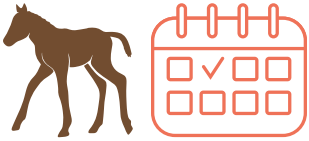

Is uroperitoneum more common in colts than fillies?
Is hyperkalemia always present ?

Disruption of the ureters, bladder, urethra, or urachus can lead to uroperitoneum (urine leakage into the peritoneal cavity). Most commonly it is due to a ruptured bladder followed by a defect or rupture in the urachus. One may feel there is a trend towards males but in the last two studies there was not a statistically significant difference between sexes. There was a less obvious male trend when uroperitoneum occurred during hospitalization with primary complaints compatible with hypoxic/ischemic injury, sepsis, or both. These latter cases were also more often but not always associated with dystocia.

## What is the possible time frame for presentation and diagnosis?



Foals generally present **within the first week** of life. This average appears to hold in both cases whether a ruptured bladder is a primary concern or whether the foal is otherwise hospitalized. Understandably, this will depend on a variety of factors such as the size of the defect, concurrent patient compromise as well as index of suspicion and diagnostic capabilities. Take note as the age range included **2-42 days** for those presenting with a primary concern of uroperitoneum and **1-11 day**s for those foals developing uroperitoneum **during hospitalization** for concurrent disease.

## Do foals with uroperitoneum commonly present with more than one problem?

**Yes!** Few foals present with a single complaint, and the urinary system is rarely the only body system affected. **Sepsis** and **focal infections**, in the urogenital tract and elsewhere in the body, are important risk factors for uroperitoneum. In these foals, rupture of the bladder or urachal remnant is related to infection or necrosis rather than to traumatic rupture during parturition. Congenital defects are a remote possibility but considered rare.

## Clinical Pathology Facts

### Should you rely on electroyte changes ?

The index of concern for neonatal uroperitoneum should **sky rocket** when **azotemia**, **hyponatremia**, **hyperkalemia** and **hypochloremia** are present but be aware that previous IV fluid therapy can result in normal electrolytes. Electrolyte abnormalities need to be corrected prior as part of pre-surgical **stabilization** to minimize the risk of complications.

### Confirming a Diagnosis: Abdominal Ultrasound and Peritoneal: Serum Creatinine Ratios

**Abdominal ultrasound** with **abdominocentesis** is considered the **gold standard** for diagnosis. Time for occurrence of significant abdominal fluid accumulation depends on the site and size of the defect, presence of complete or partial post-renal failure, as well as fluid intake. In hospitalized foals daily to twice-daily sonographic imaging of the abdomen during the course of hospitalization enables detection of even a modest volume of free peritoneal fluid, days before abdominal distension, colic, or some of the other clinical signs become evident. Early detection is associated with an improved prognosis. A peritoneal-to-serum creatinine ratio of > 2:1 is consistent with **uroperitoneum**.

# Take Home Message

- Uroperitoneum in neonates can occur in either sex, at various ages and may be associated with other disease processes such as septicaemia.
- Azotemia, metabolic acidosis as well as hyperkalemia, hyponatremia and hypochloremia are typical findings. Preoperative metabolic disorders and electrolyte abnormalities should be corrected prior to surgery.
- Normal electrolytes are possible especially if there has been previous IV fluid therapy.
- IV fluids will not interfere with a peritoneal-to-serum creatinine ratio when making a diagnosis via abdominal ultrasound and abdominocentesis.

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