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Related Trust Policies (to be read in conjunction with)	04071 Policy for standard infection prevention precautions 04072 Hand hygiene policy
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Appendix 1 – Antenatally diagnosed unilateral renal pelvis protocol flowchart

Appendix 2 – Antenatally diagnosed bilateral renal; pelvis dilatation and fetal renal pathology protocol flowchart

Appendix 3 – Preliminary Equality Analysis

1.0 Purpose

- 1.1 The purpose of this guideline is to provide staff with a specific procedure to follow. This will ensure that every case of renal pelvis dilatation and other renal bladder anomalies diagnosed at an antenatal ultrasound scan follows the same clinical pathway.
- 1.2 Consistent management for antenatally diagnosed renal problems facilitates the counselling of parents and reduces their anxiety levels after the initial diagnosis.

2.0 Introduction

- 2.1 Dilatation of the renal pelvis detected on antenatal ultrasound examination has an incidence of between 0.5% and 1% and may be associated with significant renal disease in a small number of babies. In the majority of cases however, the condition is isolated and benign.

3.0 Equality Impact Assessment

- 2.1 Mid Essex Hospital Services NHS Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.
(Refer to Appendix 3)

4.0 Scope

- 4.1 The degree of renal pelvis dilatation is established from an anteroposterior (AP) measurement of the renal pelvis, taken in the transverse plane.
- 4.2 **At 23 weeks gestation or less: -**
An AP measurement of 7mm to 10mm is reported as a dilated renal pelvis and measurements less than 7mm are regarded as normal.
(An AP measurement of more than 10mm should be regarded as a potentially more serious renal problem and may be referred to a tertiary centre).
- 4.3 **At 24 to 30 weeks gestation: -**
(When there is no earlier diagnosis of renal pelvis dilatation)
An AP measurement of 8mm or more is reported as a dilated renal pelvis and measurements less than 8mm are regarded as normal.
- 4.4 **At 31 weeks gestation or more: -**
(When there is no earlier diagnosis of renal pelvis dilatation)
An AP measurement of 10mm or over is reported as a dilated renal pelvis and measurements less than 10mm are regarded as normal.

- 4.5 This guideline also includes management of other congenital renal problems including Multicystic dysplastic kidney, duplex kidney, bright kidney, polycystic kidney disease, urethral outlet problems etc.

5.0 Antenatal Management Protocol

- 5.1 After the initial diagnosis at the anatomy scan between 18 and 20 weeks, one further antenatal scan is performed in the third trimester at 32 weeks gestation.
- 5.2 This scan appointment will be made at the time of initial diagnosis and will be made to coincide with the mother's Obstetric Consultant's clinic so that advice can be sought if necessary.
- 5.3 The procedure should be explained to the parents with verbal consent gained for the subsequent investigations.
- 5.4 The parents will be given an information leaflet by the reception staff, which they can refer to. This will help them to follow the stages of their management during pregnancy and the postnatal period.
- 5.5 If further counselling is needed for complex kidney problems an appointment can be arranged with paediatrician through the secretaries.
- 5.6 In all cases of significant antenatal anomalies an alert form will be generated and sent to the neonatal consultant for action planning.
- 5.7 In severe and moderate cases of urinary tract anomaly, the Antenatal Screening Team will refer for urgent review at UCLH Fetal Medicine Unit. Following this review a plan of care will be made for Antenatal and Postnatal care.

6.0 Postnatal Management Protocol

6.1 Documentation

- 6.1.1 In all cases of renal tract abnormality a set of hospital notes should be created for the baby.
- 6.1.2 Copy of all scan reports and letters from secondary and tertiary foetal clinics should be filed in the notes.
- 6.1.3 All relevant information should be copied from the maternal notes. Remember that maternal notes will not be available when the patient comes to clinic.

6.1.4 Documentation should include the following:

- Details of antenatal scans;
- Birth weight;
- Gestation;
- Examination findings;
- Quality of urinary stream;
- Plan of investigations;
- Details of tertiary referral if made;
- Prophylaxis – whether started and dose;
- Follow up details initial Postnatal Management.

6.2 **Review of Antenatal Findings**

6.2.1 It is essential that the antenatal scan findings are available to the paediatric team. The following information from each antenatal scan should be recorded in the baby notes or a copy of each scan report should be filed in the baby notes:

- Date and agreed gestation at the time of scan;
- Amniotic fluid volume;
- Assessment of kidneys - position, size, texture, renal pelvis AP diameter;
- Appearance of ureters and collecting system;
- Bladder - volume, bladder wall thickness, emptying;
- Any other concerns.

6.3 **Delivery**

6.3.1 These babies should be planned for delivery at the Broomfield site. This is to ensure the postnatal management of the renal concerns. In the absence of any other any other concerns a paediatrician need not attend the delivery. Look through the antenatal notes to see if a plan has already been made.

6.4 **Post-Natal Management**

6.4.1 Neonates requiring urgent discussion/admission to the tertiary Nephro-urology unit.

6.4.2 Neonates requiring early referral/discussion with paediatric Nephro-urology.

6.4.3 Urgent renal ultrasound.

6.4.4 Antibiotic prophylaxis.

6.4.5 Routine outpatient follow-up/investigations.

6.5 Urgent discussion/admission to the tertiary nephro-urology unit

In majority of cases antenatal consultation with a perinatal urologist would have occurred prior to delivery and definite plans formulated. In most severe cases delivery would have been planned in the tertiary unit. If not, the case should be discussed immediately after birth with the neonatal/oncall consultant paediatrician and the urology/nephrology team at Great Ormond Street Hospital and transfer arranged.

6.5.1 These group of babies with severe urinary tract abnormality as listed below will need emergency postnatal renal ultrasound. In addition they will also need blood urea, electrolytes and creatinine.

- Abnormal bladder and /or a history of oligo/anhydramnios;
- Significant bilateral upper tract dilatation (>15);
- Solitary kidneys with severe upper tract dilatation (>15mm);
- Bilateral echogenic kidneys;
- Autosomal recessive polycystic kidney disease (large 'bright/echogenic' kidneys).

6.5 Early referral/discussion with paediatric urology/nephrology

Some neonates have prenatal findings that do not warrant admission but require urgent ultrasound scan. These cases should initially be discussed with the neonatal/oncall Consultant Paediatrician, if available. The on-call Paediatric Registrar and Paediatric Consultant will assess the urgency of each individual case and arrange the scan accordingly. A decision will then be made as to whether discussion/referral with the urology team at Great Ormond Street Hospital is required in order to clarify the further management of these cases.

6.5.1 Following are examples of anomalies needing urgent ultrasound and liaison with tertiary urology team:

- Significant unilateral hydronephrosis (APD>15mm) with or without a dilated ureter;
- Bilateral hydronephroses of APD>10mm;
- Large Multicystic Dysplastic Kidney (MCDK) (>7cm)
- MCDK with contralateral ureter dilatation
- Prenatal diagnosis of a duplex kidney with an ureterocele

7.0 Urgent Scans

7.1 These should be done between 3-14 days after birth. The on-call Paediatric Registrar and Paediatric Consultant will assess the urgency of each individual case and arrange the scan accordingly.

8.0 Antibiotic Prophylaxis

8.1 Antibiotic prophylaxis is required only in the following renal problems

- Abnormal bladder and /or a history of oligo/anhydramnios;
- Unilateral hydronephrosis (>15mm) with or without a dilated ureter;
- Bilateral hydronephroses APD >10mm;
- Prenatal diagnosis of a duplex kidney with an ureterocele;
- MCKD with abnormalities in the contralateral kidney and ureter.

8.2 Trimethoprim prophylaxis (2mg/kg at night) should be prescribed in the postnatal ward and continued until advised to stop by paediatrician in outpatient clinic appointment. TTO (to take out) should be written for initial supply and thereafter supply should come from the GP.

8.3 Antibiotic prophylaxis is **not** required in following problems:

- Mild hydronephrosis (Refer below for features of mild hydronephrosis);
- MCKD with normal contralateral kidney and ureter.

9.0 Babies who need routine clinic follow up and routine renal ultrasound

9.1 Following group of children is low risk and need only routine scan (within 6 weeks of birth) and follow in local paediatric clinic.

- **Mild hydronephrosis with the following features;**
- Unilateral renal pelvic dilatation of <15mm;
- Bilateral renal pelvis dilation of <10mm;
- Normal calyces;
- Normal echogenicity;
- Normal renal length;
- Normal contralateral kidney;
- No ureteric dilatation;
- No abnormality of bladder;
- Multicystic Dysplastic Kidney with normal contralateral kidney.

9.2 MCKD with a normal contralateral kidney simply requires US within 6 weeks as above and follow-up in the consultant clinic. In the follow up appointment with paediatrician a DMSA will be ordered to be done 5 to 6 months of age.

9.3 All babies that have an antenatal diagnosis of renal pelvis dilatation will need a routine postnatal renal tract scan, even if the 32-week scan was 'normal'. Antenatal sonographers now **do not** book postnatal scans. These need to be done by doctors doing the postnatal baby check. Routine renal scan should be done within 6 weeks time. Please ask in the request form to do the scan in 4 to 6 weeks.

10.0 Referral Centre

- 10.1 Our referral centre for babies needing urgent or routine urology cases is Great Ormond Street Hospital. All referrals have to be emailed using nhs.net to the GOSH urology department; gos-tr.urologyreferrals@nhs.net. Referrals should be copied to common generic email address as well; gos-tr.referrals@nhs.net. For any urgent advice and emergency admission to the unit please call urology registrar at GOSH.

11.0 Further local follow up

- 11.1 All babies that have an antenatal diagnosis of renal pelvis dilatation will need a postnatal renal tract scan, even if the 32-week scan was 'normal'. Antenatal sonographers now **do not** book postnatal scans. These need to be done by doctors doing the postnatal baby check. The scan should be booked within 6 weeks' time. These babies will need a routine follow up in the clinic following the postnatal scan by 12 weeks. These should be requested before the baby is discharged.
- 11.2 Babies with significant congenital renal anomalies are generally followed up in Dr Cyriac's (JCY) or Dr Hassan's (AH) clinic.
- 11.3 Neonatal medical staff should make an appropriate referral to above clinics. Routine cases should be seen in 3 month's times.
- 11.4 Neonatal/Postnatal ward clerk should ensure that all appropriate documentation including baby's own notes are sent to OPD staff for clinic appointment.
- 11.5 Urgent/Emergency cases where a referral has been made to Dr Dhillon's clinic should also have a local follow up. Timing of the local follow up should be decided depending on the severity of individual cases.

12.0 Staffing and Training

- 12.1 The procedures should be carried out by suitably qualified sonographers and/or obstetric staff, possessing the Diploma in Medical Ultrasound (DMU), a Postgraduate Diploma in Medical Ultrasound (PG Dip) or equivalent. Ultrasound students may carry out ultrasound scans under the supervision of a qualified sonographer.
- 12.2 All paediatric and neonatal staff are to ensure that their knowledge and skills are up-to-date in order to complete their portfolio for appraisal.
- 12.3 Paediatric staff should be aware of the referral pathways.

13.0 Infection Control

- 13.1 All staff should follow Trust guidelines on infection control by ensuring that they effectively 'decontaminate their hands' before and after undertaking any patient contact.

14.0 Audit and Monitoring

- 14.1 Compliance with the guideline is monitored as part of a combined audit process completed by the paediatric and ultrasound departments (Logged with the Clinical Audit Department - number CA7-84).
- 14.2 Feedback to all staff involved is given on a regular basis and presented at the paediatric audit meeting every two years.
- 14.3 Key findings and learning points from the audit will be submitted to the Patient Safety Group within the integrated learning report.
- 14.4 Key findings and learning points will be disseminated to relevant staff.
- 14.5 Poor compliance may lead to an unnecessary change in the clinical pathway. In this instance, further training will be provided for staff if needed.

15.0 Guideline Management

- 15.1 As an integral part of the knowledge, skills framework, staff is appraised annually to ensure competency in computer skills and the ability to access the current approved guidelines via the Trust's intranet site.
- 15.2 Quarterly memos are sent to line managers to disseminate to their staff the most currently approved guidelines available via the intranet and clinical guideline folders, located in each designated clinical area.

16.0 Communication and Implementation

- 16.1 Approved guidelines are sent via email to all sonographers, paediatricians and obstetricians.
- 16.2 Hard copies of approved guidelines are kept in each ultrasound room where sonographers scan.
- 16.3 After approval, a copy of the guideline is published on the Trust intranet.

- 16.4 After these steps have been undertaken it is the responsibility of the individual Sonographer or other staff member to update their knowledge of current research and guidelines as part of their continuing professional development.
- 16.5 Approved guidelines are published monthly in the staff newsletter that is sent via email to all staff.

17.0 Risk Events / Error Reporting

- 17.1 All untoward events involving patient safety are reported to the risk management department and head of ultrasound by way of Datix. This should be completed by the staff member(s) involved.
- 17.2 All errors are discussed at the monthly perinatal multidisciplinary meetings.

18.0 References

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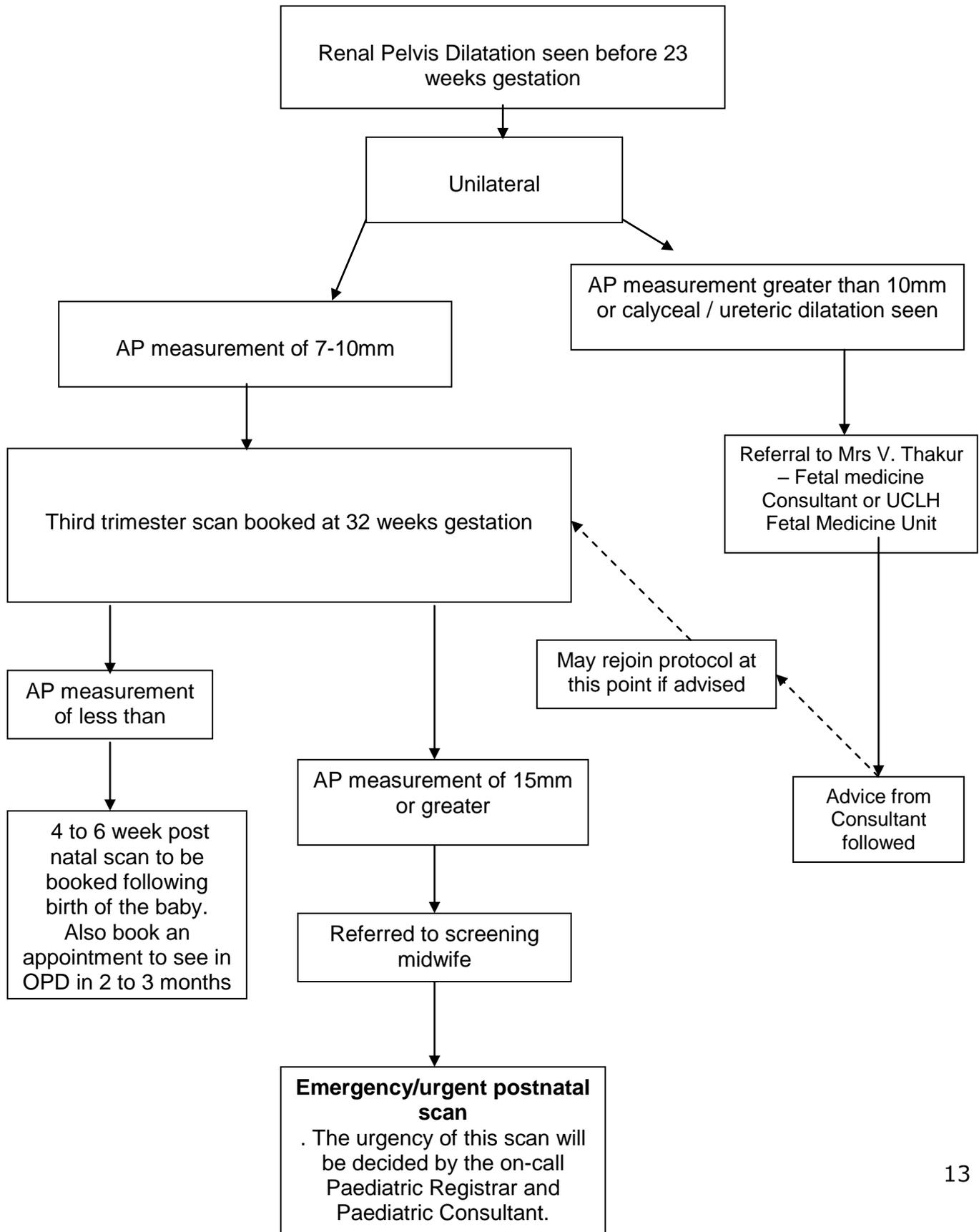
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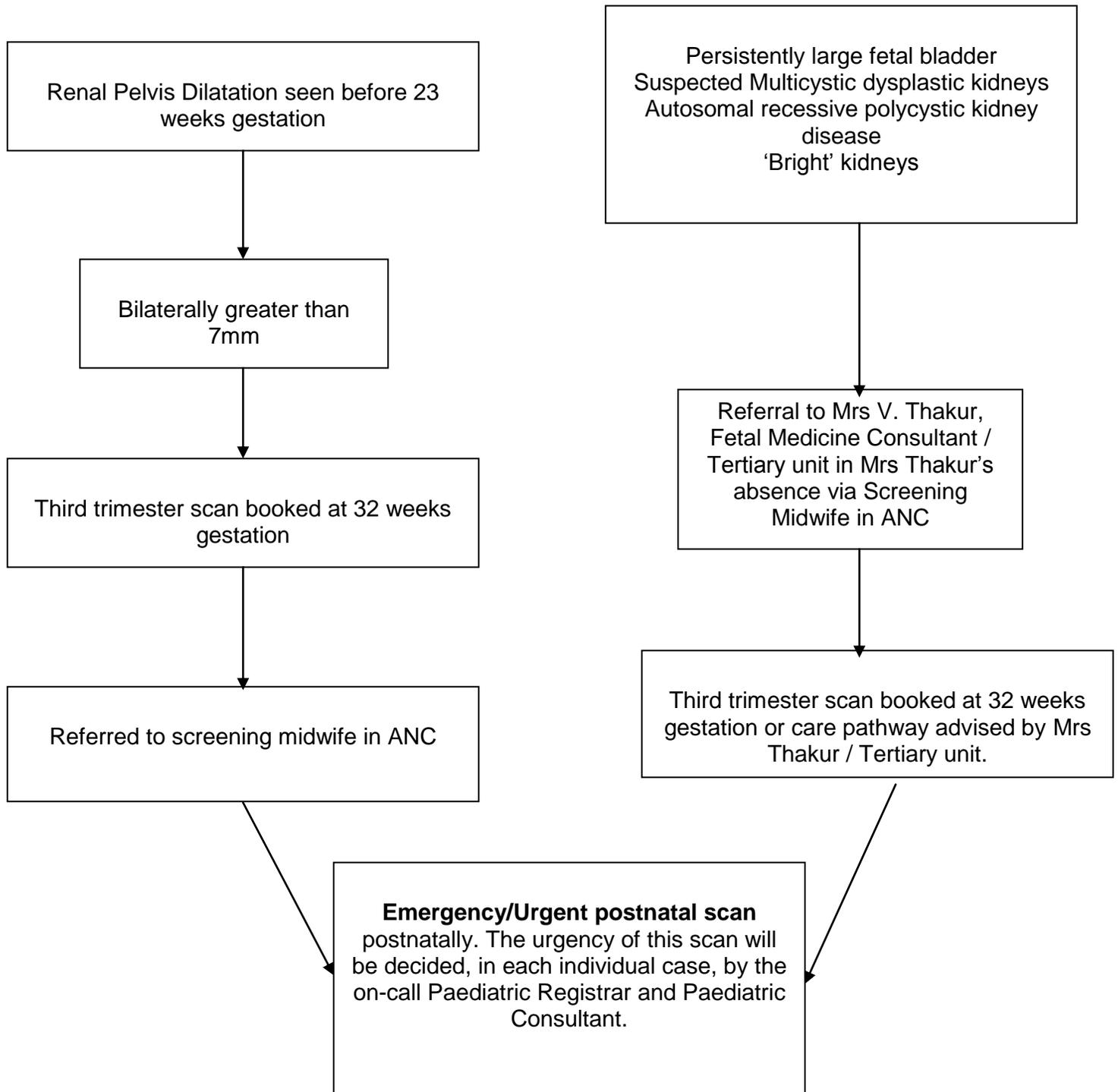
Appendix 1

Antenatally Diagnosed Unilateral Renal Pelvis Protocol Flowchart



Appendix 2

Antenatally Diagnosed Bilateral Renal Pelvis Dilatation and Fetal Renal Pathology Protocol Flowchart



Appendix 3: Preliminary Equality Analysis

This assessment relates to: Management of Antenatally Diagnosed Renal Pelvis Dilatation and other Congenital Renal Anomalies / 08054

A change in a service to patients		A change to an existing policy	X	A change to the way staff work	
A new policy		Something else (please give details)			
Questions		Answers			
1. What are you proposing to change?		Full Review			
2. Why are you making this change? (What will the change achieve?)		3 year review			
3. Who benefits from this change and how?		Patients and clinicians			
4. Is anyone likely to suffer any negative impact as a result of this change? If no, please record reasons here and sign and date this assessment. If yes, please complete a full EIA.		No			
5. a) Will you be undertaking any consultation as part of this change? b) If so, with whom?		Refer to pages 1 and 2			

Preliminary analysis completed by:

Name	Job Cyriac	Job Title	Consultant Paediatrician	Date	June 2019
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