⊕ SPARC Cat surgery Day 0

Brett Hanzlicek[1], Ben Abelson[2], Margot Damaser[3]

[1]Advanced Platform Technology Center, Louis Stokes VA Hospital, Cleveland, Ohio;

[2]Cleveland Clinic Lerner Research Institute, Cleveland, Ohio;

[3]Department of Biomedical Engineering, Cleveland Clinic Lerner Research Institute, Cleveland, Ohio

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1	Works for me

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Brett Hanzlicek

ABSTRACT

This protocol for cat surgery to expose the badder for inactive device insertion.

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MATERIALS TEXT

Sutures - 4-0 Vicryl Polysorb (Covidien UL212), 3-0 Prolene (Ethicon 8762), 2-0 Silk
Surgical instruments

Animal Prep and catheter placement

1

Cat is anesthetized and abdomen is shaved by the Cleveland Clinic vet team. The cat is then moved into the surgery room and attached to monitors by the vet team.

2   Drape cat and perform betadine scrub on abdomen and genitals.

3   Put surgilube on 3.5Fr catheter and insert into bladder through the urethra. Advance the catheter until resistance is met, then pull back 2-3 cm

Surgery - Incision and delivery of bladder

4   Mark a line with a skin marker that is midline and 3-4 cm in length.

> Use the imaging results to determine the location of the bladder. The feline bladder is intraperitoneal and mobile, therefore the location can vary significantly based on stool burden, positioning etc. The bladder is typically deviated to one side of midline.

5   Make the incision through the skin with a #15 blade. Continue to cut through the fat (which separates nicely from the external fascia). Bluntly dissect the skin off of the muscle and use a Weitlaner retractor to keep the incision open.

6   Use a scalpal or scissors to make a small incision in the midline muscle (be careful not to go through). Use a right angle or small hemostat to enter the abdomen bluntly and open the muscle/fascia to the length of the incision. Replace the retractor to incorporate the abdominal musculature or use two fingers to spread the abdomen open and visualize the bladder.

7   Use a blunt pick-up to grasp the bladder and deliver it out of the incision. Place it on several wet pieces of gauze so the bladder does not come in contact with fur/instruments.

> It is a good idea to remove some fluid from the bladder before delivering it - this will decrease the needed length of the incision.

Surgery - Bladder incision

8   Mark a 1 cm line on the dome of the distended bladder using a skin marker. Place a 4-0 vicryl full thickness stay-suture at each apex of your planned incision and keep them untied in a hemostat.

> When deciding where to mark/cut, identify an area on the dome that appears to be less vascular and not covered in fat. The ureters enter dorsally near the bladder neck.

9   Incise the bladder using a #10 blade. Quickly place a closed hemostat or pickup inside the lumen of the bladder so you don't lose the lumen. Use a tissue scissor to open the rest of the mucosa.

The bladder is quite stretchable, so you may not need the entire 1 cm of the mucosa opened.

10 Hold one apical suture and have your assistant hold the other suture to prepare for the device to be placed into the bladder.

Surgery - Bladder closure

11 Irrigate the bladder with saline, then close the cystotomy. Close the mucosa with a running 4-0 vicryl suture, then the muscle with several interrupted 4-0 vicryl sutures, finishing by tying the initial stay sutures.

Occasionally there is some bleeding from the detrusor, and this is easily controlled with manual pressure or just by throwing a suture.

Given the small capacity of the bladder to start with, be sure to take bites that are as small as possible to offer good closure.

12 Perform a quick leak test while you are visualizing the incision in the bladder.

This will also give you a sense of how much you are willing to fill the bladder during post-op cystogram and cystometry.

13 Replace the bladder in its orthotopic postion.

Surgery - Abdominal closure

14 Close the abdominal wall in one layer with 3-0 surgipro running suture and irrigate the wound.

You can also place 1-2 interrupted sutures in the middle of the incision for extra support.

15 Use leftover vicryl for a few Scarpa's or subcutaneous fat stitches.

16 Close the skin with simple, interrupted nylon sutures. Place them closely together.

Don't over tighten the nylon sutures and also cut the tails short. This is so the sutures won't irritate the cat and so

the cat isn't able to mess with the sutures.

Notes
17

You will not need any cautery – the most bleeding is from the subcutaneous fat and the detrusor, and this stops quickly with a little pressure.

Wear loupes.

You will not get spontaneous drainage of fluid through the catheter given its small size, you will have to use a syringe to aspirate urine.

When catheterizing the penis, it is almost impossible to see a meatus. Basically retract the foreskin and advance the catheter directly into the center of the triangular shaped glans and it will open up for you. There are usually two areas of the urethra that cause slight resistance.