**First US Assessment**

- **16-28 weeks**
  - **AP RPD < 4mm**
  - **AP RPD 4mm to <7mm**
  - **AP RPD ≥7 mm**

- **≥28 weeks**
  - **AP RPD < 4mm**
  - **AP RPD 7mm to <10 mm**
  - **AP RPD ≥10 mm**

**Visible dilation in the first trimester is always abnormal**

- **AP RPD < 4mm**
  - No follow up
- **AP RPD 4mm to <7mm**
  - +/- central calyceal dilation (no peripheral dilation)
  - No additional findings
- **AP RPD ≥7 mm**
  - +/- central calyceal dilation (no peripheral dilation)
  - No additional findings

**Follow-up US Assessment**

- **N**
  - **NORMAL**
    - No follow up

- **A1**
  - **LOW RISK**
  - Maternal and Neonatal GP registration
  - Initial Postnatal Ultrasound: 1-3 months

- **A2**
  - **INTERMEDIATE RISK**
  - Fetal Medicine referral if AP RPD ≥10 mm at any stage*
  - Maternal and Neonatal GP registration
  - Initial Postnatal Ultrasound: Day 7 and again at 1-3 months

- **A3**
  - **HIGH RISK**
  - Fetal Medicine referral*
  - Maternal and Neonatal GP registration
  - Consider antenatal paediatric specialist services referral
  - Minimum Postnatal Ultrasound: US at day 7 and again at 1-3 months
  - Additional US within 24-48 hours after birth if suspected bladder outlet obstruction, oligohydramnios, abnormal parenchyma or worrying clinical presentation such as poor urine output. Clinical assessment drives urgency. Consider catheter placement if US delayed or concern about bladder outflow obstruction.

**Pathway**

- **A1**
  - LOW RISK
  - Maternal and Neonatal GP registration
  - Initial Postnatal Ultrasound: 1-3 months

- **A2**
  - INTERMEDIATE RISK
  - Fetal Medicine referral*
  - Maternal and Neonatal GP registration
  - Initial Postnatal Ultrasound: Day 7 and again at 1-3 months

- **A3**
  - HIGH RISK
  - Fetal Medicine referral*
  - Maternal and Neonatal GP registration
  - Consider antenatal paediatric specialist services referral
  - Minimum Postnatal Ultrasound: US at day 7 and again at 1-3 months
  - Additional US within 24-48 hours after birth if suspected bladder outlet obstruction, oligohydramnios, abnormal parenchyma or worrying clinical presentation such as poor urine output. Clinical assessment drives urgency. Consider catheter placement if US delayed or concern about bladder outflow obstruction.

**EXIT PROTOCOL**

- Fetal Medicine referral*

*or appropriate local equivalent
Management of Fetal Renal Tract Dilation: Postnatal v1.0 Feb 2017

First US Assessment
Timing as per the Antenatal Pathway
Scans performed before 7 days of age may falsely underestimate dilatation and should be repeated after 7 days

N
AP RPD < 10mm
+/− central calyceal dilation (no peripheral dilation)
No additional findings

P1
AP RPD 10 to < 15mm
+/− central calyceal dilation (no peripheral dilation)
No additional findings

P2
AP RPD ≥15mm
+/− central calyceal dilation (no peripheral dilation)
No additional findings

P2
AP RPD < 15mm
With peripheral calyceal dilation and/or dilated ureters
No additional findings

P3
AP RPD ≥15mm
With peripheral calyceal dilation and/or dilated ureters

P3
Any AP RPD
PLUS Any one or more of:
Abnormal parenchymal thickness
Abnormal parenchymal appearance
Abnormal bladder wall or ureterocele
Anomalous kidneys, cystic kidney disease, symptomatic child or urinary tract infections

All children with abnormal renal scans require registration with a GP

US assessment at 12 months
Use same criteria as first US assessment

N
NORMAL
Normal scan before 1 month age:
Repeat in 3 months
Normal scan after 1 month age:
EXIT PROTOCOL: No further follow-up

P1
LOW RISK
Low risk before 1 month age:
Repeat in 3 months and at 12 months
Low risk after 1 month age:
Needs repeat US and GP assessment at 12 months of age

P1
INTERMEDIATE RISK
Needs specialist input

P2
INTERMEDIATE RISK
Needs specialist input

P3
HIGH RISK
Needs urgent specialist input

EXIT PROTOCOL
Referral or other management as appropriate

If normal at 12 months then EXIT PROTOCOL
No further follow-up

If remains P1 at 12 months old then EXIT PROTOCOL
No further follow up

If P2 or P3 at 12 months then follow appropriate pathway

1. Referral to local outpatient Specialist Paediatric Service
2. Repeat US 1 – 3 months
At discretion of responsible clinician, consider:
Prophylactic antibiotics
MCU if bilaterally dilated ureters or calyces
Mag3 or DTPA after 3 months age if suspicion of obstruction

1. Urgent referral to local Specialist Paediatric Service
2. Repeat US as determined by specialist
At discretion of responsible clinician, consider:
Catheter placement if concern about bladder outlet obstruction
Prophylactic antibiotics
MCU for assessment of reflux or bladder outlet obstruction
Mag3 or DTPA after 3 months age if suspicion of obstruction

Any
AP RPD
PLUS Any one or more of:
Abnormal parenchymal thickness
Abnormal parenchymal appearance
Abnormal bladder wall or ureterocele
Anomalous kidneys, cystic kidney disease, symptomatic child or urinary tract infections

If remains P1 at 12 months old then EXIT PROTOCOL
No further follow up

If P2 or P3 at 12 months then follow appropriate pathway

1. Urgent referral to local Specialist Paediatric Service
2. Repeat US as determined by specialist
At discretion of responsible clinician, consider:
Catheter placement if concern about bladder outlet obstruction
Prophylactic antibiotics
MCU for assessment of reflux or bladder outlet obstruction
Mag3 or DTPA after 3 months age if suspicion of obstruction

All children with abnormal renal scans require registration with a GP
**First US Assessment**

Timing as per the Antenatal Pathway

Scans performed before 7 days of age may falsely underestimate dilatation and should be repeated after 7 days

- **N**
  - AP RPD < 10mm
    - +/- central calyceal dilation (no peripheral dilation)
    - No additional findings

- **P1**
  - AP RPD 10 to < 15mm
    - +/- central calyceal dilation (no peripheral dilation)
    - No additional findings

- **P2**
  - AP RPD ≥15mm
    - +/- central calyceal dilation (no peripheral dilation)
    - No additional findings

- **P3**
  - AP RPD ≥15mm
    - With peripheral calyceal dilation and/or dilated ureters
    - No additional findings

- **Any AP RPD**
  - PLUS Any one or more of:
    - Abnormal parenchymal thickness
    - Abnormal parenchymal appearance
    - Abnormal bladder wall or ureterocele

Anomalous kidneys, cystic kidney disease, symptomatic child or urinary tract infections

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**US assessment at 12 months**

Use same criteria as first US assessment

- **N**
  - NORMAL
    - Normal scan before 1 month age:
      - Repeat in 3 months
    - Normal scan after 1 month age:
      - EXIT PROTOCOL: No further follow-up

- **P1**
  - LOW RISK
    - Low risk before 1 month age:
      - Repeat in 3 months and at 12 months
    - Low risk after 1 month age:
      - Needs repeat US and GP assessment at 12 months of age

- **P2**
  - INTERMEDIATE RISK
    - Needs specialist input

- **P3**
  - HIGH RISK
    - Needs urgent specialist input

**EXIT PROTOCOL**

- Referral or other management as appropriate

All children with abnormal renal scans require registration with a GP

**1. Referral to local outpatient Specialist Paediatric Service**

**2. Repeat US 1 – 3 months**

At discretion of responsible clinician, consider:

- Prophylactic antibiotics
- MCU if bilaterally dilated ureters or calyces
- Mag3 or DTPA after 3 months age if suspicion of obstruction

**1. Urgent referral to local Specialist Paediatric Service**

**2. Repeat US as determined by specialist**

At discretion of responsible clinician, consider:

- Catheter placement if concern about bladder outlet obstruction
- Prophylactic antibiotics
- MCU for assessment of reflux or bladder outlet obstruction
- Mag3 or DTPA after 3 months age if suspicion of obstruction

If normal at 12 months then EXIT PROTOCOL

No further follow-up

If remains P1 at 12 months old then EXIT PROTOCOL

No further follow up

If P2 or P3 at 12 months then follow appropriate pathway

**EXIT PROTOCOL**

If P1 at 12 months old then EXIT PROTOCOL

No further follow up

If P2 or P3 at 12 months then follow appropriate pathway

**EXIT PROTOCOL**

Referral or other management as appropriate

Any AP RPD PLUS Any one or more of:

- Abnormal parenchymal thickness
- Abnormal parenchymal appearance
- Abnormal bladder wall or ureterocele

Anomalous kidneys, cystic kidney disease, symptomatic child or urinary tract infections