



**VETERINARY VOICE:  
Tips of the Trade**

<b>Critical Care - Uroabdomen</b>	
<b>What is the definition of uroabdomen?</b>	Uroabdomen (or uroperitoneum) is urine free in the peritoneal space. It can be due to a tear in the ureters, bladder, or proximal urethra. If a ureter is torn and the peritoneum remains intact, retroperitoneal accumulation of urine can occur.
<b>When should you consider uroabdomen a possibility?</b>	Consider this condition in any case of blunt or penetrating trauma – falls from heights, hit by car (especially if pelvic fractures present), gunshot or stab wounds involving the abdomen, and urethral obstruction by calculi or mucous plugs. Iatrogenic uroabdomen may be caused by traumatic urinary catheterization, aggressive palpation or centesis of an over-distended bladder, or after a cystostomy (surgical technique flaws, blood clot in urethra). A bladder can rupture spontaneously due to bladder atony or necrotizing cystitis.
<b>Presenting signs?</b>	Many different presenting signs are possible including general malaise, anorexia, vomiting, fever, and signs of shock. More specific signs include acute abdominal pain, dysuria, stranguria, hematuria, abdominal distension, or bruising in the inguinal or perineal region. Diagnosis of uroabdomen may not be easy in every patient. However, it is life-threatening if not identified and treated. Small, slow leaks may be difficult to identify. A palpable bladder and the ability of the patient to pass urine <u>do not</u> rule out rupture somewhere in the urinary system.
<b>How is the diagnosis made?</b>	Initial diagnostics should include evaluation of blood gas, electrolytes, BUN and creatinine values, as well as abdominal imaging. Patients may exhibit varying degrees of azotemia and electrolyte abnormalities including hyperkalemia, hyponatremia, hypochloremia, and metabolic acidosis. A creatinine level in the abdominal fluid that is twice that in the serum is diagnostic for uroabdomen. Radiographs may permit visualization of the bladder, cystic or urethral calculi, or may show overall poor abdominal detail. Additional imaging techniques such as abdominal ultrasound, contrast cystourethrogram, or IV urogram may be necessary to identify the exact location of the urinary tract rupture.
<b>What is the treatment?</b>	Initial treatment includes IV fluid therapy and evacuation of urine from the abdomen. A urinary catheter may serve to remove urine from the abdomen. If a urinary catheter is ineffective, a transabdominal drain (fenestrated large red rubber catheter, argyle feeding tube, or other) may be used. Small bladder and urethral tears can heal by placement of an indwelling urinary catheter for 3 to 10 days, more significant tears require surgery. Surgery should be delayed until the patient is stabilized – better hydrated, electrolyte derangements corrected, and renal values normalizing.
<b>Questions?</b> <b>Critical Care Experts:</b> <b>Heather Connally,</b> <b>MS, DVM, DACVECC</b> <b>Stacy Armstrong,</b> <b>DVM, DACVECC</b>	The Veterinary Specialty Center of Tucson has a board-certified criticalist caring for critical cases every day of the week. They are also available to answer questions or accept referrals 7 days a week. The critical care service is open 24 hours a day and is staffed by highly trained doctors and technicians at all times. Board-certified criticalists have four additional years of training after veterinary school and are certified by the American College of Veterinary Emergency and Critical Care to assure competency in advanced veterinary critical care.