# PETS Referral Center to You

2026: June Issue

## Perfect Radiographs:

1st round (stay tuned in July)

*Identification and effects of common errors and artifacts on the perceived quality of radiographs* EK Nuth, LJ Armbrust, JK Roush and DS Biller J Am Vet Med Assoc 2014;244:961–967

Objective—To identify common errors in film and digital radiographs provided by referring veterinarians and determine the effect of such errors on the perceived diagnostic quality of image sets.

Sample—135 sets of radiographic images acquired by referring veterinarians for client owned small animals evaluated at a university hospital.

Procedures—Sets of radiographs were prospectively collected and evaluated for proper performance of various radiographic technical variables including exposure, collimation, positioning, inclusion of all appropriate views, presence of artifacts, radiation safety, and labeling. Sets of radiographs were subjectively determined to be of diagnostic or nondiagnostic quality by 2 evaluators.

Results—The variables exposure, correct positioning, absence of artifacts, and acquisition of all appropriate views were significantly associated with a determination of diagnostic quality for radiograph sets. Correct patient labeling, radiation safety, and x-ray beam centering and collimation were not associated with a determination of diagnostic quality for radiograph sets. The number of categories with errors was significantly associated with identification of radiograph sets as having diagnostic or nondiagnostic quality. Digital radiographs had a significantly lower number of image artifacts and significantly higher frequency of proper labeling versus film radiographs.

Conclusions and Clinical Relevance—Results of this study suggested the technical variables proper exposure, proper positioning, absence of artifacts, and acquisition of all appropriate views were important for acquisition of sets of radiographs of high diagnostic quality. Identification of these errors and adjustment of radiographic technique to eliminate such errors would aid veterinarians in obtaining radiographs of high diagnostic quality and may reduce misinterpretation.


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**Special points of interest:**

. *Right Rads*

### Inside this issue:

# MicroCE from Team Emergency: *Urethral Obstruction*

**AMANDA MAMO, DVM**

"A penis and a catheter can be wed by manifold methods!" (said no one ever...)

So many options; where to start? I will share my preferences below, but please know there are numerous variations.

I start with analgesia and anxiolytics. Let's make them comfortable while keeping them safe. I avoid acepromazine (hypotension with renal insult) and "kitty magic"/dexmedetomidine (impaired renal perfusion) because of pre-renal azotemia and cardiovascularly unstable kitties. My go-to is methadone (0.2 to 0.3mg/kg IV or IM subject to temperament) and midazolam (0.2 to 0.3mg/kg IV or IM). This helps with comfort, IV catheter placement and venipuncture. It also may be enough for the majority of my patients to achieve placement of a urinary catheter.

Sidebar: If they start urinating after the sedation, still palpate the bladder. Often it remains full, hard and painful. A urinary catheter allows for complete evacuation of the bladder, urine collection for urinalysis, and indwelling drainage for those cases needing more than conservative management. For owners with financial limitations, consider a home-based model or abbreviated hospital model...with an overabundance of communication about standard of care and conservative challenges.

*A protocol for managing urethral obstruction in male cats without urethral catheterization***.** ECooper, TOwens, DChew, TBuffington. J Am Vet Med Assoc. 2010; 237(11):1261-6. *PubMed Full Text*

With their vitals in hand, I don't usually wait for blood chemistry results. The faster they are unblocked, the faster any hyperkalemia and azotemia will improve. If additional sedation is needed, I use alfaxalone 2mg/kg IV titrated to effect (or propofol 3mg/kg IV to effect). We establish initial and ongoing multiparameter monitoring, to include ECG (for hyperkalemia induced electrical abnormalities). I aggressively treat a severely elevated potassium (calcium gluconate, regular insulin followed by dextrose bolus and supplementation, albuterol or terbutaline and IV fluid boluses).

I use an open-end, tom cat catheter attached to a flushed T-port; this set up doesn't require me to attach the saline-filled 12 mL syringe directly to the catheter. I find that this helps with the syringe staying attached (I can't tell you how many times the retropulsion has blasted the catheter off the syringe!), and the tom cat catheter will not be jostled around while manipulating the syringe causing less trauma to the urethra. I do copious short, firm pulses for retropulsion (and don't forget **sterile** lube).

**Trouble shooting:** If the tom cat catheter is not working, you can always try an IV catheter for more control at penile tip, coccygeal block for more numbness and relaxation of urethra, general anesthesia for further relaxation and if all else fails, a decompressive cystocentesis prior to additional catheter attempts or case transfer. If the urethra ruptures, do not panic! It is still reasonably possible to place an indwelling urinary catheter to bridge the tear and proceed with hospitalization for 5 days while it heals.

If you are placing an indwelling urinary catheter and transferring the case for in-hospital care, my personal preference is the 5 Fr red rubber catheter (occasionally a 3.5 Fr) purely for the ease of nursing care after it is placed. There seems to be less kinking of the lines. Since the RR catheters are long, verify catheter location (long enough/not too long) prior to securing with tape and sutures. I recommend using waterproof tape and ensure the tape is pressed firmly to catheter. Suture tape to the prepuce, simple interrupted suture; keep things snugged up. Any additional space (tape to prepuce) allows sliding of the U-cath, and in some cases the catheter will fall out with tape and sutures still attached. You can confirm location with another unopened RR catheter lined up externally to judge where the tip is, you can ultrasound bladder while flushing saline (shake syringe with air making bubbles) to see where the tip is, and you can radiograph the bladder to confirm where the tip is.

If the patient is stable at admit and while under sedation, radiographs of the bladder to screen for uroliths PRIOR to catheter attempts is the least confusing to interpret FYI. Air bubbles just add to visual confusion, along with wet fur!

Alternative urinary catheters include the Slippery Sam (*note*: ensure adequate length relative to cat size; U cath must advance beyond the trigone of the bladder in those larger cats) or the Mila Tom Cat (*note*: ensure you bridge the catheter and suture device with tape and two simple interrupted sutures as per the package or the catheter WILL slide out!)

I hope you found this helpful! We are happy to answer questions while you are vamping or revamping your obstructed urethra protocols. And we enjoy kicking a frustrating case around before, during or after if you ever find the need.

*2025 iCatCare consensus guidelines on the diagnosis and management of lower urinary tract diseases in cats***.** STaylor, SBoysen, TBuffington, SChalhoub, PDefauw, MMDelgado, DGunn-Moore, RKorman. J Feline Med Surg. 2025; 27(2):1-36.

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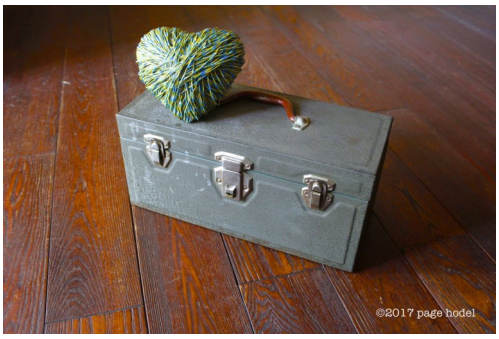
*To serve pets and people.*




**PETS Referral Center** was founded in 1979 by a group of local general practice veterinarians. They recognized a need for after hours care to support the local community and reduce the burden of emergency calls to primary care hospitals. PETS has since expanded into a 24/7 emergency and multi specialty hospital. Our specialties are all board certified in their respective fields of Exotics, Oncology, Ophthalmology, Radiology and Surgery. Through the years we have worked with primary care veterinarians and pet parents to provide the best possible medical care.

***Our Mission:*** *To serve pets and people by continually pushing to improve our medicine, our service, our communication, and ourselves. We can accomplish this by working as a team, supporting our referring veterinarians, caring about every patient, learning from others, embracing change, and using intelligent and fair business practices.*

## Communications:

### Use your Medical Record to Paint a Vivid Picture

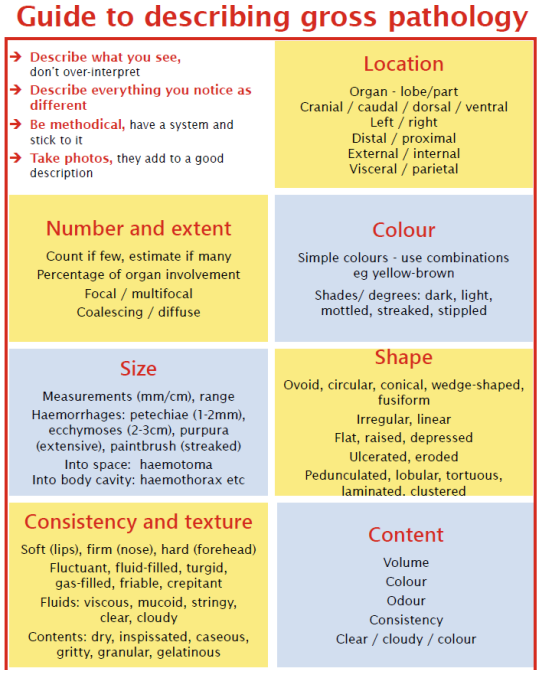
Yes, a picture is worth a thousand words...BUT, words are quite useful too!

We all whip out our phone cameras when our dog/cat is being cute, and we share that with our extended family/friend circle. Keep that mindset when you are examining your patients too. **Photo everything.**

We also have spent time and treasure to make our brains what they are today. Use that brain and those $100 words to **create a stellar written description of your patient experience** such that another veterinary professional can read and experience (!) your patient encounter in absentia.

Where is the lesion? NOT “the ear” but rather “AD, epidermal, dorsal aspect junction pinna-forehead”

What is the lesion? NOT “a mass” but rather “4x4x1cm firm, hairless, pale pink, plaque-like epidermal mass”




Stolen shamelessly from Shirley Turner, April 2019