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MENISCAL REPAIR

The menisci are discs of fibrocartilage between the bones of the tibia and the femur. They are “C” shaped and act principally as shock absorbers. Their other functions are to provide stability to the knee joint, to allow force transmission and to improve lubrication of the joint.

With the knee straight, at least 50 percent of the compressive load of the knee joint is transmitted through the meniscus and with the knee bent to 90 degrees, approximately 85 percent of the load through the knee joint is transmitted through the meniscus.

When the meniscus is removed the area of contact is reduced by up to half, which significantly increases the load per unit area, resulting in damage to the joint lining cartilage and a degenerative process taking place. Removing even part of the meniscus will increase these contact pressures but may be necessary in certain situations to prevent the torn fragments from catching within the joint.

Since not all of the meniscus has a blood supply, not all of the meniscus can heal itself when damaged. Tears in the outer half of the meniscus have the potential to heal but tears on the inner half of the meniscus will never heal. While it takes ten weeks for a scar to heal within the meniscus, it takes several months for the scar to be strong enough to act as a shock absorber and joint stabiliser. Tears in the area of the best blood supply have the best prognosis for healing. These are often called red/red tears. When a tear is in the red/white zone or at the boundary between the area with and without a blood supply, it does not always heal.

Tears that are most likely to heal are caused by trauma, are within the area that has a blood supply, have caused minimal damage to the meniscus itself and are usually at least 1cm long.

Tears that are not suitable for repair include those which have moderate or severe damage to the meniscus itself and tears which run in a radial direction (see diagram).

Most patients with a repairable meniscus are under 45 years of age and up to 80 percent of these are associated with an acute or chronic tear of the anterior cruciate ligament. Regardless of the amount of pre-operative information available or number of tests done (such as an MRI), the final decision about whether or not to repair a meniscus is made at the time of arthroscopy. This requires careful evaluation with the use of a probe by the surgeon to determine the exact type, location and extent of the tear as well as the degree of damage to the meniscus.

Meniscal tears can be repaired in one of two ways. The first way is totally using arthroscopic or keyhole surgery techniques and the second involves a larger cut to gain access to the joint itself. Sometimes a combination of these two techniques is required.

The post operative rehabilitation program will depend on what other pathology is found within the knee and the location of the meniscal tear. If it is an isolated meniscal tear you will either be placed on crutches with a free range of motion of your knee but not placing the foot to the ground or, you will be placed in a splint where the knee is locked out straight but you may take your full weight through the foot.

After a period of either non weight bearing with movement or weight bearing immobilisation, you will progress to your next stage of physiotherapy. Depending on the size and location of the tear, you have approximately an 85 percent chance of having successful healing of your meniscal repair. If this is the case then you should be able to resume normal activities by six months at the latest.

If your meniscus does not heal, you may develop ongoing symptoms and require further arthroscopic surgery to remove the torn portion of the meniscus which has not healed.

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