



The Most Common Orthopedic Problem In Dogs Is???

Guess which of the following is the most common canine orthopedic problem: Hip dysplasia, elbow dysplasia, fractures (broken bones), joint luxations (including knee cap, shoulder and hip) or anterior cruciate ligament (ACL) tears. And the answer is... ACL tears. In fact, ACL tears make up over 65% of my orthopedic caseload at The Veterinary Specialty Center.

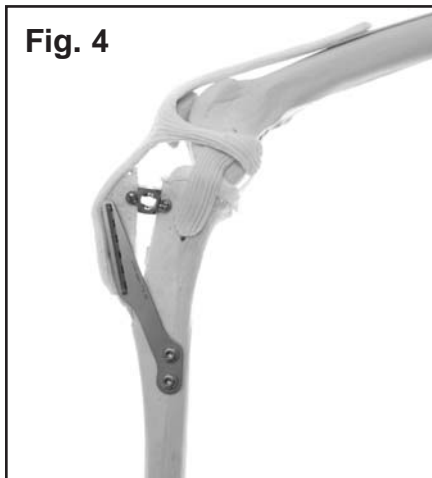
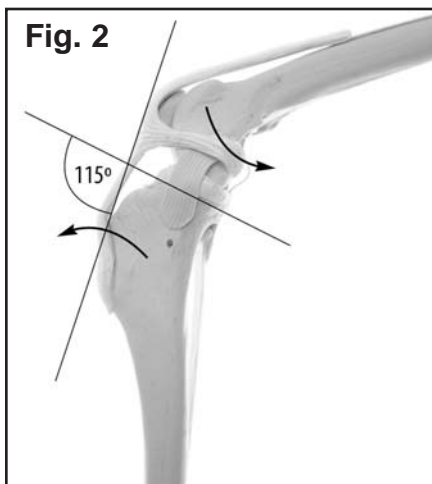
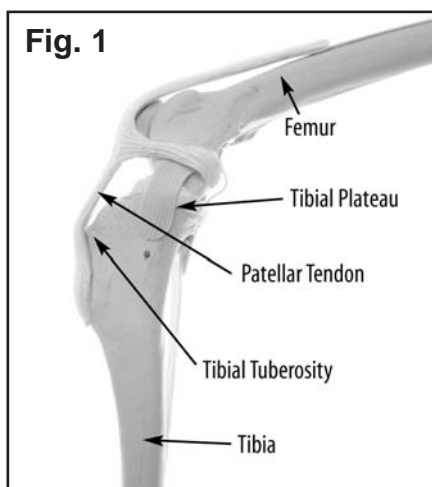
Dogs are prone to tear their ACLs. Small dogs, big dogs, toy breed dogs and giant breed dogs are all prone to tear their ACLs. They do not have to be athletes or old or overactive or overweight. Certainly, obesity and traumatic injuries can lead to ACL tears, but many animals just jump off of the couch and pop, it happens. The exact mechanism is not completely understood but we believe it revolves around the tibial plateau slope found in virtually all dogs. More recently, the angle between the tibial plateau slope and patellar tendon has been implicated (fig 1).

In general, when dogs bear weight, the femur slides down and back on the tibial plateau, causing the tibia to thrust forward (fig 2). This motion is normally counteracted by the ACL. Continual biomechanical wear and tear causes the ACL to break down, fiber by fiber, until a threshold is reached and the ligament tears completely. Because the same biomechanics are working in both knees, about 40% of dogs may eventually tear both sides. The percentage probably approaches 100% in dogs without repair.

Diagnosing ACL tears ranges from simple to difficult. Not infrequently, hip dysplasia or arthritis are mistaken for ACL tears. Almost all dogs with knee arthritis have ACL tears. Dogs with ACL tears may experience mild to severe lameness, and the most telling sign is they sit to the side instead of straight. Tentative diagnosis is based on palpation and x-rays. Arthroscopy is used to make a definitive diagnosis (fig. 3).

Canine ACL tears are debilitating, and virtually all veterinary surgeons agree they require surgical repair to avoid severe, progressive osteoarthritis. But the good news is today's surgical repairs are very successful. Many surgical techniques have been used for ACL tears and over the years have become more refined, sophisticated and successful. Older repairs involved replacing the ACL using everything from gortex, to tendon grafts to fishing line. Replacement techniques work well in humans, but two-legged animals have level tibial plateaus. Replacement techniques in dogs are relatively inexpensive but also have a relatively

high failure rate, because they do not address the underlying problem...tibial plateau slope. The biggest problem with the older replacement technique is the inability to arrest the progression of osteoarthritis. Almost all board certified veterinary surgeons agree the newer techniques that address the underlying biomechanical problems minimize arthritis and have a much higher overall success rate.



The two current techniques addressing the underlying biomechanical instability are the tibial plateau leveling osteotomy (TPLO) and the tibial tuberosity advancement (TTA). The TPLO, which changes the angle of the tibial plateau, has been popular for about 8-10 years and has a high success rate (about 95% of dogs return to 95-100% of normal). The TTA is a newer technique that is very promising. The TTA changes the relationship of the patellar tendon and tibial

plateau angle via an osteotomy (bone cut) in a non-weight bearing area of the bone. Our experience with the TTA (fig. 4) suggests dogs recover faster than with any other technique available including the TPLO.

Animals undergoing TPLO or TTA surgery are anesthetized with state of the art anesthetics (risks are extremely low), receive an epidural for pain relief and can be discharged from the hospital the day of surgery.

Healing takes about 8-12 weeks for both techniques. Most patients do very well within one to two weeks after surgery. During healing, dogs can go for walks of increasing lengths (most dogs are going for 3-4, 30 minute walks within 4-6 weeks). Once healed, dogs can do virtually any activity, including running, jumping, playing with other dogs and playing ball (my dogs personal favorite).

If you would like to learn more about ACL tears contact your family veterinarian or visit our web site @ www.VeterinarySpecialty.com.

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