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Fracture Repair: Internal Fixation

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Purpose of Procedure

Internal fixation refers to a number of different methods of repairing broken bones with devices that are placed beneath the skin. These devices include intramedullary pins and cerclage wires, other pinning techniques, bone plates and screws, and interlocking nails. These devices are also used for arthrodesis (fusing a joint), corrective osteotomies (cutting the bone to correct abnormally angled or shortened bones), and treatment of certain joint disorders.

Description of Technique

Because these devices are unique and very different from one another, a detailed description of each would be too long for this handout. Please ask your veterinarian if you would like more details about a specific type of device.

Preparation of Animal

Because other injuries might have occurred during the trauma that created the broken bone, extensive evaluation of the animal is often done prior to surgery. As a part of the presurgical evaluation, laboratory tests, radiographs (x-rays) of the chest, an electrocardiogram (to identify abnormal heart rhythms), and an ultrasound examination of the abdomen may be recommended. X-rays are also taken of the affected bone or joint.

Potential Complications

Potential complications are uncommon but include infection, excessive bleeding, and damage to nerves and soft tissues (such as tendons or muscles). Failure of the implants (breakage or loosening), dehiscence (opening of the incision before it has healed), seroma formation (fluid buildup beneath the skin at the surgical site), lameness in cold weather related to the metal in the device, and delays or failure to heal can also occur.

Postoperative/Follow-up Care

Oral analgesic (pain-relief) medications are commonly given before and after surgery. If signs of inflammation (excessive redness, pain, swelling, or discharge) are observed at the incision, notify your veterinarian.

Until the fracture has healed, the animal is restricted to short leash walks only. Running, jumping, and playing are prohibited until healing is complete. Healing may take 4-12 weeks or longer, depending on age of the animal, location of the fracture, and type of surgery performed, and presence of other factors that affect healing.

Physical rehabilitation helps maintain muscle tone and joint mobility during healing. X-rays are taken every 4-6 weeks to evaluate the healing process. Intramedullary pins are often removed after healing of the bone is complete. Other devices are usually left in place unless there is a specific problem related to the implant.

IF SPECIAL INSTRUCTIONS HAVE BEEN ADDED, THEY WILL APPEAR ON THE LAST PAGE OF THE PRINTOUT.