INTERMEDIATE EXERCISES FOR THE GLUTEALS (LOW TENSOR FASCIA LATAE)
PRACTITIONER NOTES

What to prescribe them for

- Overactive tensor fascia latae

Excessive activation of the tensor fascia latae during exercises may be detrimental in patients with excessive hip internal rotation.[1] The tensor fascia latae is both a hip abductor and internal rotator. It can also exert a lateral force on the patella through its connections with the iliotibial band.[4-6] A small study found that "patients with abductor tendon tears showed hypertrophy of the tensor fascia latae muscle when compared to the contralateral healthy side and to patients without a tear."[7]

- Hip pain

Tears of the gluteus medius and minimis have been associated with hip pain[8] although evidence relating to hip abduction exercises and hip pain reduction are lacking.

- Degenerative hip joint pathology

Atrophy of the gluteus maximus relative to the tensor fascia latae has been observed in patients with advanced degenerative hip joint pathology.[1,9] These patients also demonstrate increased gluteus medius activation during stepping activities which is considered a compensation for weakness.[10] Interestingly, in the early stages of hip joint pathology hypertrophy of the hip abductor muscles may be present and this should be considered when prescribing gluteal exercises.[11]

- Lower back pain

Gluteus medius weakness and gluteal muscle tenderness are common symptoms in people with chronic non-specific lower back pain.[12-14] There is some association between gluteus medius and maximus weakness and lower back pain.[15-19] While limited information regarding the effectiveness of hip strengthening exercises for lower back pain exists there is some indication they may be beneficial.[20]

- Sacroiliac joint pain

Shear in the sacroiliac joint according to one model is prevented by two factors:

1. Form closure – joint anatomical features that increase the friction coefficient[21-23]

2. Force closure - Tension of muscles and ligaments crossing the joint that lead to higher friction and therefore stiffness[22,24]

Muscles that could increase force closure include gluteus maximus and biceps femoris[25-27] (due to their attachments to the sacrotuberous ligament), latissimus dorsi[28] (due to its partial coupling with gluteus maximus by the posterior layer of the thoracolumbar fascia, creating a compressive force acting perpendicular to the sacroiliac joint) and the erector spinae[29] (which are closely linked to the sacrum and posterior superficial sacroiliac ligaments).

The erector spinae, biceps femoris and gluteus maximus muscles have been shown to have a significant effect on sacroiliac joint stiffness.[22] Both the sacroiliac ligament[30-33] and the long dorsal sacroiliac joint[34-38] can be significant pain generators in those with pelvic girdle pain. Patients with sacroiliac joint pain have been shown to display a delayed onset of gluteus maximus on the stance leg during standing hip flexion compared with healthy subjects.[39] Due to a lack of investigation it is unclear if exercises for the gluteals improve sacroiliac joint pain.

- Groin pain

Athletes with groin pain are more likely to display enlarged tensor fascia latae on sonography.[2]

- Patellofemoral pain syndrome

Patellofemoral pain syndrome has been associated with weak hip abduction and external rotation,[40-42] excessive internal rotation of the hip and lateral patella displacement[43-45] while general knee pathology has been associated with hip dysfunction that has ensued from gluteal weakness.[46] Alignment of the thigh and leg in the frontal plane can be heavily influenced by hip-abductor muscle weakness particularly during daily activities such as climbing/descending stairs, sitting or squatting.[47] Hip abduction strength exercises have demonstrated favourable outcomes for patellofemoral pain syndrome.[48-52]

- Anterior cruciate ligament injury prevention

Increased attention has been given to neuromuscular exercise focused at the hip for anterior cruciate ligament ruptures.[43,53] Poor hip strength and neuromuscular control has been associated with dynamic lower extremity valgus.[54,55] In female athletes, future anterior cruciate ligament injury risk is significantly correlated with high knee abduction moments.[54,56] This is reflected in the higher incidence of both anterior cruciate ligament ruptures in females who tend towards greater valgus alignment during landing and pivoting compared with men.[57-69]

- Iliotibial band syndrome

Iliotibial band syndrome has been associated with greater hip adduction and knee internal rotation[70-72] as well as hip abductor weakness.[73] Hip abduction strength exercises have been recommended for these patients.[74,75]

- Chronic ankle instability

Those with chronic ankle instability show a decreased onset latency of gluteus medius.[76] It is thought that weak hip abduction may limit the amount of time available to initiate the hip strategy required to counteract a sudden lateral external perturbation.[77]

- Improving athletic performance
- Lower limb injury prevention

Both the gluteus medius and maximus assist in load transference through the hip joint[78] providing local structural stability and contributing to alignment of the knee and hip joints.[79] The gluteal muscles can enhance athletic performance[40,80,81] and contribute to the prevention or rehabilitation of lower extremity injuries.[82-86]