

Osteoarthritis is a common, disabling affliction of dogs. Any joint can be affected by osteoarthritis but hips, knees, and elbows are the ones most likely to be affected to the point where surgical intervention is warranted. Medical therapy, consisting of pain relief, weight control, and exercise modification, is often effective in reducing the symptoms of osteoarthritis. Severely affected joints may become so painful that surgical options should be considered.

Surgical replacement of arthritic joints (total joint replacement) was first developed for dogs with osteoarthritis or other diseases of the hip. Hip replacement surgery (usually referred to as total hip arthroplasty or THA) has been available for dogs for about the last 30 years.

The design and materials of the implants closely parallel those used for hip replacement in human beings. Typically, the replacement consists of a medical grade plastic (ultrahigh molecular weight polyethylene) cup and a metal (chrome cobalt) ball and stem. The cup and stem (implants) can either be held in the bone by bone cement or by bone growing into the implants.

There are advantages and disadvantages to both techniques but either method works very well when performed by an experienced veterinary surgeon. Careful attention to detail by the surgeon and diligent care after the surgery by the owner usually results in an artificial hip that lasts the rest of the dog's life and allows unlimited, pain-free function, including running and jumping.

The alternative to THA is surgical removal of the ball (femoral head) from the hip ball-and-socket joint. This procedure has many names, the most common one being femoral head ostectomy or FHO.

Although the FHO procedure is considerably less expensive and carries fewer risks, the reward may also not be as great and most veterinary surgeons believe THA offers the greatest return to normal function.

When considering that many dogs that undergo THA are young dogs suffering from the debilitating effects of hip dysplasia, this "return on investment" seems even more desirable.

Are there artificial joints for dogs?

New developments in THA have resulted in implants that are small enough to allow this procedure to be performed in small dogs and cats as well.

Other joint replacement procedures that have recently become available in veterinary medicine include total knee (usually referred to as the stifle in dogs) and total elbow replacements.

As with the hip, these joints are surgically replaced with varying combinations of the same materials which are held in place either with bone cement or bone growth into the implants.

While both are still somewhat in their clinical infancy, significant work has been done in years past developing these implants and testing them in research animals, either as a mechanism to improve the success of joint replacement surgery in human beings or with the intent of directly developing these artificial joints for use in clinical veterinary medicine.

Likely, elbow and stifle joint replacement surgery will join THA in the near future as viable methods for providing dogs with functional, pain-free joints.

This column is provided by the faculty of the OSU Boren Veterinary Medical Teaching Hospital.

###