



## Veterinary Specialists of Alaska, P.C. Client Information Sheet: Pancarpal Arthrodesis

### **Pancarpal arthrodesis**

Dirsko J.F. von Pfeil, Dr.med.vet. DVM; Diplomate American and European College of Veterinary Surgeons;  
Adjunct Professor, Small Animal Surgery, Michigan State University

The carpus (wrist) of the dog can obtain severe injuries that require fusion of this joint. The surgery to fuse the joint is called carpal arthrodesis.

Most often, the original trauma is a hyperextension injury. Hyperextension injuries to the carpus are usually associated with a history of a fall or jump. Within a few days dogs frequently improve, but develop a seal-like or plantigrade stance. The structures supporting the normal angulation of the carpus, the palmar ligaments and fibrocartilage as well as the flexor carpi ulnaris tendon are usually severely damaged, leading to the typical presentation. Conservative treatment such as application of a splint or medical therapy is not successful to treat this condition. Surgery is the best treatment. Other trauma such as a fracture of the bones forming the joint can also lead to chronic pain and decreased function of this joint. Severe arthritis can also be a painful condition and indication to perform a pancarpal arthrodesis.

Surgery consists of removal of all joint cartilage, placement of a bone graft into the joint spaces and application of a specifically designed bone plate. (picture on the right). Recent literature\* suggests that the use of a cast after pancarpal arthrodesis is not necessary anymore, especially since using the biomechanically more advanced new plates. However, a small bandage will be applied.

Bandage and suture removal is recommended at 2 weeks after surgery. Exercise is limited to short leash walks only for a minimum of 8 weeks. Radiographs will be taken at that time. Depending on bone healing progress, it will be determined if further restricted activity is indicated or additional radiographs need to be taken.

Complications after pancarpal arthrodesis may include, but are not limited to severe swelling after surgery, pressure sores from the bandage, infection, mal- or non-union, implant breakage or loosening, fracture of the humerus at the site of bone graft harvesting, or implant related lameness. Although there is usually good level of function after healing has occurred, occasionally dogs show some circumduction of the leg during the swing phase of ambulation. This is normal because of the lost amount of motion of the carpal joint. Plate removal is frequently necessary in the future after bone healing has occurred because screws may loosen and lead to irritation. The bone remains strong after plate removal.

Despite possible complications, healthy dogs that undergo appropriate post operative care have a good healing potential. The activity level and quality of life for patients that underwent a pancarpal arthrodesis once fusion has occurred is good to excellent.

Your VSOA Team



\*Woods et al. Vet Comp Orthop Traumatol 2012, Meeson et al. Vet Surg 2012, Rothstock Am J Vet Res 2012.