

In This Chapter

Pelvis and hip stress fractures
 Osteitis pubis
 Apophyseal avulsion injuries
 Athletic pubalgia

INTRODUCTION

- Abdominal and groin pain in the athlete can present a diagnostic dilemma.
- Many potential disorders are possible, and a careful history and physical examination are more likely than magnetic resonance imaging (MRI) to find the source of pain.
- A high index of suspicion is necessary with regard to femoral neck stress fractures, as delay in diagnosis can become highly problematic if a displaced fracture results.
- Osteitis pubis symptoms generally resolve with nonoperative treatment, but frequently last 6 to 9 months.
- Most pelvic avulsion fractures can be treated nonoperatively.
- Surgery for athletic pubalgia must be preceded by an understanding of the direct and compensatory parts of the injury.

Abdominal, groin, and pelvis pain in the athlete can be difficult to manage. Part of the reason may have been due to our shortage of good evaluation tools, interest level, and diagnostic tests. In addition, the increased popularity of soccer in North America has brought with it an increase in groin injuries and as a consequence has led to increased awareness and published reports. It is imperative that orthopedic surgeons who take care of kicking sport athletes have a thorough understanding of problems affecting the pelvic and groin areas.

Athletes presenting with groin and hip complaints pose a difficult challenge due to the long and usually unfamiliar list of diagnostic possibilities. The differential list is far reaching and includes both orthopedic disorders but also general medical,

bursitis, tumors, fractures and abdominal wall tears). Usually the most sensitive tool for evaluating these problems is not the "high tech" imaging study but rather a careful clinical history and a detailed palpation examination. It is challenging and rewarding for the clinician to gather the necessary information, formulate a well-defined list of differential diagnoses, plan a strategy to further define and treat the specific problem.

Before getting into athletic pubalgia and other problems, let us discuss some of the other causes of such debilitating pain in athletes, let us discuss the myriad of other problems that can mimic the problems. We only mention, with some editorial comment, problems that have actually been seen^{2,3} rather than the whole potential differential diagnosis. On the other hand, knowing the comprehensive differential is very important because other problems definitely overlap with respect to pain patterns.

We start with inguinal hernia. The issue here is important since we believe strongly that the term "inguinal hernia" is a misnomer, leading good general surgeons to believe that they can repair the athletic problems like hernias. Inguinal hernias are different. The pain of a direct or indirect hernia is not the pain found in most athletes. The pain relates to the peritoneum poking through a defect in the abdominal wall, either medial or lateral to the internal inguinal ring, either medial or lateral to the internal inguinal vessels. The pain of a true hernia is usually a distinct, palpable bulge.

With little evidence, the claim has been made that inguinal hernias frequently cause abdominal and pelvic pain in athletes. It is possible, rarely, that one may not find a hernia on physical examination. When we have seen pain was well lateral to the edge of the rectus abdominis, a number of years, we have been looking for evidence of hernias in athletes but have seen little such evidence. It is difficult believing reports to the contrary.

We have picked up a number of incidental hernias on physical examination or at the time of surgery, but they did not seem to account for the patterns of pain in athletes. In each case, the pain was medial to the hernia and associated with some degree of adductor pain in the groin.

We have also had three cases of inguinal hernia after pelvic floor repairs and may have indeed had hernias of the pelvic floor repairs. We believe that pelvic floor repairs can occasionally create a small abdominal hernia near the internal ring. In two of our cases, the pain