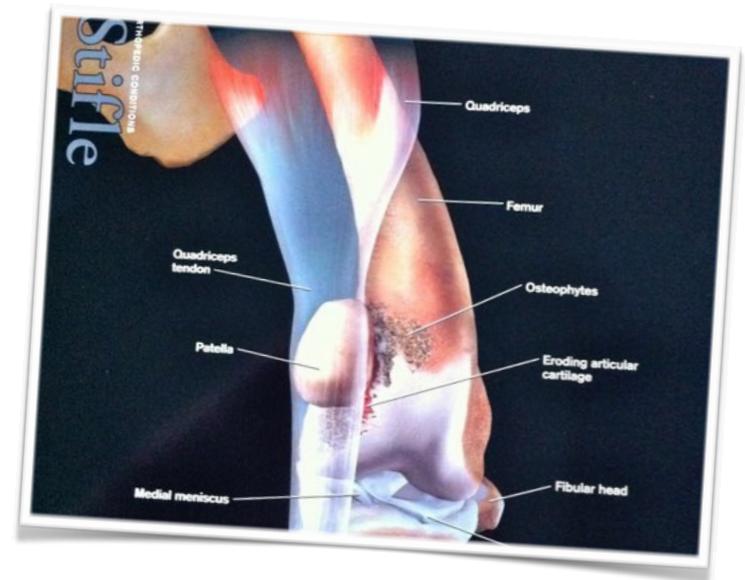


Patella Luxation

Kenneth A. Bruecker, DVM, MS, DipACVS, DipACVSMR



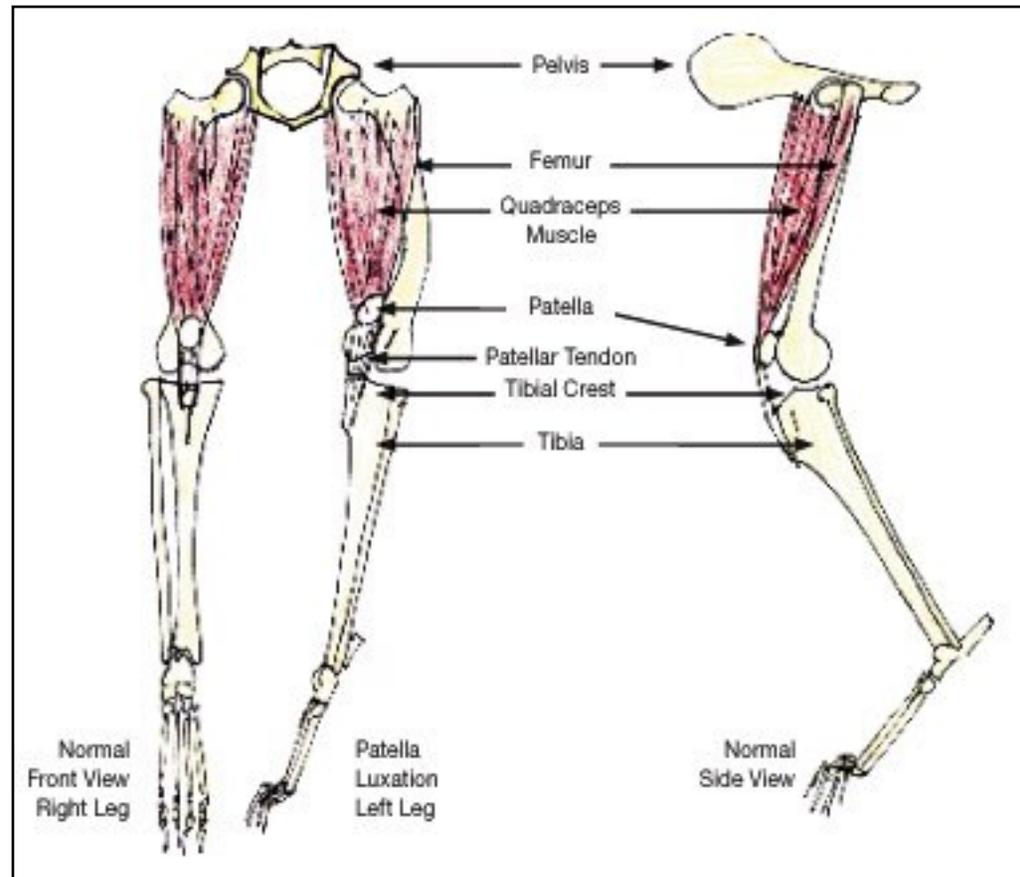
INTRODUCTION

The stifle (knee) is essentially a hinge joint, allowing the major muscles of the upper leg to cause the normal swinging movement of the lower leg with walking or running.

The patella (knee cap) is a small bone in the patellar tendon of the quadriceps muscle that rides in a groove in the femur (upper leg) at the stifle joint, stabilizing the stifle. The patellar tendon attaches to the tibial crest below the stifle. These structures make up the quadriceps mechanism.

Occasionally the quadriceps mechanism is not well aligned during development, generally due to bowing of the femurs. The end result is that the bones and stifle joint do not develop properly allowing the patella to luxate or dislocate, flipping in and out of the groove.

The result is excessive wear on the cartilage, which may lead to osteoarthritis (degenerative arthritic changes).



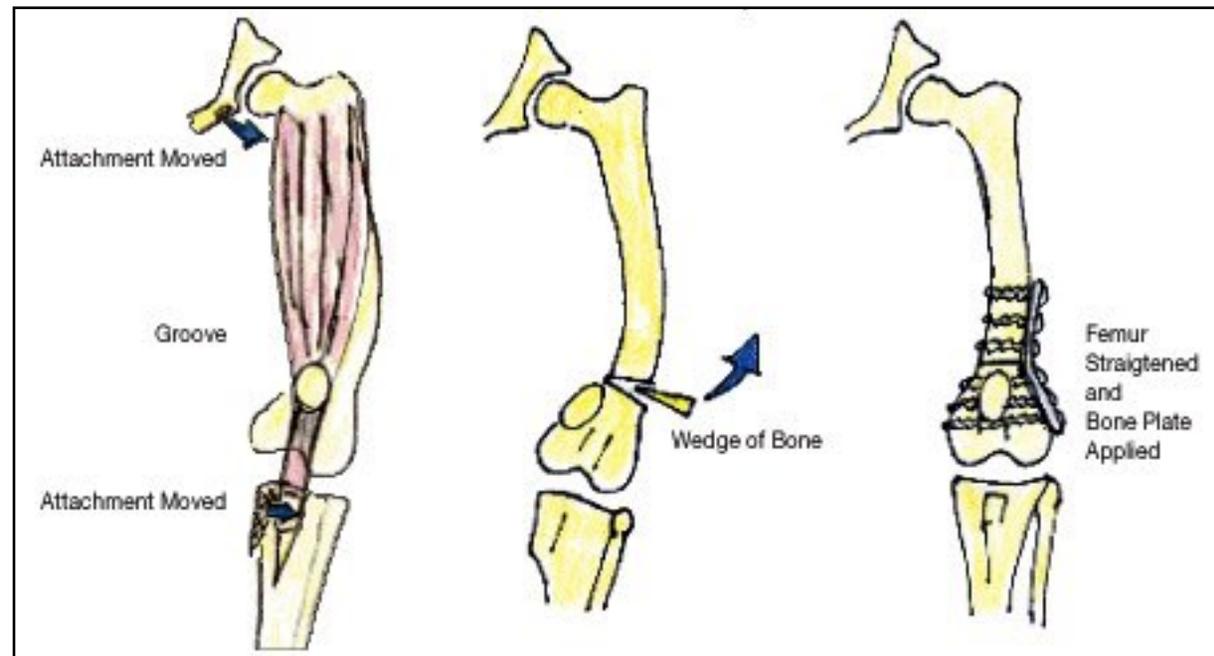
PATELLA LUXATION IS A PAINFUL CONDITION AND IF LEFT UNTREATED WILL CAUSE ARTHRITIS!

In addition, since the patella luxation occurs while the animal is growing, it can result in further deformities of the developing femur and tibia.

Patella luxations occur most commonly in small breed dogs, although cats and larger dogs can also be affected. In mild cases, the abnormality may have gone unnoticed until the pet is much older. In moderate to severe cases the diagnosis can be made as early as 3 months of age. In these cases, the earlier that corrective surgery can be performed, the less likely future problems will develop or that future surgeries will be necessary.

TREATMENT

The primary goal of surgery is to realign the quadriceps mechanism and thus prevent luxation/dislocation of the patella. Mild to moderate patella luxation (grade II-III), may be surgically treated by deepening the groove that the patella slides in and realignment of the attachment of the quadriceps muscle (the patellar tendon) on the crest of the tibia (lower leg) or the attachment



of the quadriceps muscle at the top on the pelvis. Often other procedures to tighten the soft tissue support structures and loosen others are performed in conjunction with these orthopedic procedures.

If the condition is severe (grade III-IV) and not treated early enough, in addition to repairing the groove, major corrective osteotomies are usually necessary. Corrective osteotomies involve cutting the femur and/or the tibia and realigning them with pins and clamps (external skeletal fixation device) or bone plates and screws. This is a major surgery and may require multiple surgeries over the course of a few months. Thus, it is very important that surgery be done as soon as possible in those patients that need it.

POST-OPERATIVE HOME CARE

Strict control of activity is required after surgery. No off leash activity, no running, no jumping, no rough housing, no playing can be allowed during the rehabilitation period. Patients must be confined to a crate or pen for 8 weeks or more. Slow leash controlled walks and range-of-motion physical therapy exercises can begin as early as 2 days after surgery. Although fibrosis (scarring) is required for joint stability, early owner-controlled use of the operated leg will improve joint mobility. The development of good muscle tone and strength is critical to the overall recovery. If patients are too active, too soon, they can tear or damage recovering tissues. It is **IMPERATIVE** that the owner must control all activity during the healing period!

Anti-inflammatory medications and medications to improve the quality of the healing joint cartilage may be started immediately after surgery.

PHYSICAL REHABILITATION

Certified Canine rehabilitation Therapists (CCRT) are the Physical Therapists of the veterinary profession. CCRT guided exercises and treatments, such as low level laser (Cold Laser) can improve the outcomes with surgery.

Your pet's surgeon can advise you on which techniques may be best for your pet.

ABOUT THE AUTHOR

*Dr. Kenneth Bruecker, DVM, MS, DACVS, DACVSMR
Board Certified Veterinary Surgery
Board Certified Veterinary Sports Medicine and Rehabilitation*

A San Fernando Valley native, Dr. Bruecker attended Pierce College then received his bachelors degree in Animal Science from the University of California at Davis.

He graduated from the University of California at Davis, School of Veterinary Medicine in 1983. After one year of general small animal practice in San Fernando, Dr. Bruecker completed an additional year of clinical internship at the West Los Angeles Veterinary Medical Group. He received his master of science degree at the completion of a three year surgical residency at Colorado State University and moved back to Ventura County in 1988 to establish specialty veterinary care. Dr. Bruecker is Founder, Medical Director and Chief of Surgery at the Veterinary Medical and Surgical Group in Ventura, California. He also provides consulting and training services throughout the world.

Dr. Bruecker provided regular surgical support for practices in the state of Hawaii from 1996 through 2011.

In 2015, Dr. Bruecker founded Continuing Orthopedic Veterinary Education (COVE), a company whose mission is post-graduate veterinary orthopedic education, training, mentoring and surgical coaching around the world.

Board Certified in Surgery since 1990, Dr. Bruecker's primary clinical interests are spinal surgery, sports medicine/orthopedics (including arthroscopy, TPLO, TTA, and limb deformity correction), minimally invasive surgery (such as laparoscopy) and peri-operative pain management. He is well respected for his expertise in arthroscopy, limb deformity, disorders of the knee, fracture management and disorders of the spine. He has authored numerous articles and book chapters on Wobbler syndrome, treatment of intervertebral disk degeneration and spinal fracture management. He is an active participant in working groups on elbow dysplasia, shoulder injuries, advanced techniques in small animal arthroscopy and cranial cruciate ligament repair. Dr. Bruecker was the first to offer TPLO surgery, TTA surgery, cementless hip replacement, arthroscopy and laparoscopy to owners of pets in Ventura, Santa Barbara and San Luis Obispo Counties, as well as to the State of Hawaii. He holds a patent for the first locking Triple Pelvic Osteotomy plate used to treat hip dysplasia. He has been an innovator in the development of many new surgical techniques and orthopedic implants.

Dr. Bruecker became a Diplomate of the American College of Veterinary Sports Medicine and Rehabilitation in 2015 and thus is now Board Certified in this field, as well as surgery.

Dr. Bruecker is a past program chair of Neurosurgery for the American College of Veterinary Surgeons and a past program chair for the veterinary technician program for the American College of Veterinary Surgeons. He served as the orthopedics program director for 2004 and 2005 for the American College of Veterinary Surgeons. He was also program director for orthopedics, pain management and anesthesia for the 2006 American Veterinary Medical Association annual symposium. He has served as the program chair for the Association for Veterinary Orthopedic Research and Education (AVORE). He is a past Executive Board Member (2004-2007) and is Past-President (2014-2015) of the Veterinary Orthopedic Society.

Due largely to his commitment to education and training, Dr. Bruecker was chosen as the Veterinarian of the Year by the California Veterinary Medical Association in 2004. He is an invited speaker and educator throughout the United States, Latin America, South America, Europe, Asia and the South Pacific on a

variety of topics in orthopedics (fracture management and arthroscopy), neurosurgery and pain management. He splits his time between global veterinary education and clinical practice.

Dr. Bruecker and his family farm avocados and citrus in Ventura County. He is an enthusiast of classic cars.