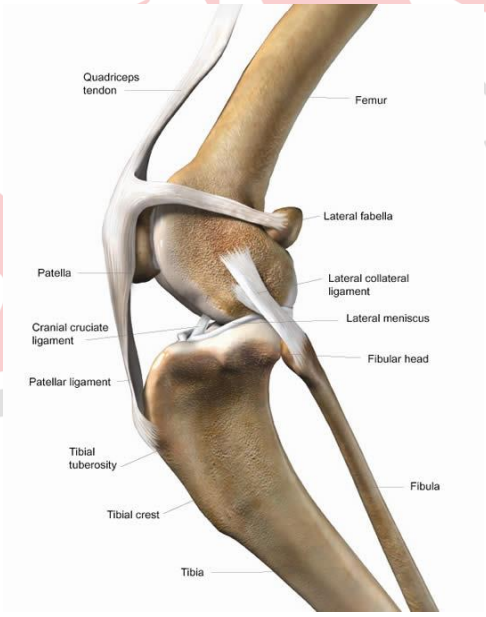
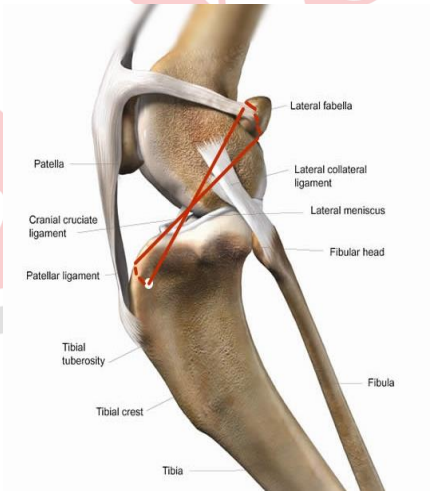
ACL Tear, Cranial Cruciate Ligament Rupture	Cruciate surgery is performed to repair a torn cranial cruciate ligament (CCL) in the stifle (knee), which is same as the anterior cranial cruciate ligament (ACL) in humans. CCL surgery is the most common orthopedic surgery performed in dogs and is said to make up 85% of all dog orthopedic surgeries performed every year. Given that this is such a common injury, several procedures have been developed over the years to repair the ligament. Each technique comes with its advantages and disadvantages, so it is important to discuss the options with your veterinarian to decide which procedure is best for your dog. 40-50% of dogs with a CCL injury in one knee will develop a similar problem in the other knee at a future time. Diagnosis of complete tears of the CCL is readily accomplished by a veterinarian using a combination of gait observations, physical examination findings, specific palpation to assess the CCL including the cranial drawer test and the tibial compression test, and radiographs (X-rays). Partial CCL tears may be more challenging to diagnose and may include radiographs, sedated palpation, and arthrocentesis (joint tap).  Treatment of CCL instability through surgical stabilization can be achieved by an extracapsular lateral suture, tibial plateau leveling osteotomy, or tibial tuberosity advancement.

Factors to consider when choosing the technique to repair your dog's torn CCL include the patient's:
Age
Weight
Size
Lifestyle
Cost of the procedure

Extracapsular Lateral Suture (outside the joint) repair of the cruciate ligament is probably the oldest and a commonly performed procedure to correct this injury. The goal of the surgery is to restore stability to the stifle (knee) by placing sutures outside of the joint. The cranial cruciate ligament is responsible for preventing the tibia from sliding forward and out from underneath the femur, and by placing artificial sutures outside the joint this external stabilization mimics the normal activity of the cranial cruciate ligament. For this surgery, a continuous monofilament (one fiber) nylon suture is placed around the fabellar bone of the femur and looped through a hole drilled into the tibial tuberosity. The two ends of the suture are then securely held in place using a knot technique or stainless steel clip.



Tibial Plateau Leveling Osteotomy involves making a circular cut around the top of the tibia and rotating its contact surface (tibial plateau) until it attains a near level orientation (approximately 90 degrees) relative to the attachment of the quadriceps muscles. This enables the knee greater stability in the absence of the CCL. The osteotomy is stabilized by the use of a specifically

	designed bone plate and screws. Once the bone has healed, the implants are rarely removed unless there is an associated problem.  Tibial Tuberosity Advancement involves making a linear cut along the front of the tibia bone and is advanced forward until the attachment of the quadriceps is oriented approximately 90 degrees to the tibial plateau. The osteotomy is stabilized by the use of a specifically designed bone plate and screws. Once the bone has healed, the implants are rarely removed unless there is an associated problem.

Additionally, rupturing the cranial cruciate ligament leads to instability in the knee, which can lead to damage to other structures within the joint, including meniscal tears. This is where appropriate diagnostics become important. Finding the extent of the injury will aid in choosing the correct procedure for your dog, and will increase the chances of a successful recovery.

Postoperative care at home is critical. Premature, uncontrolled or excessive activities risk complete or partial failure of any surgical repair. Such failure may require extensive surgery to address.
Physical rehabilitation can assist in recovery and improve final outcomes regardless of the chosen surgical technique. T
Prognosis for dogs having surgical stabilization of CCL is good, with reported results of significant improvement in 85-90% of the cases. The progression of arthritis can slow with surgery. Joint supplement therapy can be helpful with osteoarthritis as well as weight reduction in obese pets.