

WSSCC MEDICAL BULLETIN – MARCH 2022

MENISCAL TEARS

Meniscal tears are some of the most common forms of knee injuries.

ANATOMY:

Three bones meet to form the knee joint: the femur, the tibia, and the patella. Two wedge-shaped pieces of fibrocartilage are between the femur and tibia – these are the menisci. The menisci help to transmit weight from one bone to another, and play an important role in knee stability.

CAUSE:

Acute Meniscus tears: Acute meniscus tears are often caused by a sudden, blunt force to the knee, as well as intense twisting, or knee hyperextension. This commonly occurs in strenuous occupations, such as construction and warehousing. The acute tear may be accompanied by a popping or tearing sensation in the knee.

Degenerative Meniscus tears: Degenerative meniscus tears are usually caused by long-term wear and tear of knees. A person's age, weight, and general health can contribute to degenerative tear. This tear is most common among workers who perform repetitive physical tasks, such as construction workers, manufacturing workers, retail workers, warehouse workers, landscape workers, and truck drivers.

DIAGNOSIS:

Symptoms:

A person may feel a “pop” when they tear the meniscus. Most people can still walk on their injured knee, but over 2 to 3 days, the knee will gradually become more stiff and swollen.

The most common symptoms of a torn meniscus are:

- Pain that lateralizes to the affected compartment, and tends not to radiate
- Stiffness and swelling
- Catching or locking of the knee
- The sensation of the knee giving away
- Inability to move the knee through its full range of motion

Physical Examination:

The extent of the meniscal tear will determine the physical examination abnormalities, which can range from normal to marked findings.

A combination of tests is best to determine meniscal tears, including:

- **McMurray's Test:** Painful, palpable click when moving knee from full flexion to 90°

- **Ege’s Test:** Audible and painful palpable click with squatting; feet turned outwards for medial meniscus, and inwards for lateral
- **Apley’s Test:** Pain on axial compression of the tibia, with external rotation while patient prone and knee flexed

Because other knee injuries can cause similar symptoms, and physical examinations can present as normal, an MRI is recommended. X-rays can also be used to rule out other diagnosis such as fracture, arthritis, or loose bodies, but they cannot be used to diagnose meniscal tears.

TREATMENTS:

Non-surgical Treatment:

Many meniscus tears will not need immediate surgery. Depending on the type of tear, there are some options for nonsurgical treatment. This may include:

- RICE: rest, ice, compression, and elevation
- Physical therapy
- Wearing a brace
- Nonsteroidal anti-inflammatory medications, such as aspirin or ibuprofen (to help decrease pain and inflammation)
- Steroid injection

Surgical Treatment:

If symptoms persist, the specialist may recommend surgery, such as:

- **Knee arthroscopy:** One of the most commonly performed procedures; the surgeon inserts a miniature camera through a small incision (portal) in the knee. This provides a clear view of the inside of the knee. They then insert surgical instruments through two or three portals to trim or repair the knee meniscus.
- **Meniscectomy:** In this procedure, the damaged meniscus tissue is trimmed away. This typically allows for immediate weight bearing and full range of motion soon after surgery.
- **Meniscus Repair:** Some tears can be repaired by stitching the torn pieces. Because the meniscus must heal together, recovery time is longer than for a meniscectomy.

Rehabilitation:

Once the initial healing is complete, the specialist will prescribe rehabilitation exercises to restore knee mobility and strength, such as exercises to improve range of motion. Often these exercises can be done at home. The physician may also prescribe physiotherapy with a Physiotherapist to further increase strength and mobility.

Rehabilitation time for a meniscus repair is about 3 to 6 months. A meniscectomy requires less healing time – approximately 3 to 6 weeks.

With proper diagnosis, treatment, and rehabilitation, patients often return to their pre-injury abilities.

Remember: WSCC is able to expedite medical referrals. Ensure that recommendations for investigations, specialist appointments, rehabilitation programs etc. are communicated in medical reports.

RETURN TO WORK

Before Surgical Treatment: Prior to surgical treatment, the knee might “give out”, and the worker may fall. The worker should therefore be restricted from working around machinery or other hazards. They should also have limitations to walking and working on uneven ground, and may require crutches or a cane temporarily while ambulating. There may be permanent limitations to squatting, kneeling, and crawling.

After Surgical Treatment: If the worker has undergone a surgical repair there will be a period of time of that the worker’s knee will have no, or reduced, weight-bearing abilities. If the worker is to return to work during this period, it must be to sedentary work tasks, where the worker is able to sit for the majority of the shift. Standing and walking will be limited.

Accommodations may be needed while sitting, such as a desk with adjustable height, and a foot rest to elevate the leg. Other accommodations that may be required include a reacher to access objects without the need to squat or bend, a flexible schedule to allow for rehabilitation appointments, alternative transportation to access the worksite, etc. Many individuals will be able to return to modified job duties within 3 weeks of meniscectomy, and within 8 weeks of meniscal repair (Baker, 2018).

The following table, adapted from ACOEM MD Guidelines, shows the expected disability duration for differing job demands:

	Job Class *	Minimum Recovery (days)	Optimum Recovery (days)	Maximum Recovery (days)
Medical Treatment: Meniscus Disorder	Sedentary	7	7	14
	Light	7	14	21
	Medium	14	28	42
	Heavy	28	35	91
	Very Heavy	28	42	91
Surgical Treatment: Arthroscopic Meniscectomy	Sedentary	3	14	28
	Light	7	14	35
	Medium	14	21	56
	Heavy	21	42	84
	Very Heavy	28	60	112
Surgical Treatment: Meniscus Repair	Sedentary	3	14	21
	Light	28	42	56
	Medium	42	56	70
	Heavy	70	84	112
	Very Heavy	84	91	140

* See the Appendix at the end of this document for specific information about job class definitions.

WSCC Assistance

The WSCC has a [Return to Work Specialist](#) that can assist in working with the employer to make appropriate work modifications.

If you have any questions about how WSCC can assist you in treating patients with workplace injuries or illnesses, or would like to discuss the above information with WSCC's Medical Unit, contact them [here](#).

REFERENCES

- American Academy of Orthopaedic Surgeons. *Meniscus Tears*. American Academy of Orthopaedic Surgeons. <https://orthoinfo.aaos.org/en/diseases--conditions/meniscus-tears/> Retrieved February, 2022.
- American College of Occupation Environmental Medicine (2021). *Meniscus Disorders, Knee . MD Guidelines*. Retrieved February 2022.
- Bhagia, SM., Baker, B.S., Weinik, M., Xing, S.Y., B.T. Wolf, and J.H. Lubowitz. "Meniscal Injury." *eMedicine*. Eds. C.C. Young, et al. 12 Oct. 2018. Medscape. Nov. 2021. <https://emedicine.medscape.com/article/90661-overview> Retrieved February 2022.

APPENDIX

Job class definitions, as defined by ACEOM, MD Guidelines:

- **Sedentary Work:** Exerting up to 10 pounds (4.5 kg) of force occasionally and/or a negligible amount of force frequently or constantly to lift, carry, push, pull, or otherwise move objects, including the human body. Sedentary work involves sitting most of the time, but may involve walking or standing for brief periods of time. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.
- **Light Work:** Exerting up to 20 pounds (9.1 kg) of force occasionally and/or up to 10 pounds (4.5 kg) of force frequently, and/or negligible amount of force constantly to move objects. Physical demand requirements are in excess of those for Sedentary Work. Light Work usually requires walking or standing to a significant degree. However, if the use of the arm and/or leg controls requires exertion of forces greater than that for Sedentary Work and the worker sits most the time, the job is rated Light Work.
- **Medium Work:** Exerting up to 50 (22.7 kg) pounds of force occasionally, and/or up to 25 pounds (11.3 kg) of force frequently, and/or up to 10 pounds (4.5 kg) of forces constantly to move objects.
- **Heavy Work:** Exerting up to 100 pounds (45.4 kg) of force occasionally, and/or up to 50 pounds (22.7 kg) of force frequently, and/or in excess of 20 pounds (9.1 kg) of force constantly to move objects.
- **Very Heavy Work:** Exerting in excess of 100 pounds (45.4 kg) of force occasionally, and/or in excess of 50 pounds (22.7 kg) of force frequently, and/or in excess of 20 pounds (9.1 kg) of force constantly to move objects.