

# EXPLANT

Chronic Draining Tract Infection

v.s.

Sterile Inflammation/Irritation = Implant Rejection

v.s.

Implant Failure

v.s.

Instability



## **Overview of Veterinary Explant (Implant Removal)**

An explant procedure involves removing orthopedic hardware of plate(s), pin(s) & screws such as after an arthrodesis, fracture, or TPLO for example from dogs & cats. The plate & screws used in these orthopedic surgical procedure function to hold the bone in a specific position & acting as internal brace/splint, supporting the bone being repaired until the bone heals usually within 8-10 weeks. Once the bone heals, the implants do not serve a purpose. Removing the plate & screws does not impact the outcome of the surgery.

Unfortunately, implants can act as a nidus for infection. Once bacteria establish themselves on the implants; they secrete a biofilm (mucus/slime protective shield) which prevents the infection from being treated with antibiotics. Once the implants are removed, the infection resolves in most cases. There is a small chance that the infection persists & additional treatments may be required. The intention is for the implants to stay in the patient for the remainder of their life as long as pets are non-clinical. We do not routinely remove implants is because of the unwarranted soft tissue trauma entailed & require pets to be under anesthesia in retrieving them (explant).

After all, they are metal foreign material. To retrieve the implants, a skin incision is commonly made over the original surgery scar, the implants are dissected out & removed. Some screws & soft tissue in the vicinity may be sent off to an external lab for bacterial culture & sensitivity. This is to confirm what type of bacteria is present if infection is a concern. Culture & sensitivity results may dictate if any changes are needed in your pet's antibiotic course. The site is then thoroughly flushed out with saline to improve cleanliness & closed. Prior to culture, we will apply Kerrier antibiotic beads specific to the culture results.

### **COMPLICATIONS**

Include surgical site discharge, persistent infection & incisional dehiscence. There are areas of the bones that are slightly weaker & excessive activity could cause a fracture through an empty screw hole, but this is uncommon after an orthopedic plate removal (Explant). We recommended to have your pet be under leashed controlled walking activity for 6 weeks.

### **PROGNOSIS** (long-term)

Most patients have a great prognosis & return to normal activity. No further action is usually required once the bone & soft tissue have recovered.

## **Post-Operative Home Care Instructions**

### Incision Monitoring

- Check the surgical site daily for signs of complications, including redness, swelling, heat, pain or any unusual discharge. If you are unsure, the surgeon is available by text communication so please message Dr. Le-Nguyen immediately.

### Wound Protection

- Keep the incision completely clean & dry; strictly avoid baths, swimming, or getting the incision wet until it is fully healed ~2 weeks.

### Prevention of Licking

- Prevent your pet from licking, scratching or rubbing the surgical site.
- An Elizabethan collar (cone) must be worn at all times when your pet is not directly supervised. Ok to remove e-collar if eating/drinking or potty breaks under direct supervision.
- Your pet should be allowed to go out only for urination & defecation 3-4 times daily & should always be on a leash.

(An e-collar may be required should there be any signs of attempting to lick at the bandaging or wound & each patient will be different).

(Your pet accessing their wound is an easy way to introduce infection & should be avoided).

**LICKING CAN SIGNIFICANTLY INCREASES THE RISKS OF INCISION  
COMPLICATION & INFECTION.**

### Bandage & Incision Care

- A light bandage (such as Primapore) was placed post-surgery, try to leave it intact for the 5-7 days as instructed by your vet team.

### Activity Restriction

- Restrict excessive activity, running, jumping, uncontrolled off leash activities or rough play. Empty screw holes can temporarily leave localized areas of the bone slightly weaker until filled in with remodeled bone.
- Client should re-examine the bandaid for excessive discharge & foul odor minimally every single day & report to surgeon &/or vet if there are any concerns.
- Your pet should gradually increase the amount of weight that they put on the affected leg. They should be using their leg consistently within the first 5-7 days. If they are not using this leg consistently within this time period, please call your primary care vet so they can re-evaluate them.

**“INADEQUATE RESTRICTION OF ACTIVITY IS A COMMON CAUSE OF  
POSTOPERATIVE COMPLICATION & INCREASED VETERINARY COSTS.”**

### Suture Removal & Incision Exam

- Skin sutures are typically scheduled for removal in 14 days post-operatively.
- Recheck before 14 days, if you suspect there is any issue with the incision healing.

### Medications (RXs)

- Your pet received an injection of Nocita at the incision site. This is a long lasting local Anesthetic/Analgesic (numbing pain relief) that will help keep them comfortable for the first 72 hours.
- Your pet received a local nerve block prior to surgery.
- Your pet received a product called SIMINI: anti-microbial lavage during surgery along with copious flush at the surgical site to help displace & kill bacteria at the infected site.
- A course of antibiotic, anti-inflammatory (NSAID: meloxicam OR carprofen), analgesia (Gabapentin) & sedation (Trazodone) meds may be dispensed.
- Please follow the label instructions carefully & contact your vet should you have any queries. Should there be any GI signs (vomiting, diarrhea) please stop the med(s) & contact your vet for further advice. The antibiotics may be readjusted by your vet once C&S if dictated by the C&S results.

### Cold & Warm Compress

- You may continue to ice your pet's incision site 3-4 times daily for 10-15 minutes each time for the next 3 days to decrease postoperative pain & inflammation.
- After 3 days, you may switch to a warm compress 3-5 times daily for 3-6 more days if the surgical site appears bruised, painful or swollen.

(NOTE: always place a protective layer, such as a thin towel, between the ice pack OR warm pack & your pet's skin.

You do not need a protective layer if you are using a lick sleeve that is provided by us).

### Rehabilitation

- As our patients are often impulse driven & not understanding of rest & controlled rehabilitation, it is essential that you take the reins for this process.
- Our patients often want to do more than they are capable of, putting their recently repairs bones & soft tissue at risk.
- Please find some general expectations & basic rehab guidelines located in "surgery handout" for example Arthrodesis, Long Bone Fracture or TPLO.
- Keep in mind that every patient has different recovery needs & this may need some tweaking to match your pet's requirements.
- Strict rest & confinement for the 1<sup>st</sup> few days (day 1 to 5).
- Controlled leash walks only for 5-10 minutes, 2-3 times a day for the next 4-6 weeks pending comfort level.
- If doing well at 6 weeks post-operative; the patient can transition back to gradual full activity over the next 2 weeks.

### Diet

- Your pet can resume their normal diet at  $\frac{1}{4}$  (quarter amount) the same evening of the surgery day.
- The following morning considers  $\frac{1}{2}$  (half amount) of pet food.
- The following evening considers a full amount of pet food.
- If they are not interested in their regular diet, you can try plain white rice, chicken breasts (unseasoned) &/or cottage cheese.
- It is common for your pet to have a decrease appetite following anesthesia & surgery. Often due to the pain medications & stress of hospitalization. Please report to your vet if they are not eating well.
- Anesthesia & pain meds can cause constipation. It is not unusual for pets to go 4 days without a bowel movement.
- You may notice swelling in the area of the ankle 2-3 days after surgery. This is normal because the swelling that is at the surgery site post operatively will move down the leg due to gravity. Warm compresses & physio rehab activity can aid in edema swelling resolution.

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