



PATELLA LUXATION IN DOGS

TREATMENT OF DISLOCATING KNEECAPS

VSA

ADVANCED VETERINARY CARE
SYLVIA PARK • AUCKLAND

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TREATMENT OF DISLOCATING KNEECAPS

One of the most common causes of hind leg lameness in the dog is instability of the kneecap (patella). Sometimes, this instability can lead to degenerative changes (osteoarthritis) in the joint including cartilage damage, bone spur (osteophyte) production, and cruciate ligament injury.

KNEE JOINT FUNCTION

The knee joint of the dog is held together by five ligaments and two cartilage pads. There are straight ligaments on the inside, outside, and the patellar ligament on the front of the knee as well as two ligaments (the cranial and caudal cruciate ligaments) within the joint that cross over to provide forward and backward stability. Although the knee joints of dogs and humans have similar anatomy, the forces applied to these joints during standing, walking, or running are different.

The kneecap acts like a pulley in a groove at the bottom end of the femur

bone to improve the strength and function of the knee joint. The patella mechanism is designed to run in a straight line between the hip and the toes to ensure the best function of the leg during walking and running {Figure 1}.

In some dogs, there is a malformation of the bones of the back leg. This malformation can be from a mild birth defect or as the result of trauma to the leg or knee. The resulting change of angle from the malformation means the kneecap fails to glide in a straight line and dislocates typically towards the inside {Figure 2}. Some breeds of dog (Staffordshire terriers, Bichon Frise, Yorkshire terriers, Pomeranian) with short, bandy back legs are more prone to this condition

The severity of the dislocation can vary between dogs or even between knees in the same dog. This severity can be graded from only occasional dislocation to kneecaps that are dislocated but easily replaced to those that are permanently dislocated.

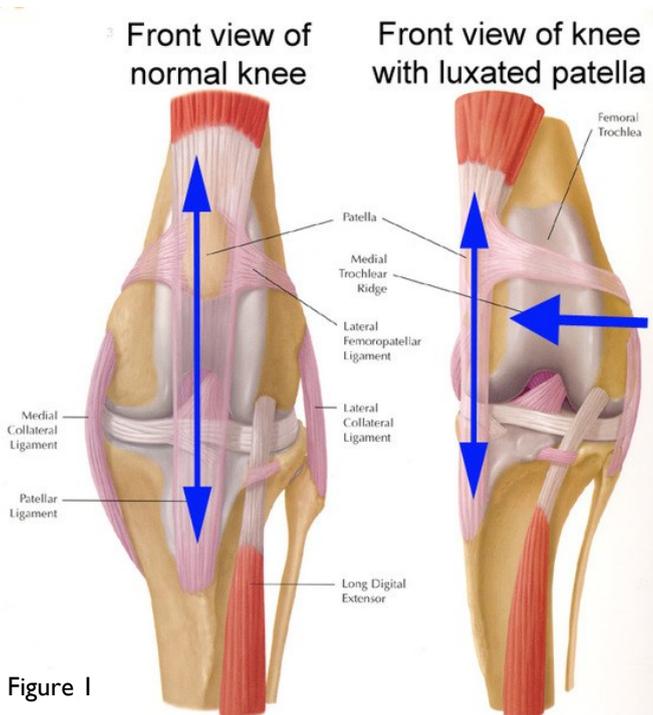


Figure 1



Figure 2

SYMPTOMS

The degree of symptoms generally depends of the severity (or grade) of the dislocation. When the kneecap is dislocating only occasionally, the dog will still run and jump but may hold the leg up off the ground and skip from time to time. In dogs that have more frequent or constant kneecap dislocation, the hind leg lameness can be more severe, sometimes with continual lameness. In this latter group of dogs, the joint will typically settle down after rest and some pain relief but the lameness persists. The pain and swelling tend to reoccur easily even with only minimal activity. The condition can be painful but frequently dogs only exhibit pain when the kneecap first dislocates.

DIAGNOSIS

A thorough orthopaedic and neurologic examination is performed evaluating the dog when walking and by manipulating all four limbs and the spine. Swelling, pain, and kneecap looseness (instability) can frequently be felt in the affected knee. Sedation or anaesthesia can be necessary to confirm the diagnosis. X-rays are necessary to show signs of arthritis and to assess any bone abnormalities.

SURGERY

Surgery is not recommended for every dog with kneecap dislocation. Surgical treatment is usually recommend in those dogs that are showing persistent symptoms and pain. The type of surgery required depends on the severity of the condition. If not treated surgically, the joint may become arthritic and cranial cruciate ligament injury can develop.

The surgery typically involves using a bone cutting technique to deepen the groove in the femur bone, a tightening procedure on the outside of the joint and moving the attachment point of the patellar ligament on the tibia bone towards the outside. The small piece of tibia bone that is moved is reattached using small metal pins {Figures 3 & 4} and occasionally a supporting wire {Figure 5}.

RESULTS

Healing of the bone takes about two months and most dogs can return to full activity 3-4 months after surgery. Dogs, particularly smaller breeds, show excellent results with minimal progression of arthritis, few complications and normal function.



Figure 3



Figure 4



Figure 5

POSTOPERATIVE CARE

EXERCISE CONTROL

To allow the bone to heal following the surgery, complete restriction of exercise is absolutely necessary for the first 4 weeks. Your dog can be walked on a lead for toileting. Light (5-15 minutes) lead walks can begin after 3 weeks.

BANDAGE AND SUTURE REMOVAL

A bandage is generally placed over the stitches for protection. This bandage should be removed 2-3 days after surgery. The skin stitches need to be removed 10-14 days following surgery. These tasks can be done by your regular veterinarian. Please call our hospital if there is any swelling, discharge or redness around the stitches.

MEDICATION

Most dogs are sent home with medication for additional pain relief. Sometimes, antibiotics are also dispensed. Give the medications as prescribed. Further pain relief can be prescribed if necessary.

PHYSIOTHERAPY

Physiotherapy is an important part of your dog's recovery. We strongly recommend a consultation with a recognized animal physiotherapist. Home-based physiotherapy should consist of a warm compress applied to the region of the stitches for 15 minutes followed by gentle massage of the muscles. This can be followed by gentle flexing and extending of the leg.

After the bone has healed, your dog can begin more active physiotherapy with regular controlled exercise. Running without leash control is recommended for only short periods. Regular swimming is an excellent way of providing active exercise without joint stress.

FURTHER X-RAYS

Your dog should return to our hospital for further X-rays six weeks after surgery to evaluate the bone healing. The dog will require sedation to get good X-rays. Do not feed your dog on the morning of this visit. This assessment will incur an additional cost.

LONG-TERM TREATMENT

Some dogs will need long-term medication to control the arthritis already present in the knee prior to the surgery. Cartilage-protecting agents (omega fatty acids, glucosamine, green-lipped mussel, fish oil) may help lubricate the joint and keep cartilage healthy. Generally, life-long supplementation is necessary.

Dogs with knee arthritis may benefit from feeding with Hill's Prescription Diet j/d Canine Mobility. This diet can improve your dog's signs of arthritis with a clinically proven combination of nutrients.

Anti-inflammatory medication (aspirin-like drugs) can be helpful in reducing pain but should only be necessary occasionally.

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