised for several months or even years. Many patients with sports hernias will have made several visits to their GP and physiotherapist with the pain that often gets branded as a 'groin strain'. However, early detection and instigation of the correct treatment is essential in the management of sports hernia. The diagnosis and appropriate treatment requires a high index of suspicion and a multiprofessional approach, consisting of GPs, surgeons, physiotherapists, and radiologists.

WHAT IS A SPORTS HERNIA?

The term sports hernia is in fact a misnomer as there is no classical herniation of soft tissue.¹ However, 'sports hernia' has been so widely popularised by the media that it is now commonly used by the medical profession, media, and public alike. It is also referred to, and synonymous with, sportsman's hernia, athletic pubalgia, and Gilmore's groin, as well as others.

Sports hernia is in fact a poorly understood phenomenon, and as such the exact definition, aetiology, and pathophysiology vary widely throughout the literature. However, essentially, sports hernias involve a set of injuries to the abdominal and pelvic musculature outside of the ball and socket hip joint that cause a weakness of

the posterior wall of the inguinal canal.² It causes a chronic, activity-related groin pain that rarely responds to non-operative treatment but significantly improves with operative intervention.³

WHO GETS IT?

Sports hernias typically affect young males who actively participate in sport. Females are affected, but much less commonly than males, comprising just 3–15%^{2,4} of all sports hernia referrals. It is rare in children and older people. It more commonly affects patients who actively engage in sport (particularly elite athletes), but it can occur in those that do not. It is more common in patients that participate in football, hockey, and athletics.⁵

WHAT DO PATIENTS PRESENT WITH?

The symptoms of sports hernias are quite consistent and patients will usually present with a combination of:

- vague unilateral or bilateral groin pain (difficult to localise, but above the inguinal ligament);
- dull/burning in nature; and
- pain radiates towards the scrotum and inner thigh, and can cross midline.

Patients complain that the pain occurs on exertion, in particular sprinting, cutting or twisting, side-stepping, kicking, or sitting up.⁶ Pain can last for varying periods of time following exertion (ranging from days to weeks). These symptoms tend to be disabling and patients will report that they have had to reduce or cease their participation in sport altogether. (See Box 1 for clinical signs elicited on physical examination). During these periods of inactivity they are relatively pain free, but they will complain that pain returns on attempted return to sport. Patients will often be unable to recall the exact onset of the pain.

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WHAT IMAGING IS AVAILABLE FOR SPORTS HERNIAS?

Imaging is useful in patients presenting with chronic groin pain as it can be used to both exclude other pathologies and assist in the diagnosis of sports hernia. The main two imaging modalities used to assist in the diagnosis of sports hernia are MRI and ultrasound.

HOW ARE SPORTS HERNIAS TREATED?

Sports hernias can be managed either non-operatively or operatively.

Non-operative management

Non-operative management consists of a combination of: rest; non steroidal anti-inflammatory drugs (NSAIDs); corticosteroid injections; and physiotherapy.

A trial of non-operative treatment should be instigated for all patients presenting with symptoms consistent with sports hernia, for a period of between 6–12 weeks.⁷ When the patient is pain free following this they should attempt to return to sport; if this is unsuccessful, operative intervention should be considered.

Operative management

Operative management primarily involves reinforcement of the posterior abdominal wall, which can either be performed open or laparoscopically:

- Open surgical techniques are varied, but mainly consist of modifications of the classic Bassini, Shouldice, or Lichtenstein hernia repair techniques. All techniques aim to reinforce the abdominal muscles or fascia near the inguinal ligament.⁶
- Laparoscopic repair (the preferred approach) involves reinforcement of the posterior abdominal wall with mesh; this may be either total extraperitoneal (TEP) mesh repair⁸ or pre-peritoneal mesh repair.⁹

Post-operative management includes analgesia and physiotherapy. Patients can expect to return to full activity between 6 and 12 weeks.

Both open and laparoscopic operative techniques produce successful results in the majority of patients in terms of both symptomatic relief and return to full activity. A systematic literature review from 2008 reported mean success rates (defined as return to full activity) as 92.8% for open techniques and 96% for laparoscopic techniques (no significant difference).⁷

A recent randomised controlled trial involving 60 patients with sports hernias compared non-operative management to laparoscopic TEP mesh repair.⁸ Ninety per cent of patients in the operative group returned to sporting activity within 3 months, compared to just 27% of those in the non-operative group. At 12 months, 97% of the operative group were fully participating in sport, compared to 50% of the non-operative group.

HOW SHOULD PATIENTS PRESENTING WITH SPORTS HERNIA BE MANAGED?

In cases where there is a high index of clinical suspicion based on the history and examination alone, it is recommended the patient be instigated on a trial of non-operative management immediately. At this point, neither further imaging nor referral to a specialist is required.

However, in cases where there is diagnostic uncertainty, or other causes of groin pain are more likely, then further investigations are recommended (which may be to either investigate other causes of groin pain or to confirm a sports hernia) prior to instigating treatment.

Patients should be referred to a general surgeon with a particular interest in sports hernias if the following are satisfied:

- other causes of groin pain have been ruled out;
- persistent symptoms despite non-operative therapy;
- surgical intervention would be suitable; and
- the symptoms are having a deleterious effect on the patients quality of life.

It would also be appropriate to make a referral to a specialist in cases of diagnostic uncertainty. See Figure 1 for a proposed algorithm.

FINAL THOUGHTS

Sports hernias are a real entity that should form part of the differential diagnosis of athletic patients presenting with groin pain.

The London 2012 Olympics has contributed to the statistically significant increase seen in the number of people participating in sport between October 2011 and October 2012 compared to the previous year.¹⁰ Maintaining the legacy of the 2012 Olympics partly relies on the medical profession to recognise and treat the associated increased incidence of sports related injuries.

Provenance

Freely submitted; not externally peer reviewed.

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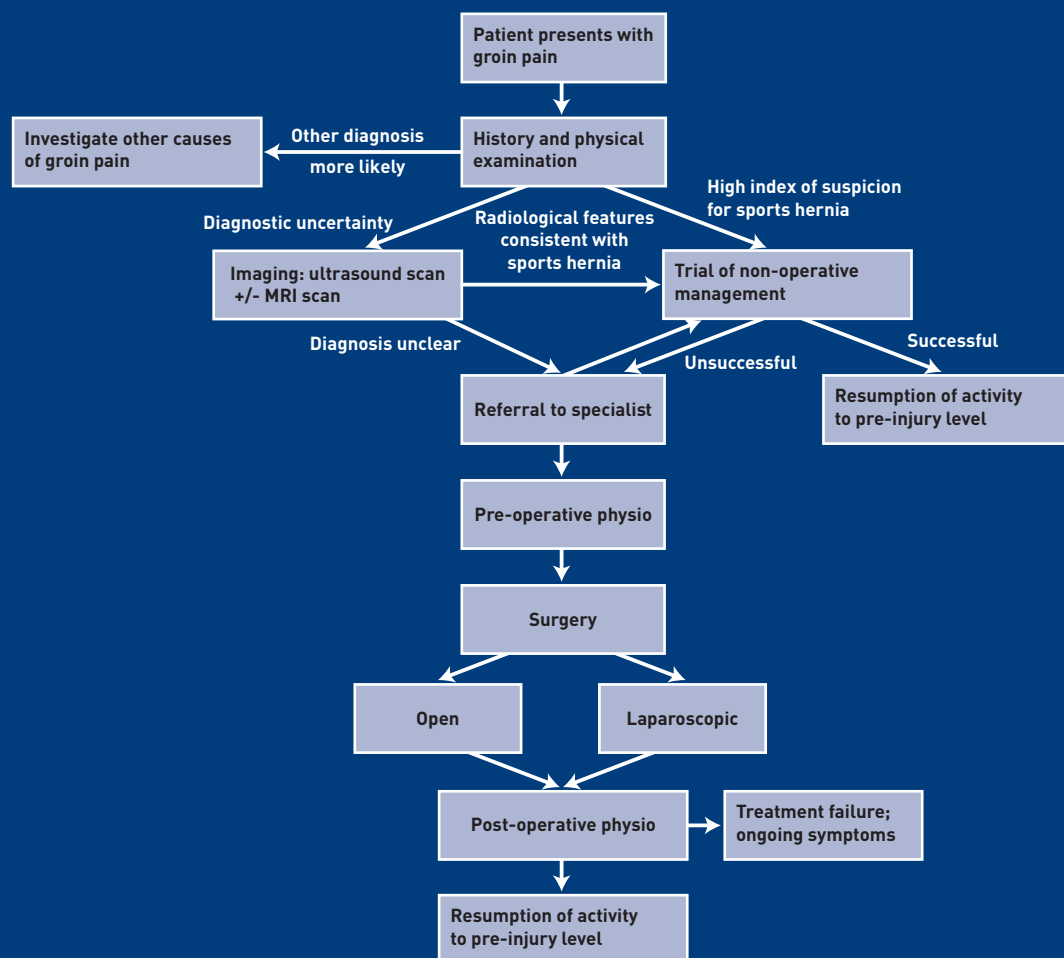


Figure 1. The proposed algorithm for managing sports hernias.