

**Case report**

**Patellofemoral Pain: A Not So Trivial Knee Injury (A Case Report)**

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**Abstract**

Knee injuries are very common in sports, ranging from trivial knee strains to severe ligament, tendon and/or meniscus tear, knee joint fracture or dislocations. The treatment ranges from the basic rest, ice, compression and elevation (RICE) approach to oral medications and/or surgery. It usually entails some form of physiotherapy especially during the post injury period and with functional loss of motion or stiffness. For the professional sportsman, rehabilitation tends to be more intensive due to pressure to return to the sport as soon as possible. This case report will look at a-not-so-trivial knee injury diagnosed as patellofemoral pain syndrome (PFPS) in a 28 year old recreational athlete

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**Introduction**

Knee injuries are common injuries in sports, said to be caused by knee loading activities during sport.<sup>1,2</sup> Anterior knee pain in athletes may be caused by conditions such as patellofemoral pain syndrome (PFPS), Sinding-Larsen-Johansson disease, Osgood-Schlatter disease and plica syndrome. These conditions may be associated with structural damages which include chondral and osteochondral damage, osteoarthritis (OA), overuse injuries of the extensor apparatus (tendonitis and insertional tendinosis), and patellar instability.<sup>3</sup>

As a joint is principally involved in gait, any impairment of its function will have some telling effect on activities of daily living as pain in general may cause activity limitation. In fact, a number of recreational athletes quit their sport due to the pain.<sup>3</sup>

For an active sportsman, injury trends are influenced by a variety of factors, including increased time spent in competitive sports, changes in national body rules and policies and also increased role of sports medicine.<sup>4</sup>

It is said, rather surprisingly that injuries may be

more frequently encountered during off season period, due to possibility of the athlete having poor physical conditioning pre-season, thereby susceptible to injuries due to high pressure and load training activities designed to prepare the athletes for competitions and sport seasons.<sup>4</sup>

This lead us into this case of an athlete with a rather trivial injury which caused recurrent symptoms over a period of more than one year before proper recovery took place.

**Case Summary**

A 28 year-old man previously well, complained of pain over his left knee after a volleyball game. He recalled that he twisted his knee while attempting to return the ball during the match. He had twisted his left knee just two minutes after starting the game but managed to play till end of the game 45 minutes later. There was no swelling or any limping.

On examination of the left knee, the inflammation was localized over the medial joint line region with no obvious bruises or effusion. The range of motion was normal with maximal pain felt on full extension. The cruciate and the collateral ligaments were taut, and the Mc Murray test was negative.

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Gait was also normal with corresponding normal findings over the ankle and hip joints. The diagnosis of patellofemoral pain syndrome was made.

The pain persisted for the next two days and improved with prescription of regular non-steroidal anti-inflammatory drugs (NSAIDs). However, the pain was intermittent for the next year especially when climbing stairs, running and when doing fast paced sports such as Futsal. This had restricted the choice of sporting activities that the patient was able to do, along with a weight gain of 5 kg during that year. Pain during this period was treated with NSAID analgesics and a knee guard.

After one year, the recurrences happened only occasionally. There were 1-2 minor episodes of recurrences with no further recurrences in the subsequent 2 years.

### **Discussion**

PFPS is a common presentation among athletes with non-structural damage. It is a very common diagnosis in primary care.<sup>3</sup> Diagnosis is usually made clinically without any radiological investigations especially in those below 50 years old with no history of trauma, surgery or any knee joint effusion when examined.<sup>5</sup>

Treatment for this condition is of course individualised, but management is mostly illustrated by this case which are: rest from activities causing stress loading of the knee, physiotherapy, orthoses and analgesia.<sup>5</sup> Other forms of treatment that may be helpful include bracing and patellar taping. Surgical referral may be warranted if the symptom persists more than six months.<sup>5</sup>

Given that knee injuries are common during sporting activities, preventive steps are important to prevent its occurrence<sup>6</sup>. Therefore it is very important to recognise risk factors associated with knee injuries.<sup>6</sup> This can be divided into intrinsic and extrinsic factors.<sup>7</sup> Intrinsic factors are usually player related such as physical conditioning, insufficient warm-ups, older age, higher body mass index and episodes of instability and extrinsic factors are environmental related factors such as adverse weather, pitch or track condition and unfavourable mechanism of injury.<sup>8</sup>

A unique training programme employed for athletes named neuromuscular training programme has been associated with less risk of ankle and knee injuries.<sup>1</sup> It consists of 2 components; intervention which focuses on trunk and lower limbs exercises and exercises that consists of elastic band-controlled resistance running.<sup>1</sup> This may be useful in addition to the core RICE methods ± analgesics and surgeries in severe cases.

Encouraging a healthy lifestyle is one of the top priorities in prevention of cardiovascular disease, hence the awareness of the exercise in the community. Therefore, sport injuries are not only amongst sportsmen but also the community at large. To encourage this type of lifestyle, doctors, especially in the primary care setting should advise more than the traditional focus of frequency of exercise. Emphasis on prevention of injuries that are common such as knee injury and what can be done when an injury occurs should be also be a priority depending on the level of athletic involvement of the patient. This case presented in a primary care setting of someone who was actively involved in sports even in his late twenties, continuing during his school years. In this case, he was compliant to treatment and was able to resume his active lifestyle. However, the situation would have been changed, as it is not common for athletes to quit sports altogether due to injury leading to a more sedentary lifestyle.

### **Conclusion**

Knee strains are a common sport injury that may impede activities of daily living and run a chronic course. Aggressive initial management may reduce the severity and length of the initial injury to enable normal gait and result in less risk of disabling pain.

Therefore, any sports injuries involving the knee should be treated with initial RICE therapy after ruling out more severe injury such as ligament, tendon or meniscus, dislocation or patella fracture. Physiotherapy including neuromuscular training program may help before the actual competition starts to prevent injuries as well regular checks and treatment of minor injuries. These type of treatment are readily available in the primary care setting, and if treated early and properly will prevent serious complication to the patient. Therefore it is imperative, this be done at the primary point of contact and should be referred should the need arise.

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### **Conflict of Interest**

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### **Authors Contributions**

Conception and design: NKD, AAR

Critical revision of the article for important

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### **References**

1. Foss KD, Thomas S, Khoury JC, Myer GD, Hewett TE. A school-based neuromuscular training program and sport-related injury incidence: a prospective randomized controlled clinical trial. *Journal of athletic training*. 2018;53(1):20-8.
  2. Hiemstra LA, Kerslake S, Irving C. Anterior knee pain in the athlete. *Clin Sports Med*. 2014;33(3):437–59.
  3. Petersen W, Rembitzki I, Liebau C. Patellofemoral pain in athletes. *Open Access J Sport Med*. 2017; 8:143–54. Available from: <https://www.dovepress.com/patellofemoral-pain-in-athletes-peer-reviewed-article-OAJSM>
  4. Hootman JM, Dick R, Agel J. Epidemiology of collegiate injuries for 15 sports: summary and recommendations for injury prevention initiatives. *Journal of athletic training*. 2007;42(2):311-9.
  5. Dixit S, DiFiori JP, Burton M, Mines B. Management of patellofemoral pain syndrome. *Am Fam Physician*. 2007;75(2):194–202.
  6. Häggglund M, Waldén M. Risk factors for acute knee injury in female youth football. *Knee surgery, sports traumatology, arthroscopy*. 2016;24(3):737-46.
  7. Bahr R, Holme I. Risk factors for sports injuries—A methodological approach. *Br J Sports Med* 2003; 37:384–92.
  8. Salem HS, Shi WJ, Tucker BS, Dodson CC, Ciccotti MG, Freedman KB, Cohen SB. Contact versus noncontact anterior cruciate ligament injuries: is mechanism of injury predictive of concomitant knee pathology? *Arthroscopy* 2018;34(1):200-4.
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