

## Complex Combinations

Some pets, notably bow-legged breeds (mastiffs, pit bulls and some Labrador retrievers) can have both cranial cruciate ligament tears and patellar luxation occurring *together*. Usually these pets began with a patellar luxation which may have remained undiagnosed or untreated, and this knee cap instability predisposed to acute tearing of the cranial cruciate ligament.

These complex combinations will require a thorough physical and radiographic evaluation (x-rays with sedation) to unveil the proper surgical corrections necessary to return your pet to pre-injury status.

The surgeons of Veterinary Surgical Centers of the Delta have been uniquely trained in these particular complex orthopedic issues. Once we have performed our physical examination, reviewed the radiographic studies and made a 'plan' for the issues facing your pet we will discuss this with you in detail.

## Conclusion

Knee disorders and the resulting inflammation and pain can be a serious problem for affected animals. Early diagnosis and treatment can lessen further arthritic deterioration and restore your pet to a more active, comfortable lifestyle.

Treatment options will vary with each situation. A careful veterinary evaluation of your pet's problem will allow you to choose the most appropriate course of treatment.

## Evaluation

For an evaluation of your dog or for further information about the diagnosis and treatment of either Cranial Cruciate Ligament Insufficiency or Knee Cap Instability, please call Veterinary Surgical Centers of the Delta.



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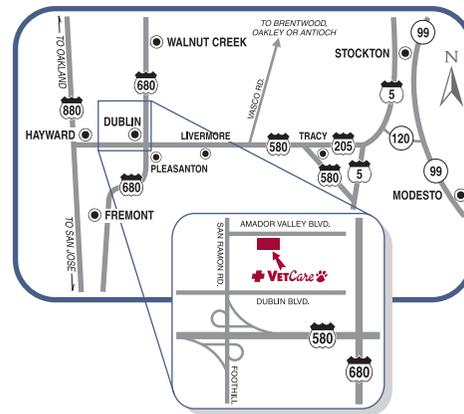
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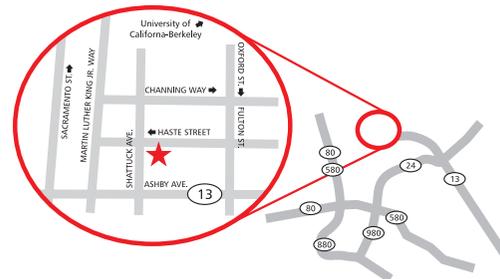
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## The Knee

Problems and Solutions  
for the Injured Knee



Come. Sit. Stay.  
**Heal...**

## Common Knee Problems

Animals, like people, may suffer a variety of disorders of the knee that weaken the joint and cause significant pain if left untreated. The common knee problems in domestic animals involve either tears in the cranial cruciate ligament and / or displacement of the knee cap (patella luxation).

Both of these diseases can be surgically treated, returning your pet to a more comfortable and active routine.

## Cranial Cruciate Ligament Insufficiency (rupture)

A complete or partial tear of the cranial cruciate ligament in your pet's knee renders the joint unstable. When weight is put on the limb, the knee will 'give out'. Inflammation and a buildup of fluid/effusion (water on the knee) results, causing stiffness, lameness, and arthritis formation. Often, one of the major cartilages of the knee (meniscus) is damaged as well.

Left untreated, there is a slight chance that the knee will stabilize with scar tissue and that your pet will once again be able to use the leg. However, this kind of recovery rarely occurs if there is accompanying cartilage damage. The torn meniscus, until surgical treatment, will act as a stone would in a shoe, causing significant discomfort. Even if the knee does stabilize, it does so in an abnormal position and arthritis rapidly builds up in the joint.

Surgery benefits your pet's knee by allowing removal of the excess fluid along with the remnants of the torn ligament and any damaged portions of the cartilage. There are many surgical procedures to treat cranial cruciate ligament injuries in dogs and cats. These surgeries include joint tightening (fabellar suture), ligament replacement (fascial strip), plateau leveling (TPLO) and tubercle advancement (TTA). The doctors at Veterinary Surgical Centers of the Delta can discuss these procedures with you and recommend the best option(s) for your individual pet.

Following surgery, you may expect your pet to 'carry' the leg for one to two weeks, and then progressively bear more weight on it each successive week (note: with TPLO and TTA this period is usually about 3-5 days). It will take about four months for your dog to regain optimal function of the leg.

The average dog can be expected to regain 70-90% normal use of the leg and experience only mild signs of arthritis. Each patient varies depending on the pet's age, breed, weight, amount of arthritis already present at surgery, repair technique chosen and whether both knees are affected.

Typically, any mild arthritis or stiffness can be readily treated with nonsteroidal anti-inflammatory drugs and nutraceuticals to relieve early morning stiffness or soreness that may develop after heavy exercise.

## Knee Cap Instability (patella luxation)

The knee cap should normally be situated on the front of the knee. Usually it will move up and down in the groove of the femur bone allowing the large quadriceps muscle group on the front of the thigh to properly extend the knee.

If the ligaments holding the knee cap in position on the front of the knee are too loose, the knee cap will slip in and out of the groove. This causes an abnormal wear and tear of the cartilage, and results in bone-on-bone contact, water on the knee, inflammation, pain and leg weakness. If this continues uncorrected, arthritis can build up leading to irreversible damage to the cartilage of the femur and patellar. In many cases surgical options are available depending on the grade of patellar luxation, whether there are other ligament problems and whether the bones are in proper limb alignment.

Generally, a deeper groove is created in the femur bone in which the knee cap can ride up and down. Ligaments on the sides of the knee cap are cut, adjusted in length, and sutured back together to tighten the knee cap and prevent further abnormal movement out of the groove. Sometimes, the main tendon holding the knee cap to the tibia (shin) is repositioned. Once repositioned, the new location is 'fixed' with a pin and wire.

The goal of surgery is to prevent knee cap instability, create a more functional knee, and minimize further arthritic deterioration.

