

Causes Sudden Limping and Pain, Then Disappears Just as Quickly

A quick, intense jolt of pain, then vanishes in such a flash that it's easy to think whatever caused it is no longer there. Not true. Some breeds are predisposed to it. And dogs with hip dysplasia often suffer it as a secondary condition. Take these proactive steps today to avoid surgery and pain.

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STORY AT-A-GLANCE

- Patellar luxation, also known as a floating kneecap, is a genetic defect in which the kneecap pops out of place. The condition is seen primarily in small breed dogs
- There are four levels of severity of a luxating patella. Grade 1 is the mildest, and Grade 4 is the most severe
- The speed at which the condition progresses depends on a variety of factors, however, in well-muscled dogs, changes tend to occur more slowly
- Patellar luxation should be proactively managed the minute it is diagnosed; mild luxations can be effectively controlled by maintaining a healthy weight, exercise, joint support supplements, chiropractic care, acupuncture and an anti-inflammatory diet
- Corrective surgery for a luxating patella should only be undertaken after all nonsurgical interventions have been tried, or in the case of dogs who can't walk or run without pain, are lame and/or have diminished quality of life

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Patellar luxation, also called luxating patella and floating kneecap, is most often seen in small and tiny dogs. The condition can sneak up on pet parents, because often dogs with a floating kneecap seem fine, with no history of injury, limping or pain. They're very active, running and playing normally.

Sometimes the only sign of this genetic defect is when a dog skips or hops while walking. She's walking along fine and then she raises a back leg and perhaps hops for a step or two. Then she puts the leg back down and continues on as if nothing happened.

Or out of the blue one day your dog lifts a back leg and yelps or cries while holding the leg off the ground. You can't imagine what happened because a few seconds ago he was walking normally or running around playing. Then just as suddenly, he lowers his leg and starts walking or running around again normally.

It's like sudden, acute lameness that disappears just as quickly. It can be quite concerning and confusing for pet parents, and is definitely a sign of a luxating patella. What has happened is your dog's kneecap popped out of place, stopping him in his tracks and causing him to hold his leg up to try to relieve the discomfort.

Then the kneecap returned to its original position, he was able to put his foot back on the ground and off he went. Pet parents tell me, "My dog went suddenly lame, holding up a back foot, and then just as suddenly he was not lame." That's a pretty typical description of what happens with the condition known as luxating patella.

Mechanics of a Luxating Patella

Your dog's kneecap sits in the same place in her leg as your does, which is at the distal or far of the femur, or thighbone. It sits much like a pea in a pod, and helps the quadriceps muscles move smoothly across the joint between the thigh and lower leg. The kneecap moves up and down in a wedge-shaped groove right on the thighbone. The patella ridges hold the kneecap in place, and as long as the ridges are deep, the kneecap can only move up and down as nature intended.

Unfortunately, some dog breeds have a very flat patella ridge. This means the kneecap doesn't seat snugly in the groove and it can pop out either medially, to the inside, or laterally, to the outside. In larger dogs, the kneecap tends to pop to the outside, while smaller dogs' kneecaps tend to pop to the inside.

Pets at Highest Risk for Patellar Luxation

The genetic predisposition to floating kneecaps occurs in several small breed dogs, including:

- Miniature and Toy Poodles
- **Yorkies**
- Chihuahuas
- Maltese
- Pomeranians
- **Papillons**
- Jack Russell Terriers
- Pekingese
- Boston Terriers

Short-legged dogs, for example Basset Hounds and Dachshunds, aren't genetically prone to the condition. However, because their femurs are so short, it can change the angle of the seating of the kneecap, and these dogs can end up with luxating patellas as well.

Larger breeds have less genetic predisposition to problems with the kneecap. They typically have a nice, deep groove for the patella to seat in. However, some larger dogs are prone to hip problems. If a joint above the kneecap like the hip joint, or one below the kneecap like the ankle develops a problem, it can change the ergonomics of the body.

If there's a problem with your dog's hip, it can eventually force the patella out of its groove. Large and giant breed dogs with **hip dysplasia** often have a secondary condition of luxating patella caused by the malformation of the hip joint. If the knee problem shows up first, when we x-ray the knee, we often learn the dog has hip dysplasia.

Cats can also develop floating kneecaps, however, the situation is usually much less severe, because cats are smaller and lighter than most dogs. Cats are also more flexible and their bodies move differently. A 10-pound cat with a significant floating kneecap is a very different patient than a 100-pound dog with the same condition. Cats are very efficient at shifting their body weight around, so they are able to compensate much better than most dogs.

Grading the Severity of the Luxation

There are four levels of severity of a luxating patella. Grade 1 is the mildest; Grade 4 is the most severe.

- A **Grade 1** luxating patella describes a kneecap that pops out (or can be manually popped out of place by a veterinarian), but pops right back in on its own.
- **Grade 2** describes a kneecap that pops out of place and doesn't always pop back in automatically, sometimes requiring manual manipulation to re-seat it.
- A **Grade 3** condition is when the kneecap sits outside its groove most of the time, but can be manually positioned back in the groove, where it stays temporarily.
- **Grade 4** luxating patella is the worst-case scenario. The kneecap sits outside the groove all the time, and won't stay seated in the groove when it is manually popped into place.

It's important to understand that a displaced kneecap can cause intense pain for your pet. Often in young dogs with strong, resilient joint cartilage, the patella can pop out and back in without obvious signs of pain. There may be an intense jolt of pain as the kneecap moves across the patella ridge, but it's gone in a flash and is usually not obvious to an observer.

The dog won't want to put weight on his leg until the kneecap has popped back in (which can cause another flash of pain), but otherwise he appears fine. Here's why: The femur and the kneecap are covered with cartilage. Cartilage doesn't have a nerve supply, so the pain of the bone sitting in the incorrect position isn't fully noted until the cartilage is completely gone.

However, as the cartilage wears down from the frequent travel of the kneecap in and out of its groove, there will be nerve-to-nerve and ultimately, bone-to-bone contact and the condition can become extremely painful for your pet. Let's say you have a young dog who limps intermittently but seems totally fine before and after. He's not in constant pain because he still has cartilage protecting nerve endings. But as the cartilage wears down, the pain will become more consistent and more noticeable.

The speed at which degeneration occurs depends on the size of your pet, the severity of the luxation, and the amount of use and abuse those rear limbs take. In well-muscled dogs, changes tend to occur more slowly because muscle tone holds the skeletal system in place, including the kneecaps. Never underestimate the benefit of excellent muscle tone in helping to slow down the progression of this condition.

Proactive Management of Mild Luxations: Start With Weight Control, Exercise and Oral Joint Support

If your dog is diagnosed with even a mild Grade 1 luxating patella, I recommend you address it right away. The quicker you take a proactive approach to treating the condition, especially in a young dog, the better your chances of avoiding surgery down the road, as well as degenerative joint disease or arthritis and a decreased quality of life.

1. The first thing you should do for a dog diagnosed with a floating kneecap is to help him achieve and maintain an ideal body weight. The heavier the dog, the more burden there will be on his knees. Optimal body weight for your dog means lots of lean muscle and a reduced amount of fat. Keeping him lean will limit stress on the joints.
2. No. 2, it's very important to keep your dog moving. Maintaining excellent muscle tone will help your dog's body form kind of a cage around the knee that will help keep stabilize the patella.

Years ago, veterinarians advised owners of dogs with floating kneecaps to prevent their pets from moving around. We now know that's a really bad idea because muscle tone disappears and the ligaments around the knee can become more lax, which exacerbates the condition. The more toned the muscles of your dog's legs are, the more stable the kneecap will be.

Building muscle is a really important part of reducing the clinical symptoms of a luxating patella. No matter how many supplements you put in your dog's mouth, they can't create good muscle tone or body condition. You have to do the hard work, which means daily aerobic, heart-thumping exercise to intentionally build muscle tone.

An hour of daily exercise is my recommendation. Your dog doesn't have to do a lot of jumping, but daily aerobic, quadriceps-building exercise is really important. If you can't physically do this for your dog, or if your pet is too painful or obese to move at high intensity, I strongly encourage you to send her to a physical therapist or a rehab therapist who can get her on an underwater treadmill.

This will help build the critical muscle tone necessary to hold her kneecap in place, and will also support the other three limbs that are over-burdened by the weakness in the weak knee.

3. The third thing I recommend is to provide your dog with oral joint support in the form of glycosaminoglycans, or GAGs. These are the raw building blocks for cartilage repair and maintenance. There are several different types of GAGs on the market specifically for veterinary use. However, I typically use human oral joint support supplements to help maintain the integrity of the knee cartilage while also improving joint fluid production.

These include SAME, glucosamine, chondroitin, perna mussel, collagen, cetyl myristoleate, methylsulfonylmethane (MSM) and several natural anti-inflammatories, including curcumin, which can help with pain.

I recommend you discuss the situation with your **integrative veterinarian**, who will be able to suggest and in many cases provide the right supplements to rebuild and maintain strong and resilient cartilage and joint fluid production in your dog. I suggest you also discuss Adequan with your vet. Adequan is an injectable GAG that helps dogs who are developing premature arthritis. It slows down joint degeneration and improves joint fluid production.

Additional Suggestions for Mild Luxations

1. Chiropractic and acupuncture can also be very beneficial for reducing pain and limiting wear and tear on the rest of the body. If you have a puppy with a luxating patella, there are some very effective chiropractic manipulations that can keep the hips and knees in good alignment and help slow the progression of the disease. I recommend you start chiropractic care as soon as the diagnosis is made.

2. I also recommend feeding your dog a **nutritionally balanced, species-appropriate diet** that is naturally anti-inflammatory. By feeding an anti-inflammatory diet (one very low in carbohydrate content), you can help reduce or moderate the effects of inflammation in his body, including the joints.

Because carbs aren't listed on pet food labels, you'll need to calculate them using the following formula, plugging in the values found on the guaranteed analysis on the package label:

$$100 - \% \text{ protein} - \% \text{ fat} - \% \text{ moisture} - \% \text{ ash (if not listed, assume 6\%)} = \% \text{ carbs}$$

Fiber is the indigestible roughage that doesn't break down into sugar, so you don't have to include it in the formula. So break out your calculator and actually do the math, because I want you to be sure you're feeding your dog with a luxating patella less than 10% carbs. A low-carb diet will help minimize the pain associated with the condition.

Surgical Intervention for Patellar Luxation

Many veterinarians often recommend surgery for a luxating patella, regardless of the severity of the condition. Sadly, I regularly hear from dog parents who've been told to do none of the above suggestions. They've been told to simply wait until their dog is in crippling pain or the knee has degenerated to the point where the animal is totally lame, and then make an appointment for surgical repair.

I'm not a proponent of waiting and doing nothing, nor am I a fan of doing surgery unless the condition is absolutely destroying your dog's quality of life. If your pup can't run or walk without intense pain, or is having lameness associated with decreased quality of life, then you should absolutely consider surgical correction, but not before you've exhausted all nonsurgical options to improve your pet's quality of life.

There are two main goals of corrective surgery for a luxating patella (typically a Grade 3 or 4). One method is to deepen the trochlear wedge. If the joints are flat, the veterinarian carves a deeper wedge to help hold the kneecap in the groove. The other goal of surgery is to moderate the amount of tension in the patella capsule or ligament by tightening down the joint capsule.

My recommendation is to explore all possible nonsurgical options to help stabilize your dog's knee before you consider surgical correction. This should be initiated the minute you see your dog skipping on a walk and not after years of wondering, "Why is my dog skipping on a walk?" It's important to address those symptoms right away.

Risks and Complications of Patellar Luxation Surgery

Surgery for this condition carries the usual risks associated with anesthesia and infection, as well as a few other dangers. For example, if a pin is inserted to hold the joint in place it can migrate, requiring surgery to remove it. Also an abscess, called a seroma, can form at the site of the pin and require either draining or surgical removal.

There can also be a repair collapse. Post-surgery, your dog should not run or jump for about two months to allow the repair to stabilize. This is a tall order for most healthy dogs, and it's not uncommon for the repair in an active dog to break down during this period. This is a case of owner failure rather than dog failure. When the surgeon says you must

restrict your dog's exercise after the surgery, it's really important that you follow his or her orders to reduce the risk of postsurgical complications.

Another potential problem: Around 10% of dogs don't show significant improvement after surgical correction of a floating kneecap. They continue to experience pain. In addition, some kneecap repairs can actually cause problems with other joints and bones.

In my experience the majority of failed surgeries have one of two root causes: either the repair was done very late in the disease process and the degeneration and arthritis inside the joint was profound, or the surgeon was not experienced enough to do the procedure correctly.

If you're considering having this surgery done on your dog, I strongly recommend you contact a board-certified veterinary orthopedic surgeon or a veterinarian who has a great deal of surgical experience correcting luxating patellas to ensure your pet will have the best possible outcome.
