Royal Devon University Healthcare NHS Foundation Trust

Title
Centre For Women's Health Policy

Reference Number: RDF1785-23
Date of Response: 05/09/2023

Further to your Freedom of Information Act request, please find the Trust's response(s) below:

Please be aware that the Royal Devon University Healthcare NHS Foundation Trust (Royal Devon) has existed since 1st April 2022 following the integration of the Northern Devon Healthcare NHS Trust (known as Northern Services) and the Royal Devon and Exeter NHS Foundation Trust (known as Eastern Services).

I have been searching for a policy of your Women's health centre'

Clarification: I am looking for the right to know the gender of the baby after a scan.

The sexing of foetuses is not part of the diagnostic testing/ anomaly scan. The Trust East policy (attached) outlines what the test is about and what it looks for. The North makes reference to fetal sex but also supports that it is not 100% accurate. There is no current national guidance on sexing of babies and in some areas of the country it has actually been excluded from units to prevent sex selection.

Exeter Trust sonographers will generally comment on the sex of a fetus if the parents have requested this. It is not documented for medical legal reasons.

Please find attached Policies.

Patient Information Leaflet
Approval Form and Review Record

(This page will not be published with the leaflet)

Northern Devon Healthcare NHS Trust

Leaflet title
Obstetric Ultrasound Service NDDH

Contact details	
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Information type (insert **x**)					
	Clinical tests		Drug information	**x**	Service information
	Medical condition		Surgical procedure		Therapy/other
Tags for internet search: ultrasound, obstetric					
Distribution points: Community Midwives		Annual usage:1600 births per year			

New leaflet approval procedure		
Date	**Description**	**Completed by** (name)
10/5/17	Submitted to Communications Dept.	
	Sent for readability check	
11/7/17	Readability checked	
11/7/17	Sent comments back to author	
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Review record (review cycle: 2 years)				
Version	Date reviewed	Expiry date	Published online (x)	Notes
1	–	Jul 19	x	Initial approved version
1	27/2/2020	Feb 22	x	Shelley Thompson

Obstetric ultrasound service

Other formats

If you need this information in another format such as audio CD, Braille, large print, high contrast, British Sign Language or translated into another language, please contact the PALS desk on 01271 314090 or at ndht.pals@nhs.net.

What the service offers

We provide an ultrasound scan service for women during pregnancy that ranges from screening tests at approximately 12 and 20 weeks gestation, to diagnostic scans later in pregnancy.

What is an obstetric ultrasound?

Ultrasound uses sound to produce images of your baby. A special gel is applied to the skin to make contact between the ultrasound probe and your skin. The probe is moved over your tummy to produce an image on a screen.

Performing the scan requires a very high level of concentration and the sonographer will need to focus on the necessary checks that form part of the scan. For this reason we ask that you only bring one person into the scan room with you. We suggest that this is your partner or someone close who is fully aware of your obstetric history and would be able to support you in the event of bad news. Please note that children are not allowed in the scan room during the ultrasound.

Types of scan

Screening scans (15 – 30 minutes)

- **Dating/First trimester screening ~~DS~~ scan** (approximately 12 weeks gestation): Provide an estimated due date of delivery ~~and check~~and check some fetal anatomy that can be seen at this stage. If accepted, perform a measurement of the fluid at the back of the baby's neck as part of the combined screening test, also known as Nuchal Translucency. This will also require a blood test.

- **Second trimester anomaly scan** (18+0 – 20+6 weeks) Check specific anatomy of the baby and fetal growth as part of the Fetal Anomaly Screening Programme. Gender is not part of the screening programme, however, if parents wish to know and it is visualised during the scan, the sonographer may be able to tell you – please note that this can never be 100% accurate.

Black and white images are ***only*** available for these 2 scans at a cost of £5 for 2 images.

All obstetric scans are medical examinations, and therefore, you are not permitted to record the examination either as still images or a video.

Diagnostic scans (15 minutes) – Later in pregnancy your consultant or midwife may refer you for further scans to check that your baby is growing normally. This will measure fetal growth, amniotic fluid and check if there is positive blood flow from the placenta to your baby through the umbilical cord. These scans involve detailed measurements to confirm everything is in normal range for your stage in pregnancy.

Transvaginal scans – Where appropriate, in order to obtain more detailed images, the sonographer will ask for your permission to perform a vaginal ultrasound examination. This can measure the length of your cervix or, if you have a low lying placenta, ensure that the placenta is far enough away from the cervix for a natural birth. You will be asked to empty your bladder, and then an internal ultrasound probe is placed just inside your vagina to obtain images. A chaperone will be available if required.

Where this service is provided

Ultrasound scan rooms located in the Antenatal Clinic, Ladywell Unit , North Devon District Hospital, Barnstaple.

Facilities available

Drinking water

The hospital has one main car park situated as you come onto the site. You will need to collect a ticket on entrance to the car park and pay at the nearest machine before leaving.

Please note that there are no crèche or childcare facilities available at the Clinic.

How to be referred

Your community midwife will refer you for your dating/ first trimester screening~~DS~~ scan.

Antenatal appointment staff will contact you with an appointment.

What will happen at first appointment

Please attend with a full bladder for the dating and anomaly scan. If further scans are needed, the sonographer will provide the preparation required for the scan.

A sonographer will call you from the waiting room, confirm your identity, clarify the scan you are expecting and obtain your verbal consent to perform the scan indicated by the referrer.

Further information

Antenatal Appointments Team, Ladywell Unit for all bookings information.

PALS

The Patient Advice and Liaison Service (PALS) ensures that the NHS listens to patients, relatives, carers and friends, answers questions and resolves concerns as quickly as possible. If you have a query or concern call 01271 314090 or email ndht.pals@nhs.net. You can also visit the PALS and Information Centre in person at North Devon District Hospital, Barnstaple.

Have your say

Northern Devon Healthcare NHS Trust aims to provide high quality services. However, please tell us when something could be improved. If you have a comment or compliment about a service or treatment, please raise your comments with a member of staff or the PALS team in the first instance.

'Care Opinion' comments forms are on all wards or online at www.careopinion.org.uk.

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Devon EX31 4JB
Tel. 01271 322577
www.northdevonhealth.nhs.uk

This leaflet was designed by the Communications Department.
Tel: 01271 313970 / email: ndht.contactus@nhs.net

Clinical Guideline for:
Fetal Anomaly Ultrasound Scan

Summary

This guideline outlines the process for Anomaly Ultrasound Scans.

Key Points

The essential elements of this guideline are:

1. All pregnant women are offered an anomaly scan between 18+0-20+6 weeks
2. All women will be given information prior to the scan
3. Overview of the 18+0-20+6 week fetal anomaly scan including technique and content
4. Detection and management of anomalies or abnormal growth
5. Normal variant identification and management
6. Auditable standards
7. Renal Pelvic Dilatation Guideline (in appendix)

CONTENTS

1.0 INTRODUCTION

The 18+0-20+6 week fetal anomaly scan is a screening test offered to all pregnant women in England. It is designed to facilitate reproductive choice for women by providing them with information regarding the development of their unborn baby. This is achieved by identifying serious fetal abnormalities which may be either incompatible with life or associated with significant morbidity and also by detecting those abnormalities that require early intervention following delivery or may benefit from antenatal intervention.

This guideline reflects the specifications, standards and guidance provided by the NHS Fetal Anomaly Screening Programme (NHS FASP) who ensure that all eligible women have access to a uniform, quality-assured screening programme which also offers high quality information. It is the woman's choice to decide whether she wishes to access this screening test and this choice is respected at all times[1].

As a screening test it is important to note that not all abnormalities will be identified by the 18+0-20+6 week fetal anomaly scan. Where anomalies are found, parents can be counselled and offered options such specialised management, planned place of delivery for optimal fetal outcome or termination.

2.0 INFORMATION AND CONSENT

2.1 All pregnant women will be given information regarding the purpose and limitations of screening at their first antenatal contact so they can make an informed choice about whether to have the scan. The recommended leaflet is Screening Tests for you and your baby which can be accessed via https://www.gov.uk/government/publications/screening-tests-for-you-and-your-baby-description-in-brief

2.2 Written information should be provided in alternative languages where required. If the woman's first language is not English, a trained interpreter should be present during her scan. Arrangements for an interpreter should be made in advance ideally at the time of booking the fetal anomaly scan appointment. Interpretation should not be provided solely by a family member or friend.

2.3 It should be ensured that the fetal anomaly scan is discussed as an 'optional' rather than an inevitable aspect of routine antenatal care and when a woman accepts or declines screening her decision is acknowledged, respected and recorded to avoid repetition.

2.4 Women who book after the first trimester (> 14+1 weeks) should be booked for an urgent dating scan appointment. The sonographer/clinician undertaking the dating scan will inform the woman of her gestation and facilitate discussion about both the chromosomal and fetal anomaly screening available or refer the woman to the antenatal screening coordinators. If the women chooses to have the fetal anomaly scan an appointment at the relevant gestation will be booked. Where the gestation is beyond 20+6 weeks the fetal anomaly scan will ideally be undertaken at that appointment or at the next available appointment. Women should be informed of the limitations of ultrasound screening for fetal anomalies beyond the recommended gestation of 18+0 – 20+6.

If the community midwife is unable to book an urgent dating scan appointment this should be escalated to her line manager or the antenatal screening coordinators.

2.5 The scan department should be proactive in meeting the needs of those women who are vulnerable, hard to reach or who have additional mental or physical needs.

2.6 Women will be given a screening choices form by their community midwife on which they can indicate if they wish to decline any of the screening tests available including the fetal anomaly scan. When a woman presents for a scan the sonographer will confirm that they consent to the scan prior to the scan being undertaken. If the woman requires further information they can be referred to screening coordinator present that day.

2.7 Women who wish to have the fetal anomaly ultrasound scan but do not wish to be informed if abnormalities are found should be advised that all significant findings seen during the scan will be reported and therefore they may wish to consider declining the screening. In this case the community midwife or sonographer should discuss the importance of placental site localisation and book/undertake a scan for this purpose if accepted by the woman.

2.8 A relative or close friend may accompany the patient from the beginning of the scan. To reduce transmission of infection and allow quiet surroundings for the sonographer to concentrate, women are advised not to bring children and additional adults.

3.0 THE 18+0 – 20+6 WEEK FETAL ANOMALY SCAN

3.1 Duration

The fetal anomaly scan appointment duration should be:
30 minutes (singleton pregnancy)
60 minutes (multiple pregnancy)

3.2 Base Menu

The conditions screened for during the scan are as detailed below by NHS FASP[1]

Table 4: The conditions screened for as a minimum in England

Conditions	Detection rate (%)
Anencephaly	98
Open spina bifida	90
Cleft lip	75
Diaphragmatic hernia	60
Gastroschisis	98
Exomphalos	80
Serious cardiac anomalies includes the following: • Transposition of the Great Arteries (TGA) • Atrioventricular Septal Defect (AVSD) • Tetralogy of Fallot (TOF) • Hypoplastic Left Heart Syndrome (HLHS)	50
Bilateral renal agenesis	84
Lethal skeletal dysplasia	60
Edwards' syndrome (Trisomy 18)	95**
Patau's syndrome (Trisomy 13)	95**

**Detections rates will be reviewed once sufficient data is received following implementation of screening as part of the combined screening strategy

Whilst the fetal anomaly scan aims to detect the conditions listed above, other conditions can also be detected. Women must be informed of this and understand that additional conditions may be detected and reported.

3.3 Technique

The clinician undertaking the scan must introduce themselves, confirm the patient's identity (including date of birth) and ensure the woman consents to the scan. The clinician must be trained to the appropriate level as detailed by NHS FASP[1]

Standard precautions for infection control and health and safety must be applied

During the scan the clinician must:

- **Confirm viability** (a second sonographer must confirm fetal demise)
- **Adhere to the fetal anomaly scan protocol** (appendix 1)
- **Adhere to the fetal cardiac protocol** (appendix 2)
- **Image storage must be undertaken** as per fetal anomaly scan protocol
- If the woman requests, fetal genitalia may be assessed (note – rescan will not be offered if the gender cannot be ascertained).

3.4 Placental Site

The Royal College of Obstetricians and Gynaecologists[2] recommend that clinicians must be aware that where placenta praevia or low lying placenta are suspected that Trans-Vaginal Ultrasound (TVS) is both superior to the Trans-Abdominal (TA) approach and also safe.

If the placenta is low lying (less than 20 mm from the internal os) or praevia (covering the os) at the routine fetal anomaly scan, a follow-up ultrasound examination including a TVS is recommended at 32 weeks of gestation to diagnose persistent low-lying placenta and/or placenta praevia[2].

If the woman is low risk/community care, the sonographer can book a scan only for 32 weeks. If the placenta remains low lying (< 20 mm from the internal os) then the woman needs review in the next available antenatal clinic appointment (ANC).

Where the woman is already under consultant care and is seeing a consultant obstetrician following the 20 week scan the 32 week scan can be booked with an ANC appointment (unless the consultant obstetrician requests otherwise).

3.5 Completion of the screening test/scan

It is the aim to perform the full anomaly scan at an appointment between 18+0 - 20+6 weeks gestation. However, for various reasons such as increased maternal body mass index (BMI) or difficult fetal lie, it may not be possible to complete the scan. A repeat scan must be booked preferably within 7 days or before 23+0 weeks (whichever is first) as the screening test must be completed by 23+0 weeks of pregnancy.

If after two attempts the anomaly scan is still not completed, the limitations of examination by ultrasound should be discussed and the woman is only rebooked at the Sonographer's discretion. This should be documented on the report.

In agreement with the fetal medicine team a local policy has been agreed to ensure that where the fetal heart cannot be fully assessed after two attempts the woman can be referred for a third attempt to complete the scan.

Where the first attempt at the scan is undertaken at > 20+6 weeks the reason for the delay in this scan must be ascertained and clearly documented on the scan report.

3.6 Second Opinion

When inconclusive or abnormal findings are identified a second sonographer may be required to confirm findings where there is any uncertainty a fetal medicine opinion must be sought. Women must be informed of any findings before they leave the scan room. Please see section 4.0 below

3.7 Reporting

All scans should be carefully documented via Viewpoint to produce a standardised report with the date and examiner's identity clearly recorded. Reports should be stored electronically on the Viewpoint system and where possible, a copy filed in the woman's hand held notes and also in their hospital notes.

Electronic storage of reports and images is required as per the fetal anomaly scan protocol (appendix1).

Women should be informed of the results of their scan immediately both verbally and in writing.

Patients attending routine scans may request an image of their scan. Where possible this should be accommodated and a donation to the charitable fund suggested OR when introduced, the MeetmiBaby programme will be utilised.

Note: The use of personal cameras, video or other recording equipment is not permitted.

3.8 Ultrasound Safety

All clinicians using ultrasound must adhere to the ALARA principle and the British Medical Ultrasound Society (BMUS) Guidance[3].

3.9 Education and Learning

NHS FASP[1] recommends that all practitioners undertaking ultrasound screening must be funded by the service provider to achieve relevant training and continuous professional development.

4.0 DETECTION OF ABNORMALITIES AND GROWTH OUTSIDE NORMAL PARAMETERS

4.1 Communication

Once a woman has been informed of abnormal or inconclusive findings in the scan room a suitable quiet room should be found for the woman and her partner. This will allow further information regarding the abnormality or findings to be discussed, written information to be given and management plans to be explained.

Once a significant abnormality has been confirmed, women will need time and support to decide upon the future of their pregnancy. If appropriate women should able to discuss termination of pregnancy with a specialist fetal medicine professional or screening coordinator as soon as possible and within referral guidelines (see section 4.2 below).

Referral to a counselling service can be offered and women should be informed of additional support such as Antenatal Results and Choices (ARC).

Women who choose to continue their pregnancy need clear documentation of the care plan and scheduled appointments.

4.2 Management

If a fetal abnormality is suspected or conclusive including Head Circumference (HC), Abdominal Circumference (AC) or Femur Length (FL) below 3rd centile or EFW below 10th centile on Viewpoint charts:

- The scan findings should be discussed, with the woman and partner (if present).
- The woman should then be **referred** to the Lead Obstetrician / the Associate Specialist for ultrasound/fetal medicine obstetrician or an obstetrician within **one working day**.
- Women with a suspected or confirmed fetal anomaly should be **seen within 3 working days by obstetric ultrasound specialist** or **by a fetal medicine unit within 5 working days**[1].
- If there is an unavoidable delay this should be documented, explained to the woman and referral to another unit should be considered.
- A copy of the ultrasound report should be filed in the woman's hand held notes, the hospital notes and information sent to The National Congenital Anomaly and Rare Disease Registration Service (NCARDRS)
- Where an abnormality is suspected or confirmed, a copy of the report is sent to the **Consultant Paediatrician**, Tel 01392 406629, Sec 01392 406635
- The woman's community midwife and where relevant her GP should also be informed.

- When a **cardiac abnormality** is suspected, a further opinion can be sought from Fetal Cardiology St Michaels Hospital 0117 342 5394, preferred via e-mail proforma on FMAU computer ubh-tr.BristolFetalCardiology@nhs.net
- When any **other abnormality** (non cardiac) is suspected, a further opinion can be sought from a Fetal Medicine Specialist, St Michael's Hospital Bristol (within 5 working days) preferred via e-mail pro-forma on FMAU computer Tel 0117 342 5470 ubh-tr.Fetalmedicineunit@nhs.net
- Where a **genetic abnormality** is suspected, a further opinion can be sought from the Clinical, Genetics Department, Royal Devon and Exeter NHS Foundation Trust, Tel 01392 405745 or via e-mail pro-forma rde-tr.PCGreferrals@nhs.net
- Where a cleft lip and/or palate is suspected refer to the South West Cleft Team **0117 342 1177 or email** ubh-tr.swcleftservice@nhs.net Further information via webpage http://www.uhbristol.nhs.uk/cleft
- Effective communication between the multidisciplinary team must be achieved.
- The woman should be placed under consultant care on a high risk pathway.
- If HC +/- AC above 95th centile with normal anatomical appearances at the anomaly scan no further action is needed.

Please see Appendix 3 & 4 for management pathway and the antenatal referral to paediatric counselling pathway

5.0 NORMAL VARIANTS

5.1 Women who are found to be 'low risk' through screening or diagnostic testing in either first or second trimesters, or who have declined screening for Down's syndrome **should not be referred for further assessment of chromosomal abnormality even** if the following normal variants (either single or multiple) are seen:

- **Choriod plexus cyst(s)**
- **Dilated cisterna magna**
- **Echogenic foci in the heart**
- **Two vessel cord**

However, the findings listed below **should be reported and the woman referred for further assessment** and treated as any other suspected fetal anomaly:

- **Nuchal fold** (greater than 6 mm)
- **Ventriculomegaly** (atrium greater than 10 mm)
- **Echogenic bowel** (with density equivalent to bone)

5.2 **Renal Pelvic Dilatation**

Renal pelvic dilatation in AP transverse measurement of **> 7 mm** (and < 10 mm) at any gestation of pregnancy requires management and referral for scan and ANC at 32 weeks plus postnatal paediatric review.

Renal pelvic dilatation in AP transverse measurement of **> 10 mm** at < 23 weeks

requires a fetal medicine referral and must be seen within 3 working days by an obstetric ultrasound specialist or by a fetal medicine unit within 5 working days. If the gestation is > 23 weeks referral and management is required as above however the timing of this can be discussed with the fetal medicine specialists.

Please see the renal pelvic dilatation guideline appendix 5.

6.0 MULTIPLE PREGNANCY – See Clinical guideline for multiple pregnancy

7.0 NATIONAL SCREENING COMMITTEE AUDITABLE STANDARDS

NHS FASP requires that data be collected for three standards relating to the 18+0 – 20+6 week anomaly scan.

The standards are detailed as follows and further information can be obtained from https://www.gov.uk/government/publications/fetal-anomaly-screening-programme-standards/standards-valid-from-1-april-2018

- **Standard 2: coverage and identifying population (ultrasound coverage)**

Rationale
This standard provides assurance that screening is offered to everyone who is eligible and each individual who chooses to accept screening has a conclusive screening result.

The optimal gestational window for completing the fetal anomaly ultrasound scan is 18 weeks + 0 days to 20 weeks + 6 days of pregnancy.

The scan can be completed up to 23 weeks + 0 days for women in the following circumstances (please see web link above).

Failsafe: An IT failsafe has been designed to ensure women are offered a scan between 18+0 – 20+6 and that this scan is completed by 23+0. This failsafe is performed twice a week by the governance team and screening midwife.

Any woman who has not been offered an anomaly scan between 18+0 to 20+6 would be incident reported. In this clinical situation the pregnant woman should be offered an anomaly scan ASAP, and no later than 3 working days.

Standard 4: test performance (18^{+0} to 20^{+6} fetal anomaly ultrasound)

Rationale

This standard is needed to monitor the performance of the screening strategy.

- **Standard 8 (a, b): time to intervention (18^{+0} to 20^{+6} fetal anomaly ultrasound)**

Rationale

To provide assurance that individuals with suspected anomaly are referred in a timely manner and receive timely intervention.

8.0 MONITORING COMPLIANCE WITH THIS GUIDELINE

9.1 Any concern or non-compliance with this guideline that is identified through the investigation of clinical incidents, claims or complaints will be reviewed as per the Trust Policies regarding Incidents, Claims and Complaints, and may result in an audit and/or amendment to the guideline.

9.2 Relevant Policies:

- Incident reporting policy and procedure
- Claims management policy and procedure
- Policy and Procedure for the Management of Complaints, Concerns, Comments and Compliments

9.0 REFERENCES

1. Public Health England 2018 **NHS Fetal Anomaly Screening Programme Handbook** PHE London

2. Royal College of Obstetricians and Gynaecologists 2018 **Placenta Praevia and Placenta Accreta: Diagnosis and Management** Green Top Guideline No. 27a

3. British Medical Ultrasound Society 2012 Statement on the safe use and potential hazards of diagnostic ultrasound BMUS.

10.0 PUBLICATION DETAILS

Author of Clinical Guideline	Ultrasound Associate Specialist
Division/ Department responsible for Clinical Guideline	Specialist Services/CWH/Maternity
Contact details	X6542
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Expiry date	07/09/2023
Date document becomes live	21/09/2020

APPENDIX 1 Fetal anomaly scan 18+0 – 20+6 base menu

Structure/Area	Detail	Fetal Measurements*	Images/measurements to capture/archive
Head and neck • **Skull** • **Brain** • **Neck**	Head shape	*Head circumference (HC)	Yes, to include HC measurement, CSP, posterior horn and measurement of the ventricular atrium at the level of the glomus of the choroid plexus
	Cavum septum pellucidum (CSP)	Measurement not required	
	Ventricular Atrium (VA)	*Atrium of the lateral Ventricle	
	Cerebellum	*Transcerebellar diameter (TCD)	Yes, to include measurement of the TCD in the suboccipitobregmatic view
	Nuchal Fold (NF) Measure if appears large	Distance between the outer border of the occipital bone and the outer skin edge	Yes, if measurement ≥ 6mm
• **Facial Features**	Coronal view of lips & nasal tip	Measurement not required	Yes
• **Lungs** • **Heart**	Visceral situs/laterality of heart	Measurement not required	No
	a) Four chamber view (FCV)		
	b) Aorta (Ao) arising from left ventricle		No
	c) Pulmonary artery (PA) arising from right ventricle, or the 3 vessel view (3VV)		No
	d) 3 vessel and trachea view (3VT)		No

Structure/Area	Detail	Fetal Measurements*	Images/measurements to capture/archive
Abdominal content	Stomach & position	Measurement not required *Abdominal circumference (AC)	Yes
	Short intra-hepatic section of the umbilical vein (UV)		
	Abdominal wall and cord insertion		
	Diaphragm	Measurement not required	
	Kidneys Measure AP renal pelvis diameter if it appears large	Measurement not required unless renal pelvis AP diameter >7mm	Yes, if AP renal pelvis diameter measures >7mm
	Bladder	Measurement not required	
Spine • **Cervical** • **Thoracic** • **Lumbar** • **Sacral**	Vertebrae Skin covering	Measurement not required	Yes, image either sagittal or coronal plane
Limbs • **Upper & lower**	Femur, tibia & fibula (both legs)	*Femur length	Yes, image and measure a single femur only
	Metatarsals (both feet)	Digit count not required	
	Radius, ulna, humerus (both arms)	Measurement not required	
	Metacarpals (both hands)	Digit count not required	
Uterine cavity • **Uterine content**	Placenta	According to local policy/protocol	
	Amniotic fluid	According to local policy/protocol	

PLACENTAL SITE AND AMNIOTIC FLUID LOCAL GUIDELINES

Amniotic fluid

- Subjective volume

If the amniotic fluid index (AFI) appears increased/decreased measure AFI (only 2 pools if below 20 weeks)

Placental site

- Document placental position e.g. Anterior/Posterior/Lateral/Succenturiate Lobe

If the transabdominal scan is unclear, a transvaginal scan should be offered

Placenta edge

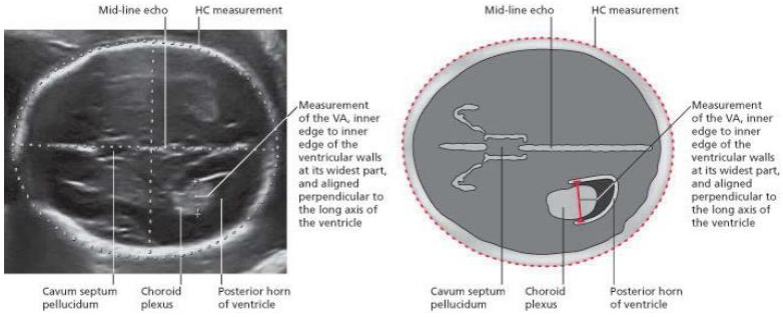
If the placenta is thought to be low lying (less than 20 mm from the internal os) or praevia (covering the os) at the routine fetal anomaly scan, a follow-up ultrasound examination including a TVS is recommended at 32 weeks of gestation to diagnose persistent low-lying placenta and/or placenta praevia.

If the woman is low risk/community care only the sonographer can book a scan only for 32 weeks, if the placenta remains low lying (< 20 mm from the internal os) the woman will need review in the next available ANC appointment.

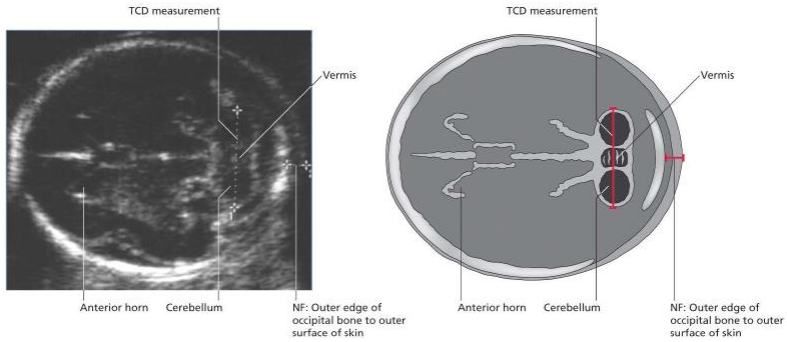
Where the woman is already under consultant care and is seeing a consultant obstetrician following the 20 week scan the 32 week scan can be booked with an ANC appointment (unless the consultant obstetrician requests otherwise).

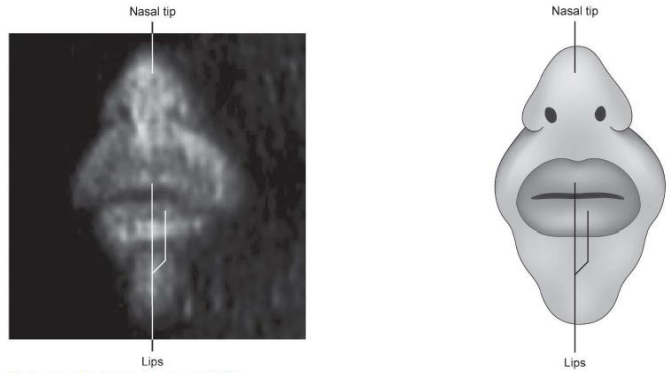
It is good practice to utilise colour Doppler to assess for Vasa Praevia to ensure there are no vessels near the internal os.

Head circumference (HC) and ventricular atrium (VA)

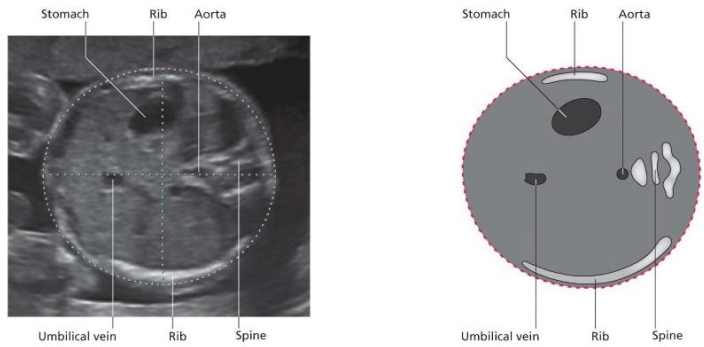


Transcerebella diameter (TCD) and nuchal fold (NF)

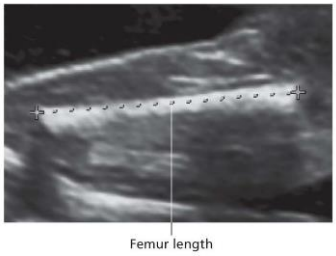


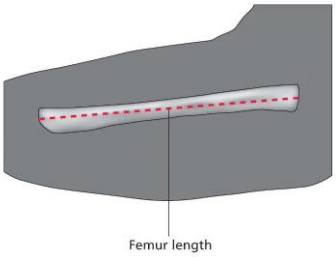


Abdominal circumference (AC)

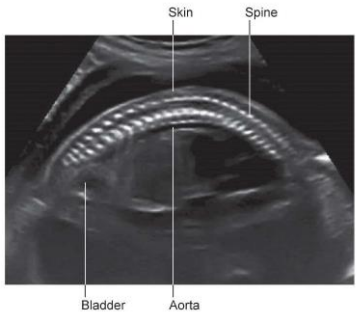


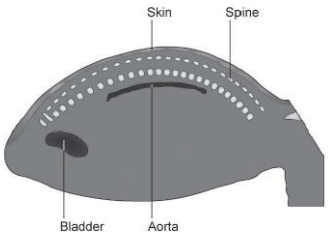
Femur length (FL)



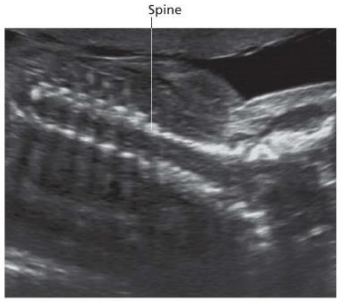


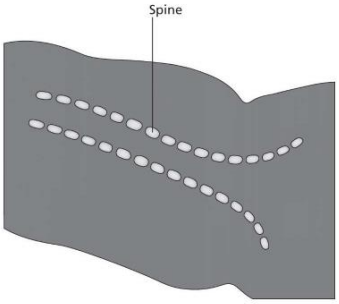
Sagittal spine



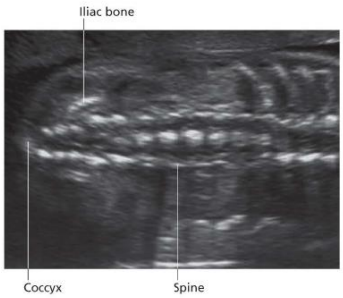


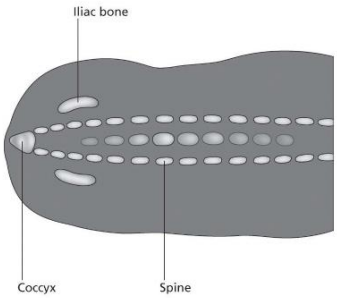
Coronal upper spine



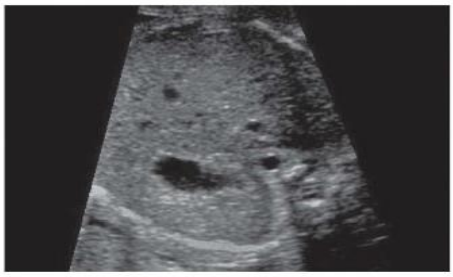


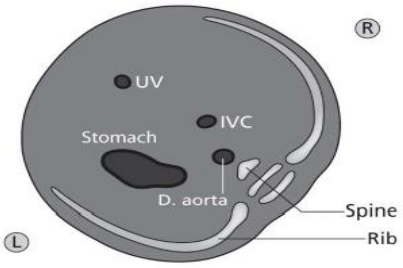
Coronal lower spine



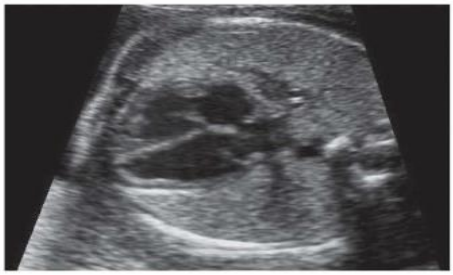


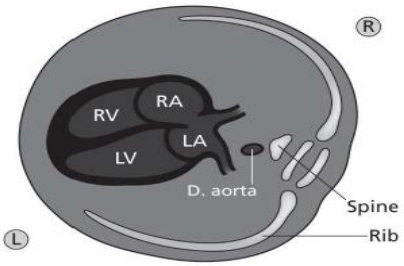
Visceral situs/laterality



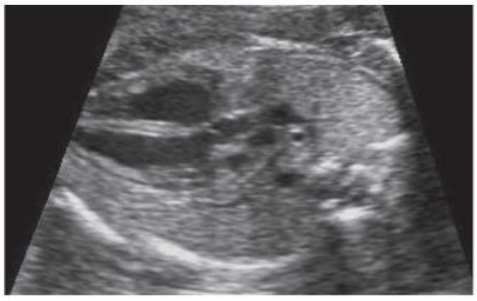


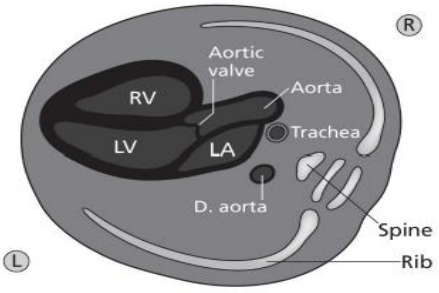
4 chamber view (4CH)



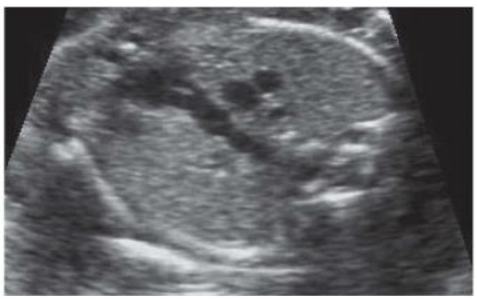


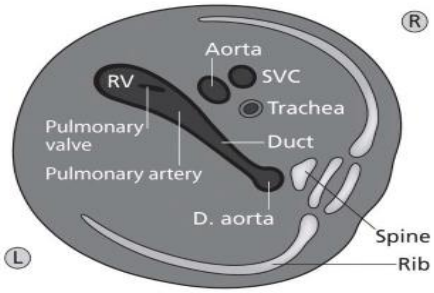
Aorta (AO)/left ventricular outflow tract



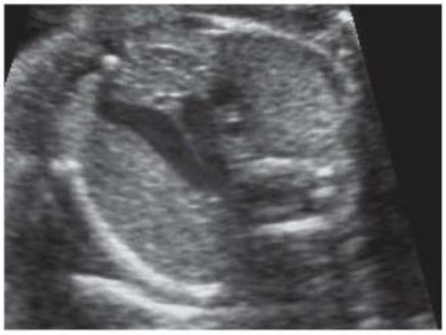


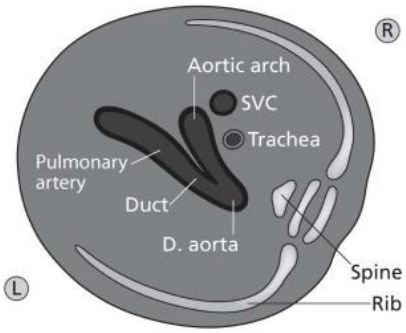
Pulmonary artery (PA)/right ventricular outflow tract or 3 vessel view (3VV)





3 vessel and trachea view (3VT)





APPENDIX 2 Fetal Cardiac Scan Protocol

VIEW FUNCTION	SIZE	POSITION	STRUCTURE	
Situs/Laterality Determine left and right side of the fetus from fetal position in the uterus		*****Stomach and heart on the left Follow the IVC into the RA		
Four Chamber View Transverse section of the thorax including a complete rib and crux of the heat	*****Normal cardiac size occupies 1/3rd of area of the thorax *X2 atria of equal size *x2 ventricles of equal size *x2 patent atrioventricular valves of equal size	*****Mostly in the left chest * Apex points towards the left	*Left and right side of the heart are balanced *Moderator band at right ventricle apex *Crux-point at which lower part of the atrial septum meet upper part ventricular septum and where valves are inserted *Differential offsetting of valves, the tricuspid valve inserts more apically than the mitral valve *Ventricular septum intact from apex to crux *Foramen ovale flap in left atrium	***Rhythm-** synchronous atrial and ventricular contractions *Two ventricles contract equally *Mitral and tricuspid valves open freely

VIEW FUNCTION	SIZE	POSITION	STRUCTURE	
Pulmonary/Right Ventricular Outflow Tract this view shows the outflow tract of the right ventricle **Or** **The Three Vessel View (3VV)** this shows the outflow tract of the right ventricle including the pulmonary artery, the aorta and the superior vena cava. **3VT view** demonstrates merging of aortic and ductal arches into the descending aorta. Acute angle V shape between two arches. Both arches to left of spine & trachea (left sided aortic arch). No vessel seen to the right of the trachea in normal cardiovascular anatomy.	*****The diameter of the pulmonary artery is slightly greater than the diameter of the aorta which is slightly greater than the diameter of the superior vena cava Diameter of both arches should be approximately equal	*****Main pulmonary artery arises from the right ventricle and is directed backwards towards the spine *The pulmonary artery lies to the left with the superior vena cava to the right and aorta in the middle *Pulmonary artery continues as the arterial duct Order of 3 vessels from LEFT to RIGHT 1.Pulm art into ductal arch 2. Ascending aorta into trans aortic arch 3.SVC	***** The main pulmonary artery bifurcates	*****Pulmonary valve opens freely

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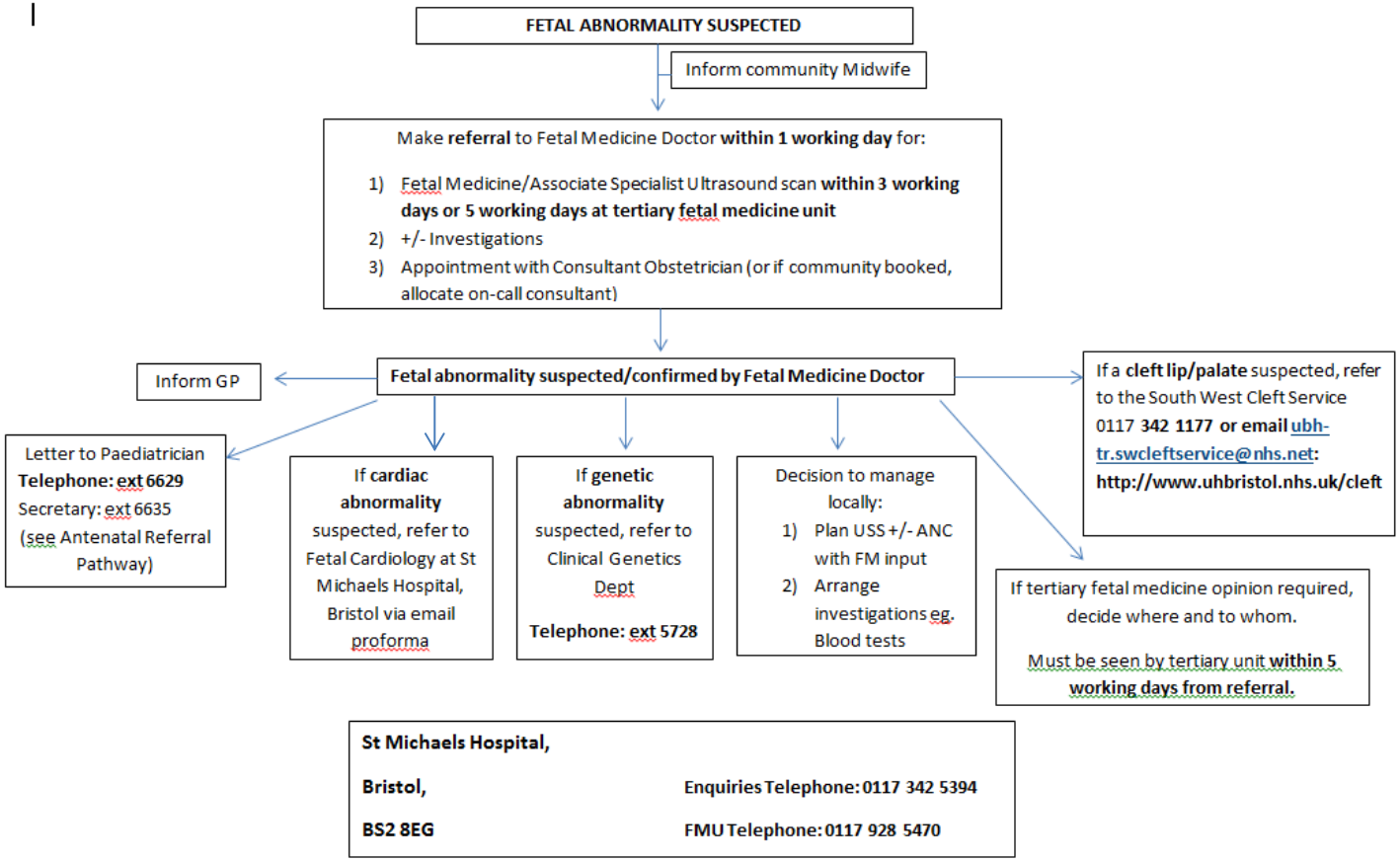
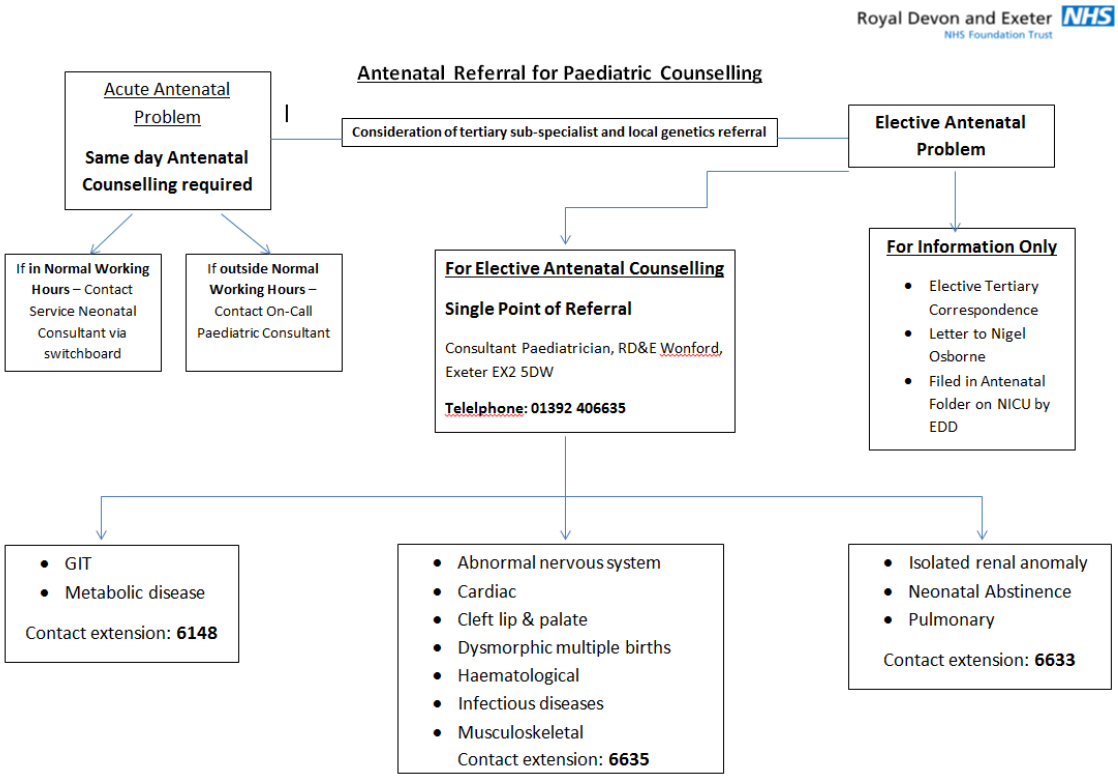
Management of Antenatal Suspected Fetal Abnormalities



APPENDIX 4 **Antenatal Referral for Paediatric Counselling**



APPENDIX 5 RENAL PELVIC DILATATION PROTOCOL

KEY POINTS

- Renal pelvic dilatation (RPD) in AP transverse measurement of **> 7 mm** (and **< 10 mm**) at any gestation of pregnancy requires referral for a further ultrasound scan at 32 weeks with Antenatal Clinic (ANC) review and postnatal paediatric follow up. If detection occurs at > 32 weeks a copy of the report should be sent to the paediatric team with the RPD measurement highlighted.

- RPD in AP transverse measurement of **> 10 mm** at < 23 weeks requires a fetal medicine referral and must be seen within 3 working days by an obstetric ultrasound specialist or by a fetal medicine unit within 5 working days. If the gestation is > 23 weeks referral and management (as above) is required however the timing of this can be discussed with the fetal medicine specialists (Local policy agreed with Dr Liversedge Oct 2018).

- Information must be sent to the national congenital anomaly and rare disease registration service (NCARDRS)

- The finding must be explained to the woman and a renal pelvic dilatation leaflet given https://patientinformationleaflets.exe.nhs.uk/Products/ViewDocument/26795. Women can also be referred to the InfoKid website https://www.infokid.org.uk/antenatal-hydronephrosis for further information or the infoKid leaflet can be given.

Please see management section below for repeated in-depth instructions.

INTRODUCTION

Congenital malformations of the fetal kidneys and urinary tract are among the most common fetal anomalies identified antenatally[1] presenting in ~ 1:100 pregnancies[2]. The renal pelvis connects the renal calyces and ureter. Dilatation of the renal pelvis is referred to as antenatal hydronephrosis and may reflect an obstruction or intrinsic laxity in the collecting system.

Renal pelvic dilatation in AP transverse measurement of **> 7mm** at any gestation of pregnancy requires referral[3].This is detailed in the management pathway within this guideline.

RPD in AP transverse measurement of **> 10** mm at any gestation of pregnancy requires referral to fetal medicine and must be seen as per the timescales detailed above.

Of the cases detected antenatally many will spontaneously resolve with observation only however a proportion will be the result of conditions such as utereo-pelvic junction obstruction and vesicouteric reflux, uretero-vesical junction obstruction, various syndromes and bladder outlet obstruction due to posterior urethral valves. This list is not exhaustive but includes some of the more likely conditions[4]. Detection of these conditions in the antenatal period facilitates increased care and observation with a view to managing these conditions and reducing renal damage.

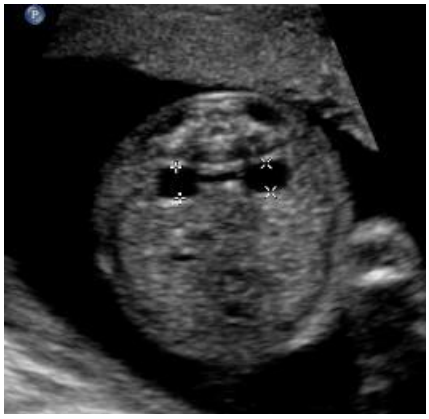
Please note this guideline refers only to isolated renal pelvic dilatation, where complex renal abnormalities are noted the findings must be documented, explained and the woman must be

referred for fetal medicine assessment locally within 3 working days or within 5 working days to a tertiary referral centre[5].

TECHNIQUE FOR MEASUREMENT

The maximum AP diameter of the kidney and renal pelvis should be made in the transverse plane.

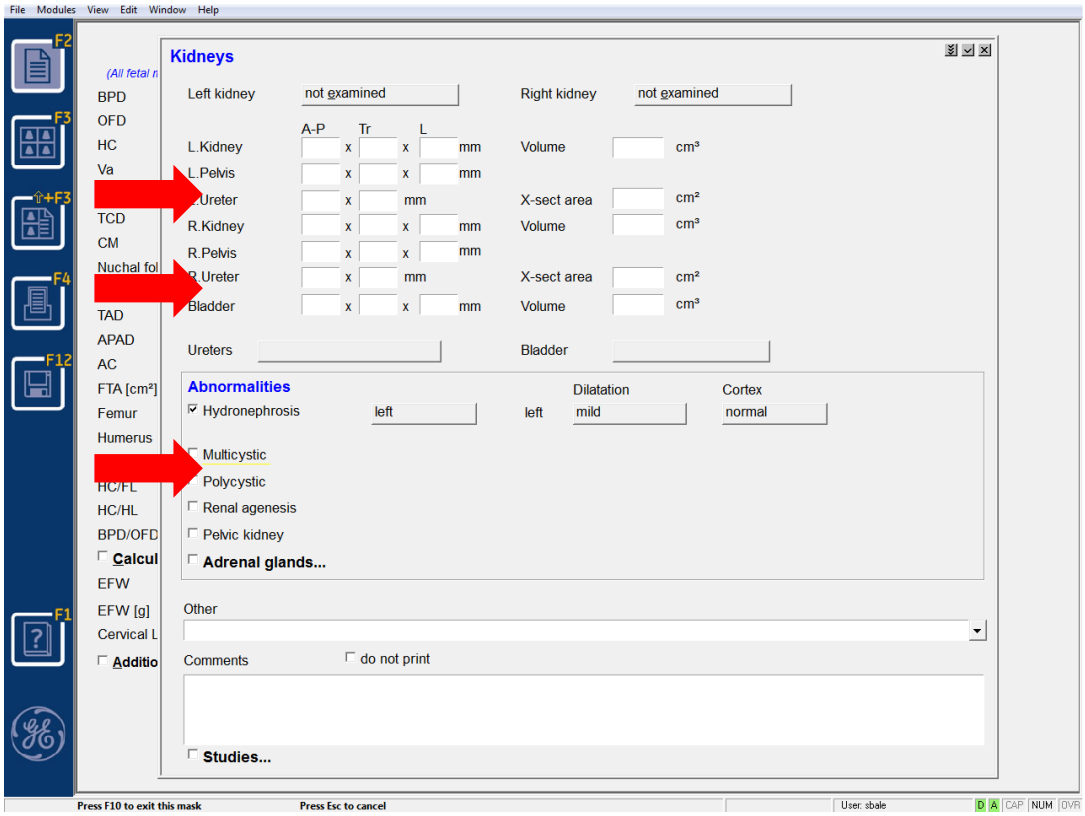
The fetal bladder and liquor volume should also be examined.



In addition to measuring the renal pelvis it is good practice to include information regarding whether the dilation extends to the calyces and if there is any evidence of parenchymal thinning compared to the contralateral kidney. This has an impact on the postnatal measurement.

REPORTING

The measurement must be documented within viewpoint by clicking on the kidneys 'details' tab and entering measurements. Comments regarding management and follow up initiated may be added in the comments section.



ANTENATAL MANAGEMENT RPD > 7 mm

- The finding must be explained to the woman and a renal pelvic dilatation leaflet given https://patientinformationleaflets.exe.nhs.uk/Products/ViewDocument/26795. Women can also be referred to the InfoKid website https://www.infokid.org.uk/antenatal-hydronephrosis for further information or the infoKid leaflet can be given.

- A follow up scan with a sonographer and ANC appointment should be made for 32 weeks gestation.

- A copy of the report should be sent to the paediatric team with the RPD measurement highlighted and information sent to The National Congenital Anomaly and Rare Disease Registration Service (NCARDRS).

- If detection occurs following the anomaly scan and the gestation is less than 32 weeks the steps above should be followed. If the gestation is greater than 32 weeks a copy of the report should be sent to the paediatric team with the RPD measurement highlighted and information sent to The National Congenital Anomaly and Rare Disease Registration Service (NCARDRS)

ANTENATAL MANAGEMENT RPD > 10 mm

- If detection occurs between 18+0 – 20+6 weeks a fetal medicine referral is required and the woman must be seen within 3 working days by an obstetric ultrasound specialist or by a fetal medicine unit within 5 working days.

- If the gestation is > 23 weeks referral to fetal medicine is required however the timing of this can be discussed with the fetal medicine specialists.

POSTNATAL MANAGEMENT

Postnatal management is determined by the paediatric and paediatric urology teams and will involve observation, postnatal ultrasound, antibiotic treatment (where necessary) and longer term follow up.

REFERENCES:

1. Hindryckx & De Catte 2011 Prenatal diagnosis of congenital renal and urinary tract malformations **Prenatal Diagnosis** 3(3):165-174
2. https://www.infokid.org.uk/antenatal-hydronephrosis [Accessed on 02/10/2018]
3. Public Health England 2018 **NHS Fetal Anomaly Screening Programme Handbook** PHE London
4. Cappolicchio JP et al 2018 Canadian Urological Association/Pediatric Urologists of Canada guideline on the investigation and management of antenatally detected hydronephrosis **Canadian Urology Association Journal** 12(4): 85-92
5. Public Health England Guidance Fetal Anomaly Screening Standards Valid for Data Collected 1st April 2018 https://www.gov.uk/government/publications/fetal-anomaly-screening-programme-standards/standards-valid-from-1-april-2018 [Accessed on 02/10/2018]

Appendix 6 Antenatal infections (suspected and if in contact) - Serological Investigation

Fetal abnormality	Rubella G +/- Rubella M	CMVG and CMVM	Toxoplasma screen	Parvovirus B19 G&M	Syphilis (**high risk only**; + check booking)	Others
Severe Unexplained IUGR (Fetal medicine request only)	√	√	√	-	√	VZV if recent history
CNS eg microcephaly, ventriculomegaly, hydrocephalus, intra-cranial calcification	√	√	√	-	-	VZV if recent history
Echogenic Bowel	-	√	√	-	-	-
Liver Calcifications	-	√	√	-	-	-
Cardiac abnormality	√	-	-	-	-	-
Non immune Hydrops	√	√	√	√	√	- VZV if recent history
Raised nuchal measurement	-	-	-	Not immed, but consider at 16/40 review	-	-
Cystic Hygroma	-	-	-		-	-
Oligohydramnios	-	-	-	-	-	-
Polyhydramnios	-	-	-	-	-	-
Recurrent Miscarriage	-	-	-	-	-	Consider Chlamydia
Early miscarriage (<14/40)	-	-	-	-	-	-
T2/T3 miscarriage/IUD (>14/40)	√	√	√	√	-	-

VIRAL RASH IN THE PREGNANT WOMAN

1. **Macular papular rash in pregnancy**: exclude parvovirus B19 and rubella; major risk prior to 20 weeks, send serum which will be tested in parallel with booking serum.
   Other causes (not routinely tested for as should be suggested by their clinical features): Streptococcal, Meningococcal, Measles, Enterovirus, Syphilis, EBV, CMV
2. **Vesicular rash in pregnancy:** A disseminated rash is highly suggestive of chicken pox, diagnose clinically (PCR on vesicle fluid is available). High risk of varicella pneumonia. Treat with acyclovir if over 20 weeks and less than 24 hours since rash onset. If infant is born within 7 days, he/she will need VZiG – contact Microbiology to discuss
   ***** Do not bring the woman to the Antenatal Clinic where other pregnant women might be at risk *****

THE PREGNANT WOMAN IN CONTACT WITH A RASH ILLNESS (ie. same room for 15 minutes)

1. **Macular papular rash**: **If parvovirus B19 or rubella are suspected in index case**: check immunity to these (on booking serum), if non-immune repeat 4 weeks after contact to assess for sero-conversion.
   If measles is suspected in index case - Discuss with Microbiology as need to confirm diagnosis in index case before making any decision; pregnant women may require human normal immunoglobulin
2. **Vesicular rash ie chicken pox:** reassure if history of past chicken pox, otherwise request VZV IgG on booking blood, if VZV IgG negative, may require VZiG and microbiology will contact you NB ensure lab has useful contact details (ie mobile phone) for person responsible (ie you) for giving VZiG if it is needed

REFERENCES:

RCOG Green top guidelines 25, 31, 55; RCOG Good practise Guideline on recurrent miscarriages
HPA Management of rash illness in pregnancy
Abdel-Fattah et al. TORCH test for fetal medicine indications. Prenat Diagn 2005 (11) 1028-31

Microbiology Lab contact details: 01392 402977 (bacti results), 402953 (virology results), or bleep 545 for clinical advice