FACT SHEET

Sprain and Strains: Knee

What Else is it Called?
Knee Sprain, ACL tear ,PCL tear or ligament tear

What is it?
- The knee is supported by a system of ligaments, two menisci (cartilages), muscles and the bone geometry.
- When an injury occurs to the ligaments of the knee, it is described as a sprain.
- Sprains can occur in any or all the knee ligaments the anterior and posterior cruciate (ACL, PCL), the medial and lateral collateral (MCL, LCL).
- The degree of sprain is based on the amount of fibers torn and is judged by the amount of looseness or laxity of the knee. Sprains are denoted as first, second or third degree. Common terminology is mild, moderate or severe.
- Sprains may involve isolated ligaments or a combination of ligaments, depending on the force applied to the knee. An example is the "terrible triad" that is a rotational injury to the ACL, MCL and medial meniscus.
- Strains of the many muscle tendon groups around the knee are evaluated by pain and loss of function and the impact on knee stability. They are also noted to be first, second or third degree strains.

How Is It Diagnosed?
History:
- Individuals will most often relate a traumatic event.
- Individuals may report the onset of pain and swelling, which is important to note as immediate swelling is most often associated with acute ligament tears.
- Questions should also be directed to sounds and sensations experienced by the individual.
- The mechanism of injury will provide valuable clues to the direction of impact and force to the knee.
  - History of prior injury and treatment is important.

What is the Expected Return to Work Time?

Medial or Collateral Ligament. Non-operative treatment.	**Cruciate Ligament.** Non-operative treatment	**Surgical Treatment.** Repair may not be compatible with heavy work
Job Classification RTW Min - Max	**Job Classification RTW Min - Max**	**Job Classification RTW Min - Max**
Sedentary Work………0 days – 14 days (Calendar Days)	Sedentary Work………0 days – 14 days (Calendar Days)	Sedentary Work………7 days – 32 days (Calendar Days)
Light Work……………0 days – 14 days	Light Work…………….0 days – 14 days	Light Work……………7 days – 50 days
Medium Work…………7 days - 14 days	Medium Work………..0 days - 28 days	Medium Work……….35 days - 180 days
Heavy Work………….14 days - 42 days	Heavy Work……………0 days - 42 days	Heavy Work…………35 days - 180 days
Very Heavy Work…….14 days – 42 days	Very Heavy Work…….. 0 days - 42 days	Very Heavy Work….. 35 days - 180 days

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Physical Exam:

- Systematic examination of the knee includes the entire lower extremity, including ambulation.
- There are several specific manual tests for knee stability, evaluating medial and lateral, anterior-posterior and rotational laxity. Pain over ligament and tendon insertions may be palpated, as can effusions and joint line tenderness (associated meniscus injury would be likely). Muscle strength and bulk are measured. Agility is sometimes tested.
- Tests such as Lachman, anterior drawer or pivot shift may help.
- A neurovascular examination is done to rule out other causes of pain suspected to be a strain.

Tests:

- Knee x-rays rule out fractures, dislocations, patella-femoral abnormalities and loose bodies, if indicated clinically,eg,Ottawa knee rules.
- Stress x-rays may be done.
- MRI scans may be ordered to examine the ligaments and articular surfaces. There can be both false-positive and false-negatives with MRI scans based on technique and interpretation.
- Joint aspiration (draining the knee) is performed to decrease pain and evaluate the fluid. Blood in the aspirant indicates torn tissue; fat indicates a bone injury. Diagnostic arthroscopy may be necessary to confirm the diagnosis.

How is it Treated?

RICE

- Mild sprains and strains are treated conservatively with rest form the offending activity, including rotational or loading work to the knee.
- Ice, anti-flammatory medications, light knee wraps and muscle strengthening exercise are included in the treatment.
- Moderate sprains or strains are often treated with braces that restrict but do not eliminate knee motion. It is critical to regain complete extension and flexion of the knee after injury while restricting rotation.
- Physical therapy modalities to decrease inflammation, strengthen muscles, restore balance and agility are an integral part of the treatment.
- Severe (third-degree) sprains often require surgical intervention for repair or reconstruction of the torn tissue. The decision to repair or reconstruct a ligament is based on the amount of instability, the likelihood of increased injury without repair, the number of ligaments injured and any associated injuries.
- Ligament tissue does not heal because of poor blood supply, it can however reattach to bone. This affects the decision to repair or reconstruct torn ligaments.
- Severe strains resulting in torn tendons require surgical repair with few exceptions. The decision is based on loss of function.

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YUKON WORKERS' COMPENSATION HEALTH AND SAFETY BOARD

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What is the Predicted Outcome?

- Injuries to the collateral ligaments heal well if the injury is isolated.
- When associated with other ligament or meniscus damage, third-degree sprains will often require surgery but will heal well.
- The anterior cruciate ligament more often requires surgical intervention, and recovery can be expected with extensive rehabilitation.
- Posterior cruciate ligament injuries in middle-aged or older adults are often not treated surgically unless gross instability is noted or there are associated injuries.
- Ligament injuries associated with meniscal damage increase the likelihood of surgery.
- Braces are used for both injuries, sometimes only in the early stages of recovery or for several months after surgery. Performance brace may also be required for any rotational activity, such as Generation II.
- Recovery from mild to moderate strains can be expected with, perhaps, extensive physical therapy and alteration in activity.
- Severe or third-degree strains have longer recovery periods because of the surgical intervention that may be required. Third-degree sprains and strains will require several months for full recovery. Return to limited activity may be expected early in treatment with an interruption for surgery and eventual return to full activity.

What are the Work Restrictions and Accommodations?

- Limited to no use of knee for walking, climbing, squatting, or kneeling during early treatment stages will be necessary.
- May necessitate the use of braces, crutches, canes or wheelchairs.
- Individuals will need frequent rest periods to allow for evaluation of the lower extremity.
- Following surgery, limited use of the knee in standing, walking or climbing would be expected.
- During the recovery phase after surgery, extensive physical therapy will be needed.
- No squatting, crawling or kneeling for several months as well as use of a protective brace may be necessary.
- Avoidance of 'at risk' activities would include jumping, twisting, lifting, pushing or lunging.

What are the Common Prescriptions?

- Anti-inflammatories
- Analgesics
- Possibly narcotics in the 1st few days of severe strain/sprain or in the 1st week after surgical procedure.

A safe and timely return to work benefits the patient and his or her family by enhancing recovery and reducing disability."
Canadian Medical Association