Looking Beyond the Soft Tissue: Illustrative Case Studies of Groin Injuries

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Groin injuries are a common problem for athletes who participate in physically rigorous sports (Renstrom, 1992; Renstrom & Peterson, 1980). It is difficult to document from the literature the incidence of injury to a specific groin area. Limited investigations have focused on diverse sports, differed in definition of the injury, varied according to age of the players, and grouped statistics according to broad anatomical regions (Estwanik, Sloane, & Rosenberg, 1990). Most groin injuries are acute episodes but often become among the most recurrent and refractory problems in sports medicine (Lacroix, Kinnear, Mulder, & Brown, 1998; Muckle, 1982). The intractable nature of groin pain has contributed to a steady increase of athlete referrals to sports medicine clinics (McMaster, Wilson, McKenzie, & MacLeod, 1995).

Groin injuries can present a frustrating dilemma for certified athletic trainers and certified athletic therapists, whose treatment regimen conventionally includes rest, ice, heat, electric modalities, limited weight bearing, supportive wraps, progressive stretching, and strengthening exercises. This regimen usually leads to a gradual return to full sport participation. Nevertheless, it is not unusual, because of the recurrent nature of the problem, that return to physical activity causes recurrence of groin pain or further injury (Estwanik et al., 1990; Karlsson, Sward, Kalebo, & Thomee, 1994; McMaster et al., 1995). Recovery time from groin injuries has been shown to be prolonged, with approximately 50% of athletes experiencing pain and discomfort more than 20 weeks after injury (Renstrom & Peterson, 1980). Moreover, it has been suggested that the amount of time lost from athletic participation by players with groin injuries is disproportionately high compared with most other sports injuries (Muckle, 1982).

In this article we demonstrate the effective use of the manual-medicine technique of muscle energy (Goodridge, 1997; Greenman, 1996) as a treatment option for structurally based groin injuries. Through acute and chronic case studies, a treatment approach is illustrated in which athletic trainers evaluate and treat acute groin injuries and refer the more intractable cases to an osteopathic physician. In the preceding article, we presented brief descriptions of somatic dysfunction found in groin pain and structural evaluation and muscle-energy treatment of the most common pelvic structural dysfunction found in athletes. We have found that muscle-energy

Key Points

- Groin injuries are among the most recurrent and refractory problems in sports medicine.
- The manual-medicine technique of muscle energy is an effective method of treating structurally based groin pain.
- Muscle-energy treatment of structurally based groin injuries expedites pain relief and facilitates a more timely return of athletes to practice and competition compared with more conventional treatments.
- Athletic trainers and therapists can conduct an initial evaluation of the groin injury and involve osteopathic physicians skilled in manual medicine to treat more intractable groin injuries.
- Key Words: groin injury, somatic dysfunction, sacroiliac joint

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treatment of structurally based groin injuries expedites pain relief and facilitates a more timely return of athletes to practice and competition compared with conventional treatments.

The following cases illustrate an evaluation/treatment approach in which athletic trainers conduct an initial evaluation of the groin injury and involve osteopathic physicians skilled in manual medicine to treat the more intractable groin injuries. Despite the referral to an osteopathic physician depicted in two of the cases, certified athletic trainers on our staff routinely evaluate and treat the vast majority of structurally based groin injuries. Each athlete described in the cases signed a consent form, and the university’s human subjects review board approved this project.

Acute Injury

Case I: Male Ice Hockey Player Treated by Certified Athletic Trainer

A 20-year-old National Collegiate Athletic Association (NCAA) Division I collegiate men’s ice hockey player reported to the certified athletic trainer stating that he had “pulled his groin.” He complained that he could not take a full stride without pain and that he did not have any power when he “pushed off.” Evaluation by the athletic trainer revealed slight pain over the adductor longus tendon on palpation, with full range of motion and 5/5 strength on adduction, abduction, and hip flexion. A structural evaluation revealed a positive standing flexion test on the right side, right anterior innominate on the sacrum, and inferior pubes on the right. The athletic trainer performed muscle-energy techniques, and cold packs were applied to the groin area. The following day, the player reported to the athletic training room and stated that he was much improved. He participated in full practice drills and said after practice that he could take a full stride and push off with no pain. This athlete participated asymptotically in the game the next evening and throughout the hockey season.

Case II: Male Football Player Treated by Certified Athletic Trainer

A 21-year-old football player reported to the athletic training room complaining of left groin pain. He stated that he had pain starting during practice 1 week earlier and had not improved. He had difficulty with side-to-side movements and running with a full stride. On evaluation by the athletic trainer, tenderness was found over the adductor longus tendon, with pain on active adduction. He had full hip range of motion and 5/5 strength. On structural exam, a standing flexion test on the left side was positive, with a left posterior innominate and left superior pubis. The athletic trainer performed muscle-energy manipulation, and advised the athlete to practice as tolerated. After practice the athlete stated that he could “run better” and felt “unrestricted” in the groin area. He was treated with cold packs and told to report to the athletic training room the next day. On examination the next day he was treated with muscle energy for a left posterior innominate. The athlete participated in practice and reported to the athletic trainer that the pain had subsided and he could run without any problems.

Chronic Injury

Case III: Male National Hockey League Player Referred to Osteopathic Physician

A 26-year-old National Hockey League (NHL) player and former collegiate All-American reported that he had not skated in 8 weeks because of pain in his groin area. This pain started in late January, when he slid into the boards at a high rate of speed, hitting his hip and pelvis. Treatments consisted of standard therapy modalities, rehabilitation, and NSAIDs on a daily basis. X rays, MRI, CT scan, and hernia exams were performed, and all diagnostic tests were negative. At the completion of the hockey season, this athlete reported to the university’s athletic training room. A certified athletic trainer took a complete history and conducted an evaluation. During the history, the athlete reported that he had pain in his groin and low back when he got out of bed in the morning and pain on trunk flexion and that sneezing bothered him. He had sacroiliac joint pain for 6 months and could not drive a car for more than 20 min because of discomfort in his low back.

This athlete was referred to an osteopathic physician skilled in manual-medicine therapy. A health history and soft-tissue, neurological, structural, and hernia exams were performed. The hernia exam was negative, and neurological findings were normal.