



A Monthly e Magazine
ISSN:2583-2212

October, 2025 Vol.5(10), 9495-9499

Popular Article

Anal Sacculectomy in Dogs-Anatomical Basis and Indication

¹Anuska Halder, ¹Ardra S., ¹Sameer and ²N S Sunilkumar
¹BVSc&AH graduate students

²Assistant Professor, Department of Veterinary Anatomy
College of Veterinary and Animal Sciences, Mannuthy, Thrissur, Kerala, India
Kerala Veterinary and Animal Sciences University
<https://doi.org/10.5281/ScienceWorld.19491571>

Introduction

As veterinary professionals, we frequently encounter dogs with anal sac issues. While many of these cases can be managed with simple medical treatments, some dogs suffer from persistent, painful, or even cancerous conditions that require a definitive solution: **anal sacculectomy**.

Definition: Anal sacculectomy is a surgical procedure where the anal sacs (also known as anal glands) are removed from a dog or cat. This is usually done to address persistent or severe issues related to the anal glands, such as chronic infection or impaction, which don't respond to other treatments.

This article will explore the anatomical basis for this procedure, the key indications for surgery, the different surgical approaches and the critical pre- and post-operative care required to ensure the best possible outcome for our patients.

Understanding the Anatomy and Function

Dogs have two small, paired glands called **anal sacs** (also known as anal glands or paranal sinuses), located at the 4 and 8 o'clock positions relative to the anus. These sacs lie nestled between the internal and external anal sphincter muscles. Each sac has a tiny duct that opens into the anal canal, through which it secretes a foul-smelling, oily substance. This secretion is a form of scent marking, a way dogs communicate and mark their territory. Normally, these sacs empty naturally during defecation or when a dog is frightened. However, several factors can disrupt this process, leading to a cascade of problems:



- **Narrow or blocked ducts:** These can prevent the normal flow of secretions.
- **Chronic soft stools or diarrhea:** A lack of firm pressure during defecation means the sacs don't get compressed and expressed properly.
- **Obesity:** Excessive weight can hinder the natural compression of the sacs.
- **Allergies:** Both food and environmental allergies can cause inflammation and swelling in the area, leading to impaction.

These issues can lead to **anal sac disease**, which typically progresses from impaction (the sacs become full and thickened), to infection (sacculitis), and finally to abscessation (a painful, pus-filled swelling).

Indications for Anal Sacculectomy

A surgical approach is not the first line of defense for anal sac issues. We typically reserve sacculectomy for cases that don't respond to less invasive treatments. The primary indications for this procedure are:

- **Chronic Anal Sacculitis:** Repeated inflammation and infection that do not resolve with medical management.
- **Recurrent Anal Sac Impaction:** The need for frequent manual expression to prevent discomfort.
- **Abscesses and Fistulas:** Persistent or recurring abscesses, or chronic draining tracts (fistulas) that suggest a deep-seated infection.
- **Anal Sac Neoplasia:** The presence of a mass within the sac, most commonly an aggressive tumor called **anal sac apocrine gland adenocarcinoma**.

Diagnosis

1. **Clinical Signs of Anal Gland Problems:** Dogs with anal sac disorders often show the following signs:
 - Scooting (dragging the perineal area on the ground)
 - Excessive licking or biting of the anal region
 - Dyschezia (painful defecation)
 - Tenesmus (straining)
 - Hematochezia (fresh blood in stools)
 - Matted anal fur, discharge or swelling
 - Foul odour from the perineal region
 - In severe cases: fever, lethargy or reluctance to sit
2. **Diagnostic Methods:** A detailed clinical evaluation is essential and includes:
 - Visual inspection of the perineum for swelling, discharge, or irritation.



- Digital rectal examination (DRE) to palpate and assess anal sacs.
- Expression of anal sacs to evaluate content (thick, discoloured, or bloody secretion indicates disease).
- Cytology or culture if infection is suspected.

In recurrent or complicated cases:

- Ultrasound or radiography to rule out tumours or abscesses.
- Fine-needle aspiration or biopsy for neoplastic conditions

The Surgical Procedure: Techniques and Considerations

Anal saccullectomy, the surgical removal of one or both anal sacs, demands a meticulous approach. The primary goal is to completely remove the diseased sac while preserving the crucial surrounding structures, particularly the **external anal sphincter muscle** and its innervation.

There are two main surgical techniques:

1. Closed Anal Saccullectomy

This is the preferred method for most routine cases because it minimizes the risk of bacterial contamination. The sac is removed intact without being opened.

- **Positioning and Preparation:** The dog is positioned to expose the perianal area, which is then widely clipped and scrubbed. The anal opening is isolated with a drape to prevent contamination.
- **Sac Identification:** To make the sac easier to find, a small catheter is inserted into the duct and a balloon at its tip is inflated with saline. This distends the sac, making it firm and palpable.
- **Dissection:** A small incision is made just over the sac. The surgeon then carefully dissects the sac from the surrounding tissues, especially the external anal sphincter muscle. **Crucially**, the dissection must be performed precisely along the fascial plane of the sac to avoid damaging the muscle and the **caudal rectal nerves** that provide voluntary control to the sphincter. Damage to these nerves, particularly if both are affected during a bilateral saccullectomy, can lead to permanent fecal incontinence.
- **Duct Ligation and Excision:** Once the sac is completely freed, its duct is ligated (tied off) with absorbable suture material, and the sac is removed.
- **Closure:** The surgical site is closed in layers to eliminate any dead space and minimize the risk of fluid accumulation.



2. Open Anal Sacculectomy

This technique is less common and is generally reserved for more complex cases, such as those with extensive abscessation, rupture, or suspected neoplasia. The primary difference is that the surgeon incises the sac and removes the lining after flushing out the contents. This approach carries a higher risk of contamination and a drain may be placed to help with post-operative drainage.

Pre- and Post-Operative Care

Successful outcomes depend as much on proper care before and after surgery as they do on the surgical technique itself.

Pre-operative Care

- **Comprehensive Diagnosis:** A thorough physical and rectal examination is essential. For suspected tumors, a fine-needle aspirate (FNA) or biopsy is performed, along with abdominal ultrasound and chest radiographs to check for metastasis.
- **Antibiotic Prophylaxis:** If an infection is present, a course of antibiotics is often started before surgery to reduce the bacterial load. Perioperative intravenous antibiotics are also administered.
- **Bowel Preparation:** A low-residue diet or stool softeners may be used to minimize post-operative straining and contamination.

Post-operative Care

- **Pain Management:** Multimodal pain relief is crucial, including pre-emptive opioids, NSAIDs, and local anesthetic blocks.
- **Antibiotics:** A course of oral antibiotics is typically continued for 7–14 days.
- **E-Collar:** An Elizabethan collar is mandatory to prevent the dog from licking or chewing the incision site, which can lead to dehiscence (wound breakdown).
- **Activity Restriction:** Strict confinement and limited leash walks are necessary for 2–4 weeks to prevent strain on the healing tissues.
- **Dietary Management:** Continuing a high-fiber or stool-softening diet helps ensure soft stools that pass easily, reducing the need for straining.

Potential Complications and Prognosis

While anal sacculectomy is a common procedure with an excellent prognosis for benign disease, potential complications must be considered:

- **Surgical Site Infection:** The high bacterial load of the area makes infection a risk.
- **Wound Dehiscence:** Self-trauma, infection, or excessive activity can cause the incision to open.



- **Fecal Incontinence:** This is the most serious complication. It can be temporary due to inflammation or permanent due to irreversible nerve damage. This risk is highest with bilateral saccullectomy.
- **Rectocutaneous Fistula Formation:** A persistent, abnormal tract from the anal canal to the skin can develop from incomplete sac removal or surgical trauma.

For dogs with chronic, non-neoplastic anal sac disease, the prognosis is overwhelmingly **excellent**. The surgery provides permanent relief from pain and discomfort, significantly improving the dog's quality of life. For cases of anal sac adenocarcinoma, the prognosis is more guarded and depends on the disease stage. However, complete surgical excision, often combined with other therapies, remains the cornerstone of treatment.

Conclusion

Anal saccullectomy is a definitive surgical procedure for treating chronic or recurrent anal sac diseases in dogs, such as impaction, infection, abscess, or tumours. It is based on the precise anatomical location of the anal sacs between the anal sphincters. When performed correctly, it provides long-term relief, improves the dog's comfort and quality of life, and prevents recurrence. However, care must be taken to avoid complications like faecal incontinence or wound infection.

References

- Fossum TW. *Small Animal Surgery*. 5th ed. Elsevier; 2019.
- Slatter D. *Textbook of Small Animal Surgery*. 3rd ed. Saunders; 2003.
- Pavletic MM. *Atlas of Small Animal Wound Management and Reconstructive Surgery*. 4th ed. Wiley-Blackwell; 2018.
- Tobias KM, Johnston SA. *Veterinary Surgery: Small Animal*. 2nd ed. Elsevier; 2017.

