



# How to use your golf muscles

Important muscles used in the golf swing and the part of your game they are assisting.

**A**s I mentioned last month, many golfers are unaware of the muscle groups they should be training to enhance golf performance. The great majority uses the wrong muscle groups and poor technique within the gym environment. These faults cause injury and can also affect performance and impair good swing biomechanics.

A common mistake I see in many amateur players is that they rely too heavily on the large front upper body muscles in the swing. That is, they tend to have too much arms and upper body movement – as such, they under-utilise their core and lower body muscles that are great power sources. In addition, they make compensations with the smaller levers, such as the hands and wrists. So in this column, I've highlighted the principal muscles used in the golf swing.

I must stress, however, that you should only commence a strength and conditioning program once you have been "screened" by a physiotherapist. A muscular and postural profile is necessary to ensure that you're able to maintain good posture and muscle balance, which is fundamental to the sequencing of an efficient golf swing.

With the information gathered from these tests, a golf-specific program can be constructed that will lead to a reduction in injuries, strength building (where required) and which will ultimately improve your game and swing as a whole.

## Principal Upper Body Muscles Used in Golf

The majority of muscles that work around the neck, shoulder girdle and shoulder region support the underlying joints and structures. They are intrinsically important for producing good upper body power and timing.

### Deep neck stabilisers, serratus anterior and lower trapezius

These muscles are situated between and around the shoulder blades and rib cage. The



Finely tuned triceps and shoulder muscles are critical in golf "feels".

muscles are very important for "feel" at initial takeaway and are instrumental in stabilising the upper body in the golf swing.

### Shoulder stabilisers – triceps and rotator cuff muscle group

The triceps are attached at the back of the shoulder and connect to the back of the elbow. They maintain good upper body posture and shoulder position for a golfer throughout the swing. A loss of balance with the biceps can often affect shoulder and arm

positions in the swing. The triceps is a major muscle for golf "feels".

### Wrist stabilisers - extensor and flexor muscles

The extensor and flexor muscle groups attach at the elbow and are positioned on either side of the forearm. There is a balance between the flexors and extensors, which allows for a good wrist-cock and response from the wrists in the golf swing. Over tightness of these muscles can lead to golfers' elbow and

tennis elbow, respectively. In addition, these muscles are responsible for protecting the wrist and hand at impact, especially when playing out of thick rough.

## Principal Middle Body Muscles Used in Golf

Good abdominal muscle group tone will protect the spine and promotes good coil and recoil, thus producing power in the golf swing. If you work these muscles in harmony with the lower back muscles (latissimus dorsi and the glutei muscles), you will succeed in rotating just above the pelvis and maintain good lower body stability in the swing. This will also result in more power being generated through the lumbar pelvic area.

The majority of golfers who play intensively have tight hip flexors. Prior to carrying out abdominal exercises, golfers should stretch their hip flexors to ensure these muscles are not used instead of the abdominals. These muscles also help to maintain good spinal angle throughout the golf swing. Dysfunction in this area will result in a reverse pivot and/or "crunch" factor at impact – a sheering/jamming of your back at impact.

## Transverse abdominis and multifidus

The transverse abdominis and multifidus are



Power in the golf swing often comes back to strong abdominal muscles.

the deepest layer of muscles connected to the spine. Research carried out by Jull and Richardson at the University of Queensland has shown the importance of the trunk muscles in stabilising the spine and maintaining good posture. This is very important in golf because the compression force on your spine at impact is eight times your body weight.

### Latissimus dorsi

The latissimus dorsi originates at the tip of the shoulder blades, crosses over the rib cage and spine, and attaches onto the pelvis. It stabilises the shoulder and promotes correct arm movement in the golf swing. This muscle works closely with the lower abdominals to produce smooth and efficient sequencing in the golf swing. A dysfunction of the latissimus dorsi can cause a breakdown in the rotation of the swing.

## Principal Lower Body Muscles Used in Golf

The joints involved in this segment are the hips, knees, ankles and feet. A good range of movement in these joints in conjunction with the stabilising muscles around them is important to ensure smooth and efficient sequencing in the golf swing.

### Glutei muscles

The "gluts" are a set of three muscles – gluteus maximus, gluteus medius and gluteus minimus – that attach from the pelvis to the hip (top of the thigh). They stabilise the pelvis and promote rotation with latissimus dorsi in the golf swing. If they are weak or tight, they cause hip slide in the swing. The glutei muscles need to be stretched and also strengthened to respond to the muscle imbalance caused by the tight hip flexors. It should be emphasised that gluteus medius is a major contributor to timing in the golf swing.



Strong stabilising muscles in the lower body are vital for an efficient golf swing.

## Adductor muscles and inner quadriceps muscles

The adductors attach from the front of the pelvis to the inside of the thigh and lower leg. They stabilise the legs and pelvis, allowing the production of power in the golf swing from the ground upwards. Weak adductors can lead to lateral slide – especially excessive knee slide – by a golfer.

### Peroneal muscles

The peroneal muscles are attached to the outside of the ankle and feet. They stabilise the lower legs, ankles and feet, which promotes balance in the golf swing. These muscles are important on undulating terrain and uneven lies. Dysfunction of these muscles can cause the ankle and foot to roll outwards and lead to a reverse pivot.

Ramsay McMaster is a world authority on golf-specific physiotherapy. Phone The Melbourne Golf Injury Clinic on (03) 9569 9448 for advice about a golf-specific rehabilitation and fitness program. Also, visit [golfmed.net](http://golfmed.net).

