



Gilmore's Groin History, Symptoms and Pathology

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The syndrome of Gilmore's Groin (or groin disruption) was first recognised in 1980, by the London surgeon Jerry Gilmore, following the successful treatment of 3, what were then, first division footballers with apparently career ending groin injuries. All three were able to return to top flight soccer after surgical exploration and repair of the groin disruption. Over the next 29 years the Gilmore Groin and Hernia Clinic became established as the pioneering centre for treatment of such injuries. There are now two surgeons and a specialist in sports and exercise medicine, as well as specialist anaesthetists, radiologists and physiotherapists associated with the clinic.

Between 1980 and 2008 over 7000 cases were referred and 4000 operations performed. The operation is successful in 97% of professional soccer players and 85 English league clubs have referred players whilst many have come from other parts of the UK and abroad. In this period 391 international sportsmen and women were successfully treated.

Sufferers get a fairly characteristic set of symptoms including pain with running, twisting, turning and kicking. After playing sport they are stiff and sore and this is often much worse the next day. Rising from a low position (for example getting out of bed, or out of a car) and coughing and sneezing make the pain worse. Only a third of patients can remember a specific injury, usually involving overstretching.

To understand what happens in Gilmore's Groin it is helpful to understand how the muscles are arranged in the groin. The muscles of the wall of the abdomen may be pictured in 3 layers. The outer layer (the external oblique muscle) runs at about 45 degrees downwards and inwards. The middle layer (the internal oblique muscle) runs at 45 degrees upwards and inwards (at right angles to the outer layer). The inner layer (the transversus abdominus muscle) runs straight across, like a girdle. Towards the middle all these muscle fuse together into a common tendon (the conjoined tendon) and are fixed to the pelvis in the middle. They also become fused with the muscles of the leg at the top of the groin in an area where there is a strong ligament, the inguinal ligament.

In men, the external oblique muscle has an archway in it through which the blood vessels and nerves go down into the testicle, along with the vas deferens. When the groin is torn this archway opens up and becomes much wider. There are also tears in the muscle around the archway. The internal oblique muscle is pulled up and away from the pelvis and the inguinal ligament, allowing the unsupported transversus abdominus muscle to become loose and floppy. Although it is often also called a sportsman's hernia there is no hernia present. In a hernia there is a hole in the muscle wall that allows the abdominal contents (bowel, or fat) to poke through. Gilmore's groin is a complex musculoskeletal disruption, not a hernia.

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Gilmore's Groin Operation

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At operation the surgeon inspects all the muscles in the groin and repairs any muscles or tendons that are found to be torn or out of their normal position. The full repair involves of total of 6 layers, including the three main muscles. The transversus muscle is "plicated", this involves bunching it up to tighten it, the internal oblique muscle is stitched back down onto the pelvic bone and the inguinal ligament and the external oblique is repaired and the ring is tightened.

Following your operation you will have a bruise. The scar is always numb and this numbness sometimes goes down the inside of the thigh as well. There is a nerve that runs over the muscles that is usually moved during the operation. This will often cause the nerve to "shut down" for a while afterwards. This nerve sends a branch to the inside of the thigh and to the top of the scrotum, so these areas sometimes feel numb, or occasionally over sensitive. When the nerves recover you will get some odd tingling, or shooting pains. These are normal and nothing to worry about. The wound may also get swollen, and as the scar tissue forms it can become quite hard and nodular. This always settles down but it can take a few weeks. The scar itself will fade and go pale over a period of several months. Other possible complications include difficulty with passing urine. This can be due to muscle spasm in the groin preventing the bladder relaxing. This usually settles fairly quickly but a small number of people may need a catheter into the bladder and this is usually left until the following morning when it is removed. After this passing urine returns to normal.

A haematoma is a big blood clot under the skin. This is *very* rare. If it does happen it usually occurs on the same day as surgery and produces a large swelling. The treatment is usually a second operation to remove the blood clot. An equally rare complication is that of testicular atrophy. This is more likely to occur if there have been multiple operations on the groin. It seems that somehow the blood supply the testicle is affected, perhaps by scar tissue, and the testicle shrinks. Wound infection occurs in around 1% of people and is usually treated with antibiotics. A very small number of people get persistent pain, often towards the middle end of the scar.

Following surgery you will need to do some exercises to strengthen the groin again. Professional sportsmen and women will have access to a physiotherapist and can often be back to normal in less than 4 weeks. Most people follow the programme on their own, in their own time and so full recovery may be longer. If you had a bigger tear or it had been present for a longer time (more than 6 months) recovery may take longer. Also, it seems that people over the age of 40 take a little longer to recover fully. Adductor muscle weakness (this is the muscle that pulls the legs together) occurs rapidly with any lay off and so this will also need particular attention. Up to 40% of patients may actually have an adductor tear associated with their groin disruption and although most of these respond to physiotherapy, if adductor origin tenderness is marked and there is significant weakness compared with the other side, then adductor release or tenotomy may be also be required.

If you need help with the rehabilitation we can recommend physiotherapists and other consultants who specialize in sports and exercise medicine.

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