



## **Splenectomy (removal of the spleen)**

### **Overview/Indications:**

Reasons to remove the spleen might be: a tumor (cancer) of the spleen, damage of the spleen (due to trauma), rotation of the spleen (splenic torsion), or rupture/bleeding of the spleen leading to hemoabdomen (the rupture of the spleen is typically due to a mass, which could be malignant or benign cancer).

A large percentage of the blood is stored in the spleen, and any trauma to or rupture of the spleen might cause a lot of blood loss, needing emergency care.

The majority of splenic masses can be of a type that arises from blood vessels (hemangiosarcomas). These are aggressive cancer that often spreads to lungs, other organs in the belly (liver, kidney, ...), potentially even at the time that the tumor is first discovered.

### **Preoperative workup and other diagnostics:**

Patients with *hemoabdomens* are emergencies, and the work up would include:

- General physical examination
- Preoperative laboratory work to determine anesthetic stability, and fluid from the abdomen to confirm the presence of blood
- Imaging to localize where the blood is coming from, and if other organs are involved (if there are metastases present). This would include imaging of the belly (abdomen) and chest.

Patients with a *splenic torsion* can present acutely or, it can be a chronic condition, if the pet presents as an emergency, the work up would include:

- General physical examination
- Preoperative laboratory work to determine anesthetic stability
- Imaging of the spleen, and the splenic vessels to confirm if the spleen is torsed.
- Imaging of the chest might be indicated as well, especially in older pets.

Patients with a *splenic mass* can present acutely (if the mass is bleeding – see hemoabdomen) or they can present for a work up as an appointment, and the work up would include:

- General physical examination
- Preoperative laboratory work
- Imaging to localize the mass, and look for other lesions, masses and metastases.
- In some cases a fine needle aspirate can be performed for cytology to further define what type of mass is present.

### **Procedure:**

Prior to surgery, the patient is stabilized. This generally entails intravenous fluids, and in some cases a blood transfusion is needed.

#### *Surgery*

An incision into the abdomen (belly) is made and the spleen is fully removed. If the spleen is twisted/torsed, it will be removed without untwisting it first.

In dogs at risk for GDV (gastric dilatation volvulus, ie: large breed & deep chested dogs) we might discuss performing a gastropexy during the same surgery, providing your pet is stable enough under anesthesia to do so. In a gastropexy, the stomach is pexied (attached) to the body wall to create a permanent adhesion to prevent the stomach from twisting around in the future. The stomach might still fill with air, leading to bloat(ed appearance).

**Complications:**

Any patient with a hemoabdomen is at a higher anesthetic risk, due to blood loss. These risks include:

- heart arrhythmias: sometimes arrhythmias develop during surgery, and sometimes after surgery. We will monitor your pet's heart rhythm during and after surgery, and treat with medications if needed.
- aspiration pneumonia
- bleeding
- surgical site issues, such as infection, dehiscence, seroma.

The emergency doctor and emergency surgeon will discuss these complications in more detail prior to emergency surgery.

**Postoperative Care:**

*In hospital care:* the pet will be monitored closely in our ICU unit during their recovery from anesthesia, and will be monitored for arrhythmias.

Other therapy will include intravenous fluid, and pain medications. If there was severe blood loss, blood transfusions might be needed.

*At home care:*

- Leash walks/exercise restriction for the first 10-14 days after surgery to allow all the incisions to heal.

**Prognosis:**

The prognosis depends on the reason for the splenectomy. If hemangiosaroma was present, the median survival is weeks to months, but could be extended by chemotherapy. If the mass was benign, or the spleen was removed because of torsion or trauma, the prognosis is generally excellent.