PURDUE UNIVERSITY | Veterinary Hospital

Cystotomy

Indications:
The most common indication for cystotomy is urinary stone (urolith) removal. Others might be to get access to the bladder for a different procedure

Preoperative workup and other diagnostics:
Most of these cases are referred either emergently (for example if a stone has traveled from the bladder into the urethra and is obstructing the urine), urgently (for example if there is a partial obstruction, or if the stones are traumatizing the bladder wall, or in case of severe urinary tract infection), or on a scheduled basis (for example if the stone is found on a routine exam). Most cases have had a certain extent of work up already performed, either at their regular veterinary office, or via the emergency service, or through the urology/nephrology service.

A work up will include:
- General physical examination prior to anesthesia
- Preoperative laboratory work & imaging:
    - Mostly done prior to referral to the soft tissue surgery service
    - Extent of the workup depends on the history and clinical signs of your pet. But the workup will typically involve bloodwork & other lab analyses as well as imaging – starting with radiographs, and if needed additional imaging such as ultrasonography or CT.
    - Stone analysis, culture (of the stone, and urine)

Procedures:
Either a full abdominal exploratory surgery through a midline incision, or an approach limited to just expose the bladder is performed.
Uro(retro)hydropropulsion: Stones in the urethra will be flushed back into the bladder – either before, or during surgery. This will allow us to removal all stones via one incision into the bladder. If stones cannot be flushed back, but are stuck somewhere along the urethra, and cannot be moved or broken down minimally invasive, a different procedure (urethrostomy) might be needed.
Cystotomy: An incision is made into the lumen of the bladder to remove all the stones. The urethra is flushed to remove any remaining stones.
After surgery, while your pet is still under anesthesia, we will check with radiographs or ultrasound if all stones were removed during surgery, and if any stones remain, we will return to the OR immediately to remove any remaining stones. We might skip this step for stones that are not visible on radiographs (radiolucent stones).

Complications:
- Anesthesia: as with any surgical procedure, there are always risks associated with general anesthesia. For otherwise healthy pets, these risks are usually low, but are considered increased in animals with systemic illness, such as urinary obstructions.

- Surgical site complications: this can range from a local dehiscence, to a fluid pocket (seroma) that will resolve on its own, or can be a local abscess that might need to be treated surgically.
- Bladder wall dehiscence: This is a major complication, and the risk is increased if the bladder wall is unhealthy or with very sick animals, with urine leaking into the abdomen. A second surgery is needed to revise any areas of leakage.

Your surgeon will discuss these complications in more detail during your pet's visit.

In hospital care:

- Hospitalization and intravenous fluids are typically needed postoperatively to recover from surgery. Depending on the extent of surgery, duration of the disease/clinical signs, and other co-morbidities, this stay can be only the first night after surgery, or can be several days, until your pet is healthy enough to continue care at home.
- If there was a perforation, or if there is concern for bladder wall health, a drain (tube) might be placed in your pet's belly, allowing us to monitor how their belly is healing. We will remove this drain before your pet goes home with you.

At home care:

- Exercise restriction: leash walks/exercise restriction for the first 10-14 days after surgery to allow all the incisions to heal.
- Incision care: this includes keeping the incision dry and clean, as well as wearing an E-collar as long as the incision is still healing (first 10-14 days postoperatively).
- Once the stone analysis results become available, we will contact you with specific food recommendations to try to prevent future stone formation.

Prognosis:

Good, although some pets might continue to develop urinary stones during their life.