

*"I had prepared myself for a long couple of years of medication and increasing discomfort in the knee prior to an operation. I was reliant on a buggy to play golf but after wearing AposTherapy® boots for a week, I came off medication and saw a rapid and sustained improvement in the weeks that followed. I wear the AposTherapy® boots for a couple of hours in the morning and evenings and now walk essentially without discomfort around the golf course, into town and as I go about my work. I'm just glad I didn't buy a buggy!"*

Club: Royal Burgess Golfing Society

Age: 65

Condition: Knee Osteoarthritis  
(recommended total knee replacement surgery (TKR))

**AposTherapy®**  
Be yourself again

*"I have been using AposTherapy® for over 7 months to treat an arthritic knee. My knee pain was affecting my sleep and my golf. I am now almost pain free and playing 5 rounds of 18 holes most weeks with little aggravation. I also no longer have a disturbed night's sleep."*

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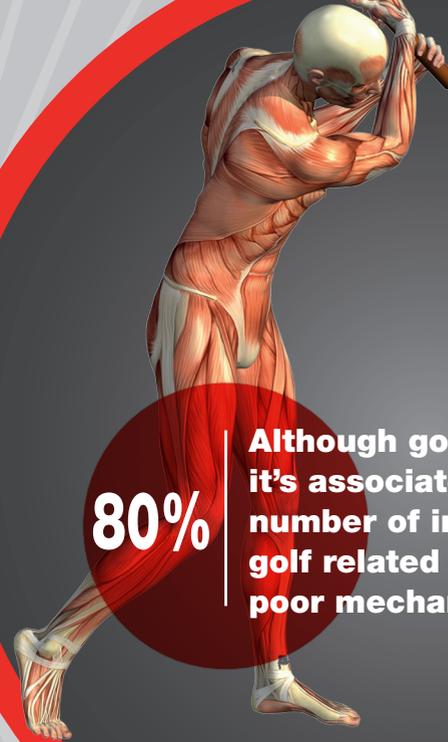
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# KNEE PAIN IN GOLFERS



80%

**Although golf is a low-impact sport, it's associated with a significant number of injuries. Over 80% of golf related injuries result from poor mechanics or overuse**

**AposTherapy®**  
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## KNEE PAIN IN GOLFERS

Knee pain is a common complaint from keen golfers, the long distances walked, often on uneven surfaces, provide quite a challenge for our muscles and joints. Bending down repeatedly to pick up a tee or ball, crouching to line up a putt and rotating the knees during the golf swing can all lead to a knee injury or exacerbate an existing problem. A lack of internal hip rotation can cause excessive extension of the knee joint during the backswing and downswing, whilst weak Gluteal muscles and dominance of Quads muscles are commonly associated with knee pain in older golfers.

The downswing phase, including the impact portion of the golf swing, causes nearly twice the number of golf injuries compared to the backswing. Both the lead and trail legs are vulnerable to injury, and transferring weight to the lead leg during the downswing actually increases the risk to the lead leg.

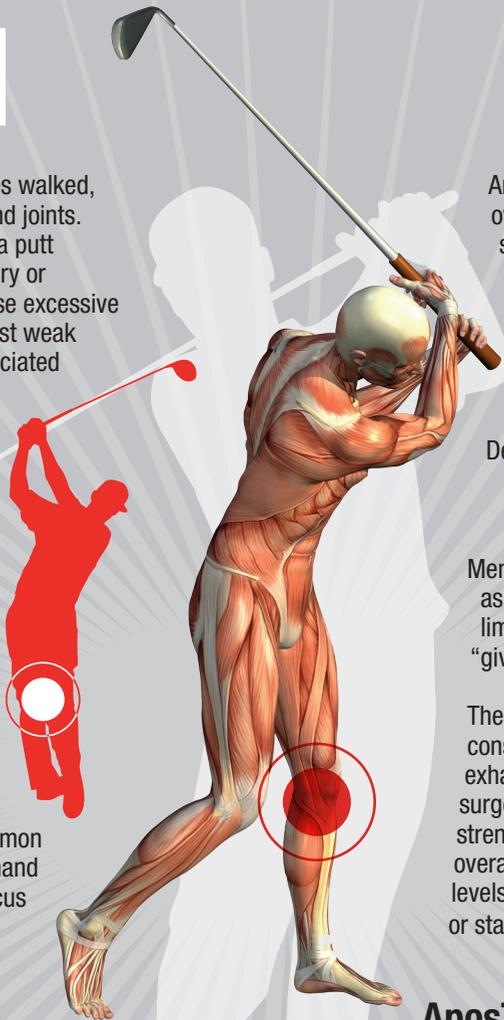
Knee pain can often increase with longer distance shots due to an increase in rotation forces around the knee.

## Knee osteoarthritis and meniscal tears

Degenerative meniscal tears and knee osteoarthritis are the most common conditions for golfers living with knee pain and they often go hand-in hand with each other. Studies show that people who have had a torn meniscus are at greater risk of premature knee osteoarthritis. So if a golfer has meniscus surgery, he or she should consider intensity of play, body mechanics and the benefit of targeted exercises prior to returning to the game to decrease the risk of early knee osteoarthritis.

Knee osteoarthritis is characterised by wear and tear in the joint. Articular cartilage is the smooth substance that lines the ends of bones, guiding movement and cushioning the joint. Arthritis causes damage to the articular cartilage, and when it is severe, people can develop painful bone-on-bone arthritis.

The knee joint of the body contains two menisci. These are crescent-shaped pads that cushion the joint against the extreme weights and pressures it must bear during movement. The menisci also help stabilise the knee during rotation and lubricate the knee joint. Meniscal damage most commonly happens during injuries where a twisting movement is made. These often occur during golf activities when the foot is held in a fixed position during a sudden deceleration and change in direction. In contrast, older individuals can develop degenerative tears in the meniscus over time with minimal, or no trauma.



## KNEE PAIN IN GOLFERS

An abrupt injury to the meniscus usually causes immediate pain and swelling over 24 hours. On the other hand, pain due to chronic damage develops slowly over time. In both scenarios patients complain that in addition to pain, they find it difficult to move the knee through its full range of motion. Often this is due to muscle bracing in response to the pain. Particularly with younger patients, the knee can actually become locked, in these cases the tear is described as looking like a “bucket handle”.

Despite being among the most common types of sports injury, the majority of times a torn meniscus will occur, is during routine activities, as a result of daily wear and tear of the knee or, becoming more prevalent as we age.

Meniscal tears carry the risk of further disease development, as well as symptoms that include significant pain, stiffness, swelling and limited range of motion. In some cases patients report a sensation of the knee “giving way”, which is due to weakness and loss of control in the muscles.

The two main treatment avenues for meniscal injury are surgery, or conservative management. In general, most well-informed clinicians try to exhaust all conservative management options for their patients before making surgery referrals. Conservative treatments for meniscal injuries focus on muscle strengthening exercises, combined with balance and coordination training. The overall therapeutic goal is to regain function, reduce pain and achieve normal levels of activity - whether a return to sporting activities, walking, climbing stairs or standing.

## AposTherapy®

AposTherapy® represents a very successful clinically proven, non-surgical approach for treating trauma-related and degenerative meniscal injuries in all age groups. Clinical experience has demonstrated that AposTherapy® can reduce pain and improve the stability, movement patterns and quality of life of patients following a meniscal injury.

AposTherapy® also overcomes the challenge of incorporating valuable therapeutic exercise into the patient's real environment, since treatment can be carried out during routine daily life. In addition, whilst there are many important treatments for meniscal injury, such as muscle training, balance work and walking exercises, AposTherapy® combines all these therapies into one approach.

