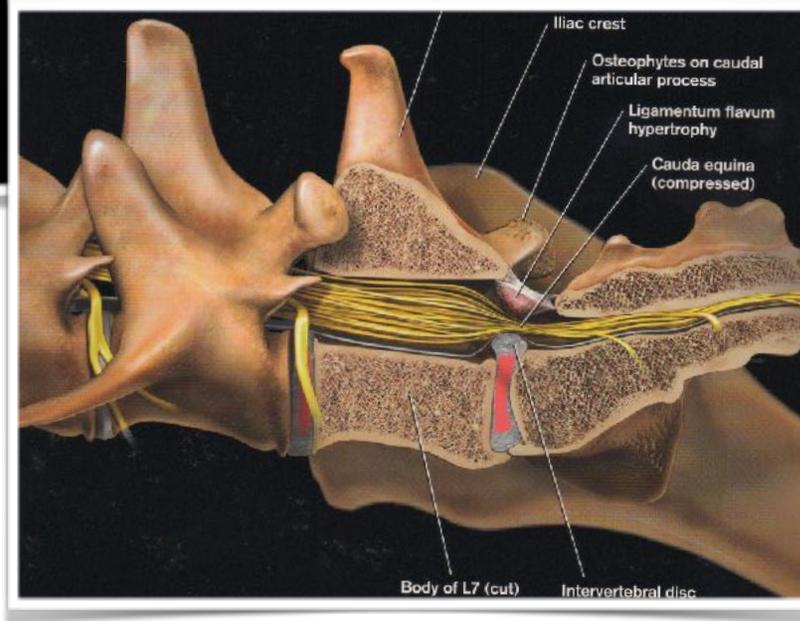


Cauda Equina Syndrome

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

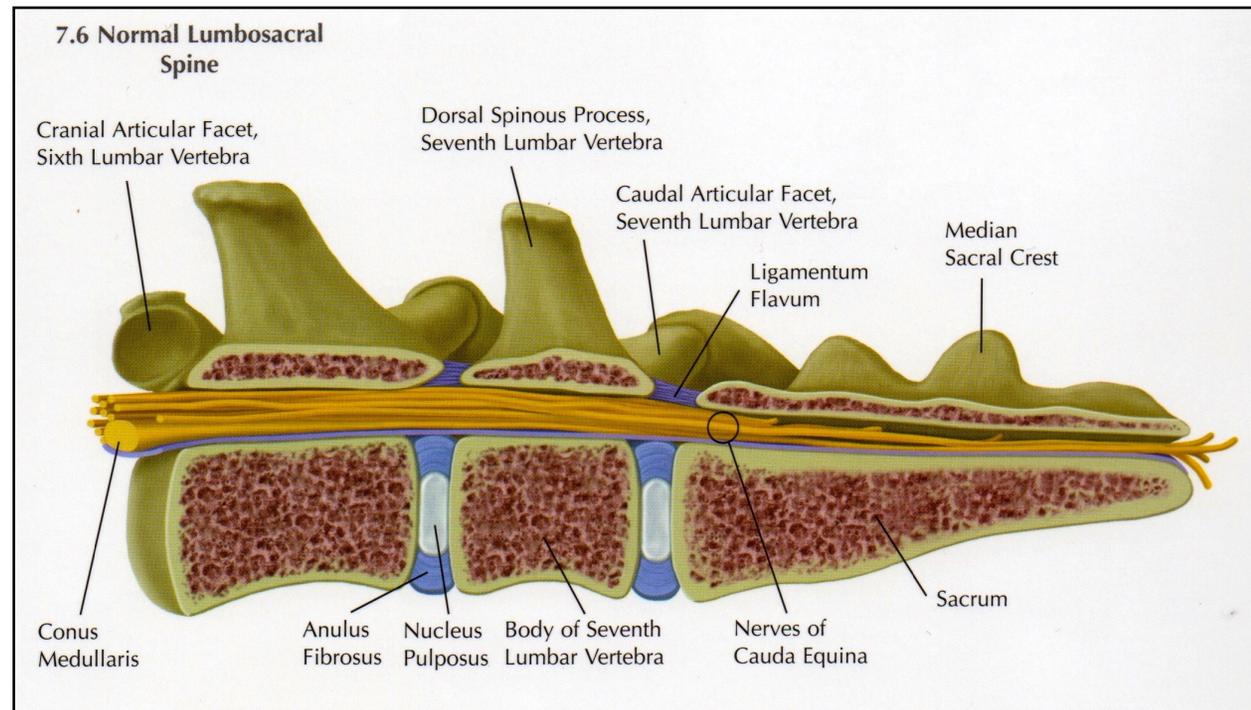


INTRODUCTION

Between each of the vertebrae (bones of the spine) is an intervertebral disk. This disk is composed of a soft tissue, called fibrocartilage, that allows movement and acts as a shock absorber. Normal wear and tear with aging results in deterioration of these disks (disk degeneration).

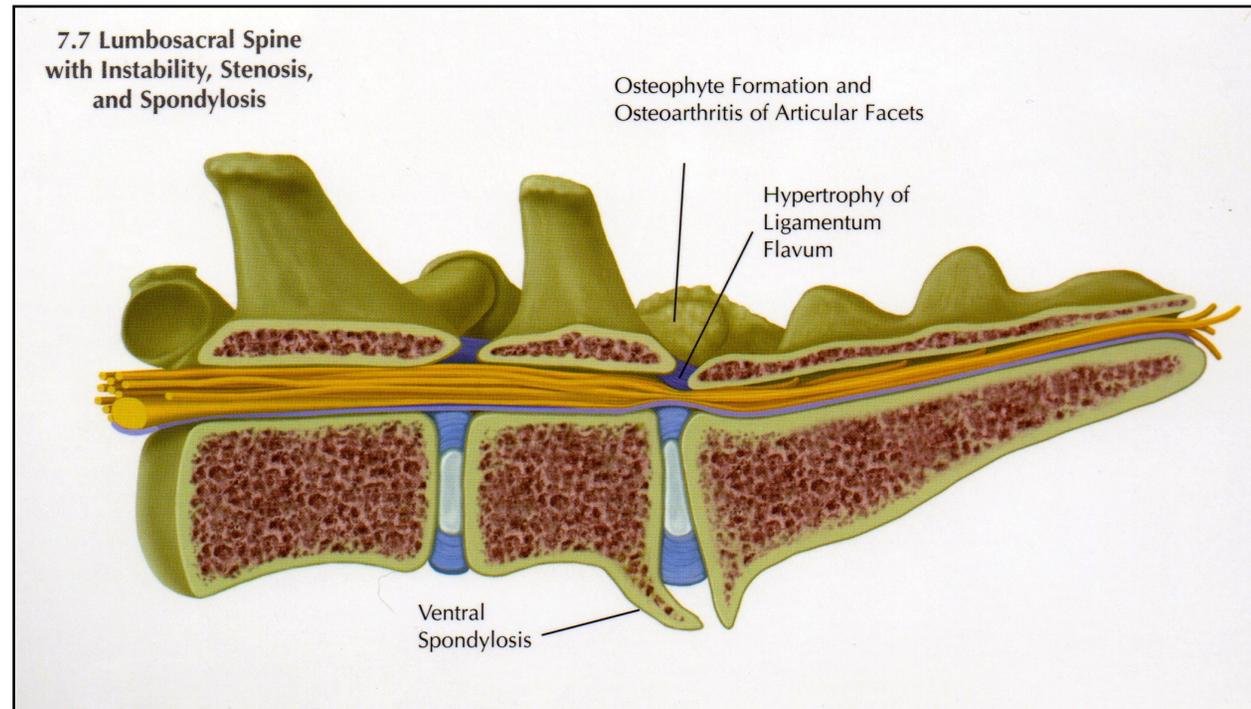
Although some older patients can show clinical signs, more often the deterioration progresses without any problems or symptoms. In some pets, this deterioration is accelerated and middle-aged patients can show clinical signs. Occasionally, a specific

traumatic event may have precipitated the disk herniation. The patients most commonly affected with disk degeneration are large breed dogs, usually 4 to 9 years of age. In these patients the disk degeneration results in a slowly protruding or bulging disk. If the disk between the lowest lumbar vertebra and the sacrum is bulging (the lumbosacral disk), the



nerves of the spinal cord adjacent (called the ***cauda equina***) may become compressed.

Compression of the ***cauda equina*** can result in back pain, pain of the sciatic nerve (***sciatica***) and neurologic weakness. This compression may occur over the course of many months and thus symptoms may be gradual and often mistaken for arthritis.



Treatment should be started before irreversible damage to the ***cauda equina*** nerves has occurred. The decision for medical treatment or surgery will depend on the severity and progression of the symptoms.

DIAGNOSIS

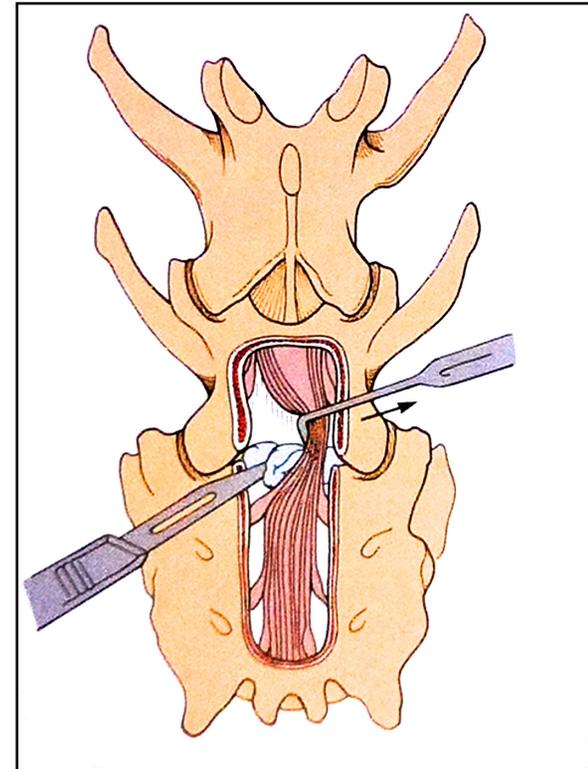
Although we can be suspicious that disk degeneration is the cause of the clinical signs, Radiographs and Magnetic Resonance Imaging (MRI) are required to be certain of the diagnosis.

TREATMENT

If surgery is indicated, decompression of the nerves is accomplished with a **laminectomy** and **diskectomy**. In a laminectomy, enough bone overlying the nerves of the **cauda equina** is removed to visualize the nerves of the **cauda equina** and the degenerate disk is carefully removed and the compression relieved. If vertebral instability is present or develops in the future, a **stabilization/ fusion** procedure may also be required.

AFTER-CARE

Patients may be in the hospital up to a week or more depending on the severity of their problem. If permanent, irreversible damage has not already occurred, patients may begin to show improvement within a few days to a few weeks after surgery. Strict crate or pen confinement and leash controlled walks to urinate and defecate is required for 8 weeks. Physical therapy consisting of slings, carts, exercises and swimming may be important for recovery of strength and coordination. These purpose



specific activities and therapies are directed by your pet's surgeon and rehabilitation therapist. Patients may continue to show improvement for up to 6 months after treatment.

ABOUT THE AUTHOR

*Dr. Kenneth Bruecker, DVM, MS, DACVS, DACVSMR
Board Certified Veterinary Surgery
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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.