Lateral Hip Pain

Trochanteric Bursitis or Gluteal Muscle Tendinopathy

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Pain localised around the lateral hip is often diagnosed as trochanteric bursitis, despite bursal inflammation being absent. Many times gluteus medius and minimus muscle dysfunction and tendinopathy are the primary pathology involved in lateral hip pain. For long term relief of lateral hip pain, rehabilitative exercises and biomechanical correction are essential to resolve contributing poor postural habits and aberrant muscle recruitment patterns.

Lateral hip pain has been referred to as trochanteric bursitis for many years. More recent labels have included gluteal tendinopathy, trochanteric pain syndrome, trochanteric tendobursitis and greater trochanter pain syndrome. Work done by physiotherapists, including Dr Alison Grimaldi, is shedding new light on lateral hip pain.

Trochanteric bursitis, gluteal tendinopathy and degenerative spinal disease can coexist, however involvement of the bursa is often a secondary finding to the primary pathology of gluteal tendinopathy. Gluteus medius tendinopathy was found to be present in 20-30% of patients with low back pain, whilst degenerative chairs of the gluteus medius or minimus tendons were demonstrated in 20% of patients with osteoarthritis of the hip. The incidence of gluteal tendinopathy and gluteal muscle dysfunction that has not yet progressed to a tear is likely to be higher.

Apart from actual bursal inflammation and gluteal tendinopathy, lateral hip pain may result from gluteus medius and minimus muscle dysfunction, iliotibial band syndrome, meralgia paresthetica, osteoarthritis and lumbar spine disorders. Specific etiologies include acute trauma, crystal deposition and infection.

Prevalence

Lateral hip pain is common and often chronic. The diagnosis is frequently overlooked with case of lateral hip pain being mistaken for lumbar pathology due to its similar referral pattern.

The comparatively broader hips and narrower stance of women contribute to its prevalence…

Lateral hip pain is four times more common in females and has a higher prevalence post-menopause due to decreased oestrogen levels causing reduced muscle tone. The comparatively broader hips and narrower stance of women contribute to its prevalence within this group

There is a higher reported incidence of lateral hip pain in people with leg length

discrepancies, low back pain and knee pain. It is also common in runners and users of step trainers, and can occur bilaterally.

Symptoms and Signs

Pain originating from the hip and surrounding structures may extend to many regions including the low back, hip, groin, thigh, leg and foot. Pain can be present with prolonged standing, getting up from sitting, walking or stair climbing, as well as first thing in the morning. Night pain can be due to lying on the affected side compressing the region or lying on the unaffected side causing a prolonged stretch of the superficial muscles, compressing the structures, as the hip falls into adduction.

The physical signs of lateral hip pain often include tenderness on palpation over the greater trochanter, and the gluteus medius and minimus tendons and muscle bellies. These muscles are correspondingly weak. There may be observable changes in gait such as Trendelenberg compensations. Range of movement at the hip may be limited by pain into flexion and into combined movements such as FABERs (Flexion, Abduction and External Rotation).

Imaging

MRI and ultrasound scans are poor predictors of trochanteric bursitis, however they can show gluteal muscle tendinopathy. They can also evaluate for the presence of osteoarthritis or other abnormalities. Scintigraphy can provide sensitive and specific diagnoses of gluteus medius tendinopathy and trochanteric bursitis.

Causes

The underlying cause of lateral hip pain is poor body alignment. Functioning in too much hip abduction or too much hip adduction places biomechanical stress on the structures around the joint.

Compression is the key factor to lateral hip pain. The gluteus medius and minimus tendons insert on the lateral surface of the greater trochanter. Several bursae are located between the greater trochanter and the tendons, including the deep and superficial trochanteric bursa, and the gluteus medius bursa. Overlying the deep structures is the iliotibial band (ITB) orginating from the tensor fascia lata and travelling to the knee. Compression of all of the structures beneath occurs when there is tension produced in the ITB.

Chronic over-compression of the underlying structures can be caused by functional hip abduction or functional hip adduction.

Functional abduction involves habitually operating in a relatively more abducted hip position. For example males are more prone to standing and sitting with their legs wider than their hip width. Subsequently the superficial muscles, such as gluteus maximus, tensor fascia lata and vastus lateralis, are in a position where they are more likely to contract. Over time, the extended use and positioning of theses muscles into abduction causes them to shorten. These superficial muscles feed into the ITB and contribute to increased tension. When the hip is brought into adduction for dynamic function, the increased tightness in the ITB augments the compressive loading. Increased ITB tension create friction trauma to the gluteus medius and minimus tendons adding to the dysfunction of these muscles and eventual degenerative changes, such as tendinopathy.

More commonly, the frequency and degree of *functional adduction* (bringing the leg towards or across the midline) contributes to lateral hip pain. Postural habits of standing with the weight unevenly distributed on the feet and the hip thrust laterally or sitting with legs crossed are examples of functional hip adduction. In neutral hip adduction/abduction the ITB exerts 4N of pressure on the greater trochanter. As the hip is taken into more adduction range, the ITB is increasingly tensioned, thereby compressing the underlying tendons and bursa. In ten degrees hip adduction the compressive pressure increases nine-fold. Again frictional trauma to the underlying structures occurs.

Prolonged positioning of a muscle in a lengthened position produces structural change. The optimal position of function shifts to the new lengthened range and the muscle recruitment around the hip becomes altered. The deep stabilising muscles become less utilised and increased recruitment of the superficial muscles occurs. The compressive loading on the tendons and bursa, over time leads to degeneration of these structures and pain.

In ten degrees hip adduction the compressive pressure increases nine-fold.

The Trendelenberg sign demonstrates this process. Clinically, the hip on the weight bearing leg drops into adduction as the gluteus medius and minimus muscle not longer function in the optimal range as their recruitment becomes delayed and muscles become weaker.

Short Term Management

Anti-inflammatory medication and corticosteroid injections are common in treating lateral hip pain. Medications can be beneficial by providing short term pain relief, however masking the pain does not address the underlying problem. Whilst the pathological source of the pain may be identified, if the cause remains, then there is a high chance of persistent or recurring pain. Short term methods to decrease symptoms include education about the condition for effective tendon decompression strategies. The first step must be minimising the frequency and degree of functional adduction or abduction by monitoring the person's static and dynamic postures. The person must avoid habitual aggravating postures such as standing with the hip thrust laterally, sitting with the legs crossed or sitting in hip adduction and internal rotation (knees together, feet apart). At night-time, sleeping with a pillow between the legs will reduce prolonged adduction of the uppermost hip, whilst adding an overlay mattress will reduce the compression of the lowermost hip.

Physiotherapy treatment can reduce pain in the short term by using physical modalities such as deep tissue massage, Myofascial release or acupuncture to reduce tension in the ITB and the superficial muscles. Stretching may be introduced, however as stretching may increase compression, it needs to be performed in a coordinated, mindful and pain free way.

Long Term Management

Long term management involves improving the natural posture of the hip joint via exercise rehabilitation and correction of biomechanical problems. Greater awareness of posture and movement of the spine and hip joints will facilitate recruitment of the deeper, stabilising muscles, thereby reducing

the activity of the superficial muscles and their compressive affects.

Dysfunction of the gluteus medius and minimus muscles can also be targeted with specific exercises. Preferentially activating the deeper muscles from stationary through to dynamic movement will ensure the patient is able to maintain the hip in a neutral position.

Conclusion

Exercise rehabilitation and biomechanical correction are vital for successful management of lateral hip pain. The reduction of compressive loading, thereby reducing the irritation of the gluteal tendons and bursa, will allow full healing to occur.

Realistic time frames for tendon healing can be roughly three months, however improvements in pain should occur once the biomechanical corrections and strengthening program have commenced.

Correcting the dynamic forces operating at the hip and decreasing postural compressive loading on the gluteal tendons and secondary loading on the bursa, reinforced by a progressive specific functional exercise rehabilitation program is the key to successful managing lateral hip pain.

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