Antenatal Hydronephrosis (Neonates Paediatrics) Postnatal investigation
Clinical Guideline

AUTHOR/S
This Clinical Guideline has been developed by Monash Newborn in consultation with the Paediatric Urology and Nephrology units.

TARGET AUDIENCE and SETTING
Monash Health medical, nursing and midwifery staff within Women’s & Newborn, Surgery & Interventional Services and Children’s Programs.

This guideline is applicable to all babies born at Monash Health facilities, in whom hydronephrosis was detected antenatally. It does not apply to those babies for whom a specific management plan was constructed antenatally (for example, through FDU). For these babies, the specific individual plan must be followed.

The guideline pertains to immediate postnatal management. There is a broad outline of the approach to longer term care. It is the responsibility of the treating team to determine who will provide follow-up, to communicate with GPs and other health care professionals, and whether or not antibiotics are required.

DEFINITIONS
HN – hydronephrosis
SFU – The Society for Fetal Urology
SMR – scanned medical record
APD – antero-posterior diameter
UTI – urinary tract infection
USS – ultrasound

CLINICAL GUIDELINE

Ask and look for record of antenatal counselling and/or antenatally-constructed plan (e.g. check SMR, ask the mother):

- If yes, follow antenatal management plan.
- If no, follow flow chart detailed below.

Criteria for referral to Nephro-Urology prior to discharge

- Palpable bladder or kidneys
- Baby has not passed urine by 24 hours of birth
- Male baby with known bilateral hydronephrosis

Criteria for referral to Nephro-Urology during “low risk” HN follow-up

- Dilatation increases during surveillance (SFU grade increases, APD increases >50%)
- Renal size discrepancy >1cm
- UTI
- Bladder anomalies

If antibiotic prophylaxis is indicated (refer to antenatal management plan if available, or flow chart), use Trimethoprim or Cefalexin. Refer to:
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- [Trimethoprim Monash Newborn Medication Profile](#)
- [Cefalexin Monash Newborn/NeoMed Medication Profile](#)

The Society for Fetal Urology (SFU) Grading System Guide to Congenital Hydronephrosis

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<th>Grade</th>
<th>Central renal complex</th>
<th>Parenchyma</th>
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<td>0</td>
<td>intact</td>
<td>normal</td>
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<tr>
<td>1</td>
<td>slight splitting of pelvis</td>
<td>normal</td>
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<tr>
<td>2</td>
<td>evident splitting of intrarenal pelvis or dilated extrarenal pelvis</td>
<td>normal</td>
</tr>
<tr>
<td></td>
<td>major calyces dilated</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>wide splitting of pelvis</td>
<td>normal</td>
</tr>
<tr>
<td>4</td>
<td>wide splitting of pelvis, major and minor calyceal dilatation</td>
<td>thinned or reduced</td>
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FLOWCHART

Look for antenatal plan

Conduct physical exam

Stratify risk

Antenatal plan exists

→ follow that plan

Pallable kidney/bladder

→ URGENT renal USS and contact paediatric urology

Low Risk

Unilateral HN SFU 1-3 (APD < 15mm)
Bilateral HN SFU 1-2 (APD < 10mm)
Nil other renal anomalies apart from HN
Normal bladder
No ureteric dilatation

Educate parents on UTI Sx (provide handout)

Renal USS in 1 month

If NORMAL
- Rpt USS in 6 months
- If no change, no further monitoring
If SFU 1-2
- Repeat USS at 6, 12 & 24 months of age
- If no change, no further monitoring
If SFU 3-4
- Refer to nephrourology clinic

High Risk

Unilateral HN SFU 4 (APD > 15mm)
Bilateral HN SFU 3 (APD > 10mm)

OR

ANY Hydronephrosis
PLUS
Associated renal anomalies: ureteric dilatation, single kidney, duplex system, uterocele, or oligohydramnios

Commence antibiotic prophylaxis

Renal USS pre discharge

If SFU 3-4 or renal parenchymal abnormalities
- URGENT referral for inpatient Nephro-urology consult
If SFU 0-2
- Arrange repeat renal USS at 1 month of age
- Refer to nephrourology clinic
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ADDITIONAL RESOURCES
Trimethoprim Monash Newborn Medication Profile
Cefalexin Monash Newborn/NeoMed Medication Profile

REFERENCES


KEYWORDS
Pylectasis, PJJ obstruction, renal dilation, duplex system, ureterocele, pelvi-calyceal dilatation, posterior urethral valves, urinary obstruction, megaureter, vesico-ureteric reflex, reflux nephropathy, MCU, MAG3, VUR.

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</table>
| Document Author     | Dr Lucy Loft, Neonatal Fellow, Monash Newborn
                     | Dr Alice Stewart, Director Monash Newborn
                     | Dr Nathalie Webb, Paediatric Urological Surgeon
                     | Dr Lilian Johnstone, Paediatric Nephrologist |
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| This Guideline has been endorsed by an EMR Subject Matter Expert (SME) | There are no Order Set or Quick Reference Guides linked |