Algorithm for Evaluation of the Newborn with Antenatal Hydronephrosis*

Fetal Renal Pelvis Ant-Post Diameter:
≥4 mm in 2nd trimester (16w0d – 27w6d)
or
≥7 mm in 3rd trimester (≥ 28w0d)
or
Caliectasis
at any gestational age
Regardless if above findings resolve before birth

Renal/Bladder Ultrasound
during birth hospitalization

Are there special urological concerns? [2]

YES → **Call/Consult Urology**

NO

***This algorithm should not substitute for clinical judgement and does not apply to children who have had a UTI**

Normal/Mild Hydronephrosis
(SFU Grade 0, 1 or 2 or UTD P1)

→ **Repeat RBUS** at 4-8 weeks

- **If RBUS Normal** → **Repeat RBUS** at 1 year of age (These children may have undetected VUR and should have a VCUG after first UTI[4])
  - **If RBUS Normal** → **Follow-up as needed**
  - **If RBUS Abnormal** → **Outpatient Urology Referral**
- **If RBUS Abnormal** → ○ **Start Antibiotics**[1] ○ **VCUG and RBUS** at 4-6 weeks (If no VUR, stop antibiotics) ○ **Outpatient Urology Referral** appt after imaging completed

Moderate Hydronephrosis
(SFU 3 or UTD P2)

→ ○ **Start Antibiotics**[1] ○ **VCUG and RBUS** at 4-6 weeks (If no VUR, stop antibiotics) ○ **Outpatient Urology Referral** appt after imaging completed

Severe Hydronephrosis
(SFU 4 or UTD P3)

→ ○ **Start Antibiotics**[1] ○ **Call/Consult Urology** ○ **VCUG and RBUS** at 2-4 weeks ○ **Outpatient Urology Referral** appt after imaging completed

RBUS: renal/bladder ultrasound
SFU: Society for Fetal Urology Classification
UTD: Urinary Tract Dilation Classification[3]
UTI: urinary tract infection
VUR: vesicourethral reflux

Eustratia Hubbard MD, UCSD Newborn Medicine: ehubbard@ucsd.edu
Sara Marietti MD, Rady Pediatric Urology: smarietti@rchsd.org
UC San Diego Health & Rady Children's Hospital of San Diego (2019)

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[1]Antibiotic Options for UTI Prophylaxis:

- Age ≤ 2 months: cefdinir 4-5 mg/kg or cefixime 5-7 mg/kg once daily
- Age ≥ 2 months: TMP/SMX 2 mg/kg/day or Nitrofurantoin 2 mg/kg/day

Additional information:

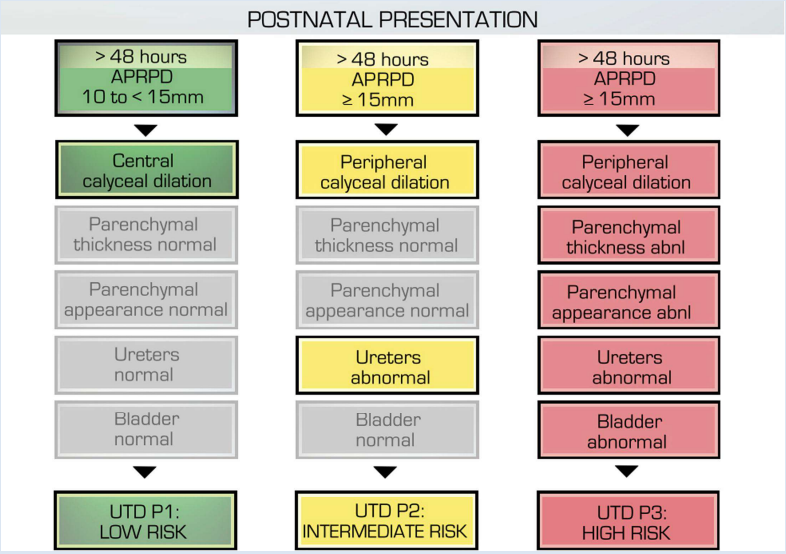
1. Missed renal pathology may lead to hypertension, renal failure or need for transplantation
2. Young infants with UTI are at higher risk for renal scarring because their kidneys are immature
3. Imaging may be done during birth hospitalization even if < 48 hours of life
4. A normal US does not exclude the presence of VUR so keep a high index of suspicion for UTI in this group of children
5. For infants with SFU 3 & 4, the Urology team may elect to do a Mag 3 scan in the future
6. Arrange for ultrasound images to be transferred electronically to Rady Children's Radiology or onto a CD so Urology team can review at time of outpatient specialty appointment

[2]Ultrasound findings which prompt discussion with Urology:

- Abnormality of a solitary kidney
- Concern for posterior urethral valves
- Severe bilateral hydronephrosis (SFU4 or UTD P3)

[3]Preferred Ultrasound Classification System

Urinary Tract Dilation (UTD) Risk Stratification



Note: Stratification is based on the most concerning finding.

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