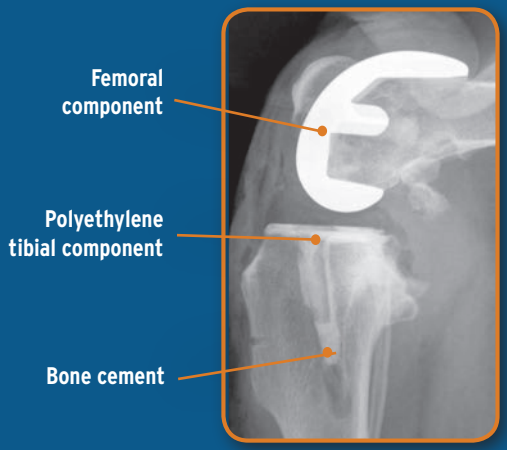
This is a lateral view of the left hind leg immediately before surgery. It shows signs of arthritis in the left knee (stifle) joint. At this stage, dogs usually require medication such as non-steroidal anti-inflammatory drugs. When discomfort can no longer be controlled with medical management, surgery becomes the best option.

The tibia has moved forward because the cruciate ligament is torn. The knee is unstable. Over time, this leads to cartilage damage and arthritis.

This is a lateral view of the left hind leg after surgery. The femoral component appears as a dense white structure on the end of the femur. The tibial component is invisible. The diffuse white material is bone cement.



For more information,
please contact your veterinary specialist:

BioMedtrix was founded in 1989 with the objective of designing, developing, and manufacturing state-of-the-art veterinary orthopedic implants. Our continuing mission is to provide quality in all aspects of product development, manufacturing, and customer service. Through research sponsorships and collaborations with the world's foremost surgeons, BioMedtrix continues to support the development of new programs to address veterinary needs.

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Canine Total Knee Replacement

"The TKR was a tremendous success and got Flower back to doing what she does best and that's live her life to the fullest." - Lisa Switzer

Flower's TKR was performed on January 18, 2006

What is total knee replacement (TKR)?

TKR is a surgical procedure in which damaged joint surfaces are replaced with a prosthesis designed to restore pain-free knee function.

The replacement joint consists of a metal component attached to the end of the femur and a polyethylene component attached to the tibia. The components create new bearing surfaces that mimic normal movement of the joint.

Why has TKR been recommended for my dog?

TKR is recommended because it is an option for alleviating the pain and/or disability associated with knee arthritis. Many dogs that do not respond to standard medical or surgical management can benefit from TKR.

To determine if TKR is the appropriate option, schedule a consultation with your veterinarian. This is a surgical procedure but, for the right patient, surgery can greatly improve quality of life.

What does TKR surgery entail?

The knee joint is exposed through an incision on the side of the knee. The joint surfaces are replaced, stability of the knee is ensured, and the surgeon verifies that the knee moves smoothly through a full range of motion. A light dressing is applied over the incision in the early post-operative period.

What are the benefits of TKR?

The primary goal of TKR surgery is to restore pain-free function. In most cases, it is possible to restore joint function to a level similar to that of a healthy knee joint. Dogs that have had successful TKR surgery do not require long-term medical management. In addition to significant cost savings, this will eliminate the potential problem of long-term complications associated with chronic use of anti-inflammatory drugs.

"Jenny is now in her senior years, but thanks to Dr. Hay and her new knee, she continues to run, jump, and play with her brother, all without pain." - Donna

Jenny's TKR was performed on January 19, 2009

What are the risks of TKR?

The most significant risks associated with TKR surgery are anesthesia, implant loosening, and infection. Infection is a rare but potentially devastating complication of any surgical procedure. The risk of loosening is also rare. The risks associated with anesthesia are very low as a result of preoperative screening, modern drug use protocols, and intraoperative monitoring. Your veterinary team will do everything possible to minimize the risks.

Are there reasons my dog shouldn't have TKR surgery?

If your dog's arthritis is effectively controlled with drug therapy or other methods, TKR surgery is not likely to be recommended. It is important to recognize that TKR may be indicated if medical therapies eventually become ineffective.

Pre-existing infection is a contraindication to TKR surgery. Additional reasons why surgery may not be recommended include lameness associated with arthritis in other joints, neurological disease, and previous amputation of a forelimb or opposite hind limb. These conditions do not necessarily preclude TKR but the final decision is made on a case-by-case basis.

How common is TKR in dogs?

The canine TKR system was introduced in 2005. Since that time, over 300 surgeries have been performed throughout Australia, Europe, the United States, and Canada. We anticipate demand for this surgery will increase significantly each year.

What is the typical recovery time after TKR?

Recovery depends on the severity of the preoperative arthritis and can be improved by following a structured post-operative rehabilitation program. Activity is limited for two to six weeks following surgery. Dogs usually use the leg the evening of surgery, and most are doing very well in six months.

What is the success rate for the canine TKR procedure?

Available data indicates that TKR is effective in providing pain-free function in dogs with end-stage arthritis. As part of the ongoing clinical trial of canine TKR, BioMedtrix is actively collecting clinical data. The results from this prospective study will provide a clear picture regarding the overall long-term success rate for TKR in dogs. Initial results of the clinical trials have been published. It is our expectation that success rates will be similar to those seen with total hip replacement (THR) in dogs which are widely cited as being successful.

How long will the implant last?

There is not enough data beyond 5 years of follow up to provide a definitive answer to this question. In humans, TKR implants are expected to last more than 15 years. Implant survival depends on long-term stability of the implant, maintenance of a smooth articulation between the components, and the patient activity level. We expect that the implants will survive for the lifetime of a dog.