

Local
Guideline



Health
Hunter New England
Local Health District

Urological Anomalies in Neonates

Sites where Local Guideline and Procedure applies Neonatal Intensive Care Unit (NICU) JHCH

This Local Guideline and Procedure applies to:

- | | |
|---------------------------------|-----|
| 1. Adults | No |
| 2. Children up to 16 years | No |
| 3. Neonates – less than 29 days | Yes |

Target audience

All clinicians caring for infants in NICU

Description

Provides guidance to neonatal clinicians regarding the management of infants with an antenatally detected urological abnormality

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Keywords NICU, SCU, JHCH, neonate, newborn, dilatation, hydronephrosis, renal pelvis, renal, urology

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Replaces existing document? No

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Related Legislation, Australian Standard, NSW Ministry of Health Policy Directive or Guideline, National Safety and Quality Health Service Standard (NSQHSS) and/or other, HNE Health Document, Professional Guideline, Code of Practice or Ethics:

- [NSW Health Policy Directive PD2017_013 Infection Prevention and Control Policy](#)
- [NSW Health Policy Directive PD2017_032 Clinical Procedure Safety](#)
- [NSW Health Policy Directive PD2019_020 Clinical Handover](#)

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PURPOSE AND RISKS

This local clinical procedure has been developed to provide instruction to the health clinician and to ensure that the risks of harm to the child associated with an identified abnormal antenatal diagnosis affecting the renal tract.

The risks are:

- *Infants with abnormal renal tract findings are not appropriately referred and managed*

The risks are minimised by:

- *Clinicians having knowledge of renal conditions that are diagnosed antenatally*
- *Clinicians seeking assistance if caring for infants is outside their scope of practice*
- *Appropriate referrals made to Paediatric Urologist/Surgical team (where applicable)*

Any unplanned event resulting in, or with the potential for injury, damage or other loss to infants/staff/family as a result of this procedure must be reported through the Incident Management System and managed in accordance with the NSW Health Policy Directive PD2020_020: Incident Management Policy. This would include unintended injury that results in disability, death or prolonged hospital stay.

*It is mandatory for staff to follow relevant: "Five moments of hand hygiene", infection control, moving safely/safe manual handling, documentation practices and to use HAIDET for patient/carer communication: **H**and hygiene **A**cknowledge, **I**ntroduce, **D**uration, **E**xplanation, **T**hank you or closing comment.*

Risk Category: *Clinical Care & Patient Safety*

CLINICAL PROCEDURE SAFETY LEVEL

Every clinician involved in the procedure is responsible for ensuring the processes for clinical procedure safety are followed. The following level applies to this procedure (click on the link for more information):

[Level 1 procedure](#)

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UROLOGICAL ANOMALIES SUMMARY

- There is no universally accepted management (investigation and/or treatment) of postnatal hydronephrosis nor of any of the findings identified by postnatal imaging
- Classification of risk for later renal disease is determined by the degree of renal pelvis dilatation, and importantly, by the presence of additional abnormalities on ultrasound
- All infants with severe dilatation and/or additional abnormalities should be referred to a Paediatric Urologist/Surgical team

GUIDELINE

While not requiring mandatory compliance, staff must have sound reasons for not implementing standards or practices set out within guidelines issued by HNE Health, or for measuring consistent variance in practice.

Introduction

Abnormalities of the fetal renal tracts are identified by antenatal ultrasonography in 0.5-1% of pregnancies. Antenatal renal pelvis dilatation indicating the presence of hydronephrosis is the most common urinary tract finding on routine antenatal scanning and clinical sequelae may range from no functional disturbance, through to acute and chronic renal failure. Defining the severity of antenatal fetal hydronephrosis is confounded by physiological variation in growth occurring during gestation, and differences in definition and diagnostic criteria. The most commonly used method for diagnosing prenatal hydronephrosis is the assessment of the anteroposterior diameter of the renal pelvis.

Classification of Renal Pelvic Dilatation

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Renal pelvis dilatation is the most common renal abnormality identified on antenatal fetal ultrasound. Normal anteroposterior renal pelvis diameter is considered to be less than 5 mm.

Antenatal renal pelvis dilatation can be categorised as follows:

- **Mild Dilatation;** anteroposterior diameter (APD) 5-9 mm (up to 28 week gestation) or 7-9 mm (thereafter)
- **Moderate Dilatation;** anteroposterior diameter 10-15 mm
- **Severe Dilatation;** anteroposterior diameter >15 mm

Significant additional abnormalities include:

RENAL	BLADDER
<ul style="list-style-type: none"> • Central or peripheral calyceal dilatation • Increased parenchymal thickness • Abnormal parenchymal appearance • Enlarged kidneys • Ureter dilatation 	<ul style="list-style-type: none"> • Bladder wall thickening • Ureterocoele

Referral Criteria

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- Infants at increased risk for immediate or future renal issues should be referred to the Paediatric Urologist/Surgical team. Referrals for at risk infants are discussed at the Maternal Fetal Medicine meeting, and a suggested postnatal plan should be documented in the maternal healthcare record
- Isolated unilateral moderate renal pelvis dilatation without other renal abnormalities can be referred to the GP for a postnatal ultrasound between 1 and 4 weeks after birth. If this scan is abnormal, the GP should refer to the Paediatric Urologist/Surgical team
- Infants with an antenatal suspected bladder outlet obstruction should have a postnatal ultrasound early after birth (<24-48 hours)
- All other infants should have a postnatal ultrasound between 1 and 4 weeks after birth and referred to the Paediatric Urologist/Surgical team

Referral Requests

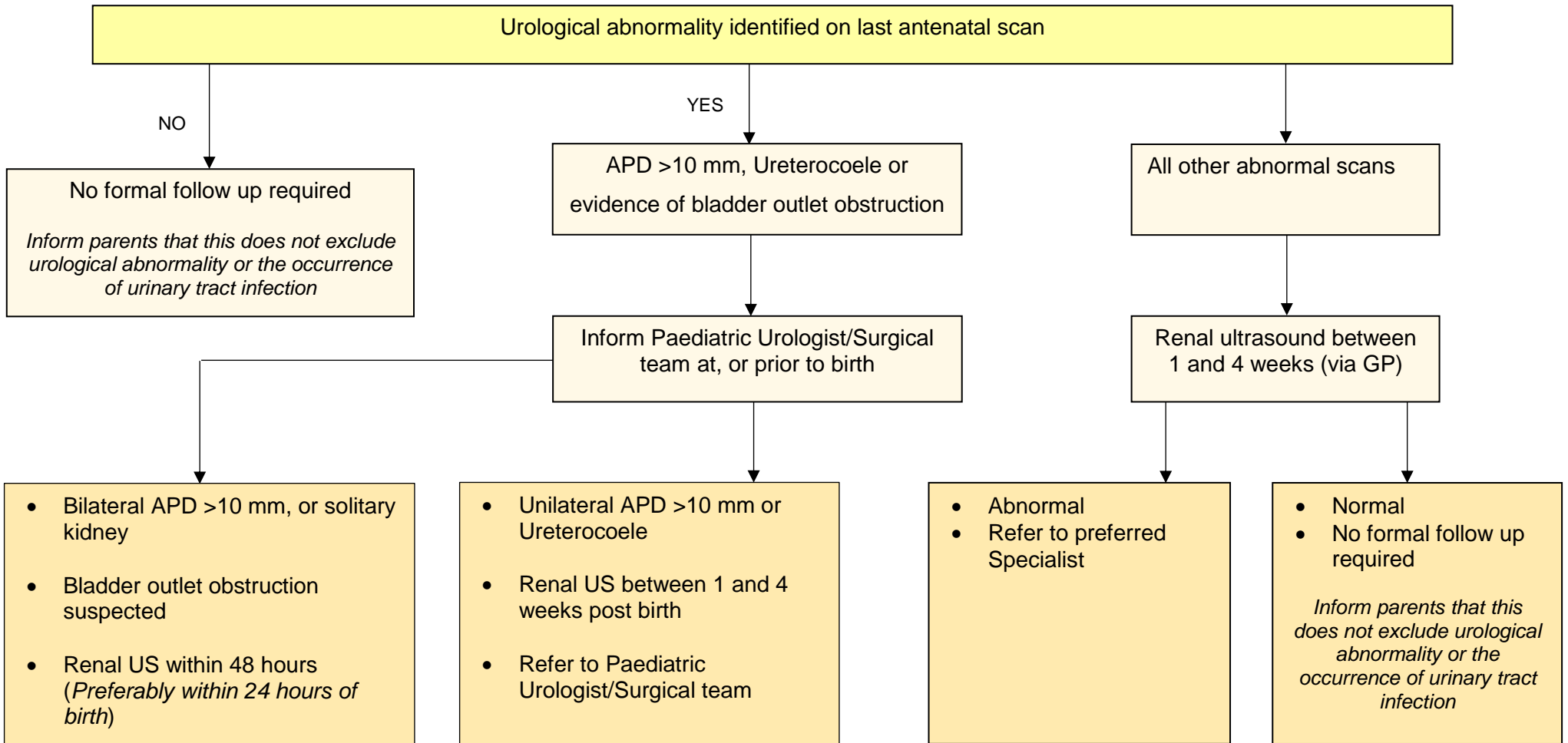
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The request form for the postnatal ultrasound should include the following questions:

- Renal length and centile for age
- Parenchymal echogenicity
- Cortico-medullary differentiation
- Any central and peripheral calyceal dilatation
- If pelvis is dilated, the APD at the mid transverse renal level on each side
- Any ureteric abnormalities; if dilated, approximate size upper and lower
- Bladder wall thickness and volume, ureteric jets (visible or not), uterus/ovaries shape/size if visible in females, any ureterocoele (size) and any posterior urethral dilatation in males

Postnatal Management Investigations and Follow-up

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Infants and children with normal antenatal ultrasound scans can present with urosepsis, high grade vesicoureteric reflux and other significant uropathology (including bladder outlet obstruction)

IMPLEMENTATION PLAN

The clinical guideline will be:

- Circulated to Head of Department and Managers in NICU
- Circulated to the clinicians via the Children Young People and Families Network and the Women's Health and Maternity Network (where applicable)
- Made available on the intranet (PPG) and HNEKids website
- Presented at facility/unit meetings and tabled for staff to action

MONITORING AND AUDITING PLAN

- The person or leadership team approving the clinical guideline is responsible for ensuring timely and effective review of the guideline.
- Evaluation will require a review of the most current evidence as well as consideration of the experience of Neonatal staff at JHCH in the implementation of the clinical guideline.
- Data derived from monitoring and evaluation should inform the review of the clinical guideline either as required or scheduled.
- Implementation, education support and monitoring compliance be completed by local Clinical Educators and Unit Managers.
- Amendments to the guideline will be ratified by the Clinical Director and Manager of Newborn Services prior to final sign off by the JHCH.

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APPENDICES

1. Glossary & Abbreviations

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FEEDBACK

Any feedback on this document should be sent to the Contact Officer listed on the front page.

APPENDIX 1**GLOSSARY & ABBREVIATIONS**

Acronym or Term	Definition
APD	Anteroposterior Diameter
GP	General Practitioner
JHCH	John Hunter Children's Hospital
mm	Millimeter
NICU	Neonatal Intensive Care Unit
SCU	Special Care Unit