

Blocked Cats – the First Five Minutes
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Key Points

- Assess and stabilize first!
- Consider decompressive cystocentesis
- Try a sacrococcygeal block
- Use the best catheter with good technique
- Prescribe antibiotics only when necessary

Cats with urethral obstruction may have life-threatening changes that must be addressed

- Dehydration
- Hyperkalemia
- Azotemia
- Metabolic acidosis
- Cardiovascular compromise
- Arrhythmias
- Acute kidney injury

Intravenous fluids needs

- Monitor carefully for overhydration!
- Best choice is a balanced electrolyte solution (e.g., lactated Ringers solution), second choice is a replacement fluid (e.g., Normosol-R); avoid normal saline (too acidifying)
- Start with 4-6 mL/kg/hour; if cat is severely depressed, up to 8-10 mL/kg/hour
- Ongoing fluid therapy:
 - Fluid deficit = % dehydration x 1000 mL x weight (kg)
 - Replace about 80% of the deficit in the first 24 hours
 - Maintenance needs: [weight (kg) x 30] + 70
- Treating shock
 - Fluids 15 mL/kg over 15 min (1/4 of the shock dose), then reassess
 - Active warming to 37° C (98° F)

Predictors of hyperkalemia

- The two most important signs: hypothermia 35-36° C (95-96° F), heart rate <120 beats/minute
- Other signs: weak pulses, increased respiratory rate, arrhythmia, vomiting, first time obstruction
- Electrocardiogram may show prolonged P-R interval, small or absent P wave, wide QRS complex, tall, tented T wave

MILD <6 mEq/L	MODERATE 6-8 mEq/L	SEVERE >8 mEq/L
Fluid therapy with balanced electrolyte solution for dilution	<ul style="list-style-type: none"> • Sodium bicarbonate: 1-2 mEq/kg IV over 10-15 min; repeat if needed to maximum of 4 mEq/kg • 10% Calcium gluconate: 0.5 mL/kg IV over 5-10 min, monitor ECG 	50% dextrose: dilute to 10-20%, give 1 mL/kg IV with regular insulin at 0.25-0.5 U/kg and monitor blood glucose

Decompressive cystocentesis

- Benefits:
 - Decrease pain and discomfort
 - Improve biochemical abnormalities
 - Start to restore renal function
 - Buy time to stabilize patient
 - Decreased resistance to flushing the urethra
- Equipment: 22g butterfly or hypodermic needle, IV extension set, 3-way stopcock or similar, 20 mL syringe

Sacroccygeal block

- Benefits:
 - Performed with sedation, general anesthesia not needed
 - Easier to extrude penis
 - Reduces resistance for placing the urinary catheter and flushing
 - May decrease procedure time
- Can be used for procedures of the caudal urogenital tract, colon, anus, perineum, tail
- Equipment: 25G x 1-inch needle, 1-mL syringe, preservative-free 2% lidocaine without epinephrine or preservative-free 0.5% bupivacaine
- Procedure:
 - Sedation with a benzodiazepine and opioid
 - Place cat in sternal recumbency and perform surgical preparation of the sacroccygeal area
 - Palpate for the sacroccygeal space or space between 1st and 2nd coccygeal vertebrae; moving the tail up and down can help identify the locations
 - Insert needle, aspirate to ensure no blood, slowly inject
 - Takes effect in about 10 min; lasts about 60 min (lidocaine) or 180 min (bupivacaine)

Urethral catheters

- Radiograph the entire urinary tract first!
- For obstructions in the distal urethra, try an olive-tip catheter first
- Use the least traumatic catheter available
- Use the right length of catheter, long enough to enter the bladder (about the level of vertebra L6)
- Apply lidocaine lubricant to the catheter
- Use saline at body temperature for flushing
 - Don't use acidic solutions such as Walpole solution, or add vitamin C to saline
- Don't use the catheter itself to dislodge obstruction (it's not a battering ram!)

- Catheter maintenance:
 - Use aseptic technique to place
 - Use a closed collection system
 - Inspect daily for breaks, fecal contamination
 - Remove as soon as possible

Medications

- Analgesia with an opioid; don't use an NSAID in dehydrated, azotemic cats
- Avoid prazosin – it is not effective and seems to make some cats feel nauseous
- Avoid antibiotics unless absolutely necessary and prescribe based on urine culture results

Resources

Today's Veterinary Practice - Feline Urethral Obstruction: Diagnosis and Management. Available at: <https://todaysveterinarypractice.com/urology-renal-medicine/feline-urethral-obstruction-diagnosis-management/>

VetGirl video on sacrococcygeal block: <https://youtu.be/KhAN4SavVzg>

Weese JS, et al. International Society for Companion Animal Infectious Diseases (ISCAID) guidelines for the diagnosis and management of bacterial urinary tract infections in dogs and cats. Vet J. 2019 May;247:8-25. Available at: <https://www.sciencedirect.com/science/article/pii/S109002331830460X>

Cosford KL and Koo ST. In-hospital medical management of feline urethral obstruction: A review of recent clinical research. Can Vet J. 2020 Jun;61(6):595-604. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7236633/>