Scan department guidelines - maternity

Target audience	Maternity staff
Patient group	Pregnant women/birthing people. The term 'women/birthing people' is used within this document to include women, girls, trans men, and non-binary and intersex people, who are pregnant or have recently been pregnant.

Summary

This guideline details the recommended antenatal ultrasound scan assessment and care in NHS Lanarkshire for patients with uncomplicated pregnancies and in patients in whom a pregnancy complication has been identified.

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Contents

Abbreviations

4CV – four chamber view
AC – abdominal circumference
AP – anteroposterior
BMI – body mass index
BP – blood pressure
BUMPS – best use of medicines in pregnancy
cCTG – computerised cardiotocography
CMW – community midwife
CPAM – congenital pulmonary airway malformation
CPC – choroid plexus cyst
CRL – crown rump length
CRP – C-reactive protein
CT – combined test
CUBS – combined ultrasound and biochemical screening
DCDA – dichorionic diamniotic
DVP – deepest vertical pool
EDD – estimated due date
EDF – end-diastolic flow
FASP – fetal anomaly screening programme
HC – head circumference
HDFN – haemolytic disease of the fetus and newborn
HVS – high vaginal swab
FAS – fetal anatomy scan
FGR – fetal growth restriction
FL – femur length
LV – liquor volume
MCA – middle cerebral artery
MCDA – monochorionic diamniotic
MCMA – monochorionic monoamniotic
NF – nuchal fold
NHS – National Health Service
NIPT – non-invasive prenatal testing
NSC – National Screening Committee
NT – nuchal translucency
PI – pulsatility index
PSV – peak systolic velocity
QEUH – Queen Elizabeth University Hospital
RCOG – Royal College of Obstetricians and Gynaecologists
RFM – reduced fetal movements
RP – renal pelvis

qfPCR – quantitative fluorescence polymerase chain reaction
SD – standard deviation
SFH – symphysial fundal height
SGA – small for gestational age
SITM – special interest training module
SOP – standard operating procedure
SRM – spontaneous rupture of membranes
ST – specialty trainee
T13 – trisomy 13
T18 – trisomy 18
T21 – trisomy 21
TA – transabdominal
TCD – transcerebellar diameter
TV – transvaginal
UAPI – umbilical artery pulsatility index
UHW – University Hospital Wishaw
UKTIS – United Kingdom Teratology Information Society
Vp – ventricular measurement
WCC – white cell count
WRSKD – work-related musculoskeletal disorders

General principles

General patient information

A printed patient information leaflet regarding routine screening antenatal scans will be sent to women/birthing people in the post along with information about their appointment date and time.

Consent

Verbal consent should be taken from the woman/birthing person prior to commencing the ultrasound examination to ensure they understands the purpose of the scan.

Visitors

Only one visitor is permitted to attend routine scans unless previously agreed otherwise by the lead sonographer for specific circumstances eg. the woman/birthing person is a vulnerable adult and additional adult support is required. Children are only permitted in the exceptional circumstance that no other childcare is an option. This is to ensure that sonographers are given the opportunity to perform this important medical examination without unnecessary distraction.

In the event that a patient is invited to attend an additional consultant scan due to a possible complication in the pregnancy, she should be advised that they can bring additional adults for support.

Training

Obstetric trainees are required to undertake supervised obstetric ultrasound training to achieve the basic antenatal scanning competencies as specified by the Royal College of Obstetricians and Gynaecologists (RCOG). Those wishing to go further may elect to undertake additional obstetric modules once Specialty Trainee 5 (ST5) level or above called foundation or contingent Special Interest Training Modules (SITM). This specialisation will be either within the fetal care or prenatal diagnosis SITM modules. Trainees who have undertaken this training are able to perform obstetric ultrasound within the limitations of these specific training programme competencies.

Sonographers in training should be directly supervised by a qualified sonographer. As competencies are accrued, indirect supervision may gradually increase but there will always be a named sonographer with overall responsibility for the ultrasound training list.

Chaperones

If a transvaginal (TV) scan is to be carried out, a chaperone should be present throughout.

Imaging

Medical images of the examination should be recorded, printed from the ultrasound machine and uploaded as a “scanned document” on to BadgerNet. Recording of the examination by visitors is prohibited unless under exceptional circumstances. Images may be used for teaching purposes providing all the patient and trust identification have been removed.

Fetal sexing

If a patient wishes to find out the gender of the baby, this can be provided during the 20 week anomaly scan at the patient’s request. If fetal sexing is not possible the patients should be told this. The patient should be made aware that fetal sexing is just an opinion and **does not** guarantee the final sex of the child. Fetal sex should not be commented on prior to 16 weeks of gestation.

For parents wishing to know the fetal sex, the result should be communicated verbally to them during the scan only and not written down.

Routine first trimester dating ultrasound scan

A pregnancy is dated at the 11+2 – 14+1 week ultrasound scan, when the CRL (Crown Rump Length) is ≥ 45mm and ≤ 84mm:

- If the CRL is less than 45mm, arrange a repeat scan at 12+1 to 12+6 weeks of gestation.
- If the CRL is greater than 84.0mm, date using the HC (head circumference) measurement.
- If the first pregnancy scan is at > 24 weeks of gestation ("late booker"), use the mean of HC and FL (femur length) to give an EDD (estimated due date) and rescan in 2 weeks. If there is a discrepancy between HC and FL or any other query, seek advice from a consultant obstetrician.
- Screening for Down's syndrome should be offered at the dating scan (11+2 – 14+1 weeks of gestation) by combined screening when the CRL is between 45.0 and 84.0mm. If the CRL is greater than 84.0mm, screening for Down's syndrome should be by serum quadruple testing performed after 14+2. There should be an adherence to the 'twice on the couch' policy during the initial appointment. If a CRL is obtained, without the NT (nuchal translucency), dating should be completed and quadruple screening offered at a future appointment. If the CRL and the NT are both unattainable, dating and quadruple screening should be offered at approximately 16 weeks of gestation as this is the optimum time for second trimester screening.
- If a nuchal translucency greater than or equal to 3.5mm is present, take combined test bloods to complete the screening investigations if the patient has consented to this.

First trimester structure	Normal appearance	Recommendations
Presence of fetal heart beat	Pulsed wave or colour doppler will not be routinely used. Record the presence or absence of the heartbeat, not the heart rate.	Second sonographer opinion if CRL >7mm and no visible fetal heart beat on transabdominal (TA) and transvaginal (TV) scan.
Head	Presence of cranial bones and symmetrical brain structures	If concerned ask for second opinion and/or refer for urgent consultant opinion.
Limbs	Presence of both hands and feet (metatarsals and metacarpals).	
Abdominal wall	Umbilical cord insertion. Check for exomphalos (abdominal contents enclosed within fetal cord and covered by membrane) gastroschisis (normal cord	If suspected abdominal wall abnormality and ≤12+0 weeks rescan after 7 working days. Otherwise refer for urgent consultant scan.

	insertion, external free floating bowel).	
Profile	For normal appearances of forehead, nose and chin	Refer for urgent consultant scan if concerned.
NT	As per National Screening Committee (NSC) guidelines The best measurement should be taken	All NT ≥ 3.5 mm refer for urgent consultant scan; there is no need to first wait for combined test (CT) results (but still offer full CT testing).
CRL	The longest measurement of the CRL with the fetus in standard position is used.	Date when CRL > 45 mm, otherwise rebook 12+1 to 12+6 weeks.
Uterine survey	Assess for fibroids	Refer for consultant scan at 16 weeks if multiple fibroids >3cm in diameter, or large fibroid >3cm in lower segment.
Liquor volume	Subjective significant reduction in amniotic fluid, particularly if associated with curled fetal position.	Refer for urgent consultant scan if concerned.

Routine second trimester anomaly ultrasound scan

The second trimester ultrasound anomaly scan is offered at booking to every patient and performed between 18+0 and 20+6 weeks of gestation. All second trimester anomaly scans follow the principles detailed in the guideline NHS Fetal Anomaly Screening Programme, National Standards and guidelines.

Any difficulty obtaining necessary views should result in the patient being offered a repeat sonographer scan in 2 weeks. If images are still difficult to obtain at the repeat scan then no further anomaly scanning should be offered. If a sonographer has specific concerns about significant limitations in views of many parts of the fetal anatomy they should seek consultant advice.

Second trimester structure	Normal appearance	Measurement	Recommendations
Head	Head shape Cranial bones	HC at the lateral ventricular level	Refer for urgent consultant scan if abnormal shape or appearance.
Brain	Midline and Symmetrical structures assessed at the ventricular level Cavum septum pelucidum present		If suspected to be abnormal refer to for urgent consultant scan.
	Ventricles and choroid plexus	Ventricular measurement (Vp) measured across tip of the choroid plexus perpendicular to the midline echo.	VP ≥10mm refer for urgent consultant scan. In presence of choroid plexus cyst (CPC) check carefully fetal anatomy ensuring good heart and finger views. If CPC are an isolated finding they are considered normal and do not require report.
	Cerebellum	TCD (transcerebellar diameter) taken at the suboccipito-bregmatic level	Abnormal structure - refer for urgent consultant scan.
	Cisterna magna	Measurement taken at the suboccipito-bregmatic level	>10 mm refer urgent consultant scan.
Neck	Thickness and continuity of the skin of the neck to exclude	Nuchal fold (NF) (only take this measurement when there has been have prior agreement to Down's screening.	NF > 6.0 mm refer for urgent consultant scan. Features of a cystic hygroma (any size) refer for urgent consultant scan.

Second trimester structure	Normal appearance	Measurement	Recommendations
	meningocele or encephalocele.	Measure at the same level demonstrating TCD measurement.	
Face	At coronal view of the fetal face check presence of two orbits, nasal tip imaging two nostrils and intact upper lip. A parasagittal view of fetal face not mandatory, however, it is helpful in assessment of fetal forehead, nose and chin.		Abnormal structure - refer for urgent consultant scan.
Chest	Lungs at the 4 chamber view (4CV) level of the heart		Abnormal structure –refer for urgent consultant scan.
Spine	Vertebrae and skin covering in longitudinal and transverse planes		Abnormal structure –refer for urgent consultant scan.
Abdomen	Shape and contents at the level of the stomach and again at the level of the umbilical insertion	Abdominal circumference (AC) at the stomach level with short portion of intrahepatic vein above the cord insertion, without the presence of kidneys or fetal lung in the cross section.	Abnormal structure –refer for urgent consultant scan.
Renal	Identify both kidneys and the bladder.	Measure renal pelvis (RP) if this appears dilated.	Abnormal structure –refer for urgent consultant scan. See separate renal anomaly guidelines.
Arms	3 bones and hand (visible but not counting fingers)		Abnormal structure –refer for urgent consultant scan. .
Legs	3 bones and foot (visible but not counting toes)	FL: Femur length (one leg only)	Abnormal structure –refer for urgent consultant scan.

Second trimester structure	Normal appearance	Measurement	Recommendations
Cardiac	Obtain 4-chamber view, and outflow tracts according to Fetal Anomaly Screening Programme (FASP) screening protocol	Assess situs, 4cv, left and right ventricular outflow tract. Obtain the 3-vessel view and the 3-vessel trachea view	Abnormal structure –refer for urgent consultant scan.
Uterine cavity	Amniotic fluid Placenta	Measure deepest vertical pool (DVP) only if fluid appears excessive or reduced. Placenta site and anatomy. Do not routinely record placental granum grade.	If concerned –refer for urgent consultant scan.

Assessment of fetal growth and wellbeing in the 3rd trimester

Referral for third trimester fetal assessment should be determined as per the separate guideline regarding this available on the Right Decisions app.

Referrals for fetal growth and wellbeing scans will be reviewed by sonographer staff and appointed accordingly. A vetting process will occur to ensure that the referral adheres to local policy. In situations where a scan does not appear to be necessary as per criteria from local policies, the referral will be declined and an email will be sent to the referring clinician with an explanation and to request if further information is required.

Third trimester assessment	Normal appearance	Measurement	Recommendation
Head	Check head shape	HC at the lateral ventricular level	Refer for urgent consultant scan if significant drop in HC centile, particularly if now less than 5th centile.
Abdomen	Shape and contents at the level of the stomach	AC at the stomach level with short portion of intrahepatic vein above the cord insertion, without the presence of kidneys or fetal lung in the cross section.	Follow small for gestational age (SGA) guidance if reduction in growth velocity.
Femur	Straight femur bone	Femur length, one leg only.	Follow "short femur" guideline if less than 5th centile.
Uterine cavity	Amniotic fluid Placenta	Measure DVP of amniotic fluid, placental site and appearance. Do not routinely record placental granum grade.	Follow "Oligohydramnios" chart if DVP <2cm. Follow "polyhydramnios" chart if DVP >8cm. Follow "Management of low lying placenta chart" if placenta appears to be

			within 4cm of cervical os on TA scan. Refer for consultant scan if concern regarding appearance of placenta.

Fetal malpresentation

In the event that presentation is uncertain or a non-cephalic presentation is suspected on abdominal palpation at 36 weeks of gestation or more, telephone referral should be made to the daycare unit at University Hospital Wishaw (UHW) for a presentation scan. Patients should be reviewed for presentation scan within 72 hours of referral.

Daycare unit scans will be to assess fetal presentation ONLY and referral should only be made to the scan department if there is an additional concern such as abnormal measurement of symphyseal fundal height (SFH).

Core midwifery staff on the daycare unit will perform presentation scans independently following a period of supervised scan practice with their sonographer mentor and completion of competency workbook (see relevant standard operating procedure (SOP)). In the event that no midwife with competency is available within the following 72 hours, an appointment should be in the daycare unit and the on-call obstetric consultant should attend to confirm presentation.

Patients with previous poor pregnancy history

Patients who have experienced the loss of a baby due to a late miscarriage, stillbirth or early neonatal death, sometimes referred to a “Rainbow Pregnancy”, should have individualised antenatal management under the care of their named consultant.

This care includes the offer of regular antenatal scans for fetal growth, liquor volume and umbilical doppler, even if the history does not fit local scan criteria. Frequency of scanning should be agreed with named consultant and be dependent on the patient’s history.

Patients with high BMI

Work-related musculoskeletal disorders (WRMSD) are known to be associated with ultrasound practice. There are several causative factors including high workloads, increasing patient BMI, poor equipment, room design and organisation of list, stress, poor posture and ergonomics when scanning. It is important that ultrasound practitioners take care of themselves and their working environment whilst scanning.

When scanning patients with high BMI's, the sonographer should attempt to use micro breaks to relax muscles and tendons during the scan. When measurements are taken, remove the probe from the patient and rest the scanning hand for a few seconds. They should not extend the examination time beyond the typical time limit. Avoid pressing unnecessarily hard and for too long. This may increase the risk of WRMSDs and it can be uncomfortable for the patient.

If poor or suboptimal visualisation of fetal structures limits completion of dating, nuchal or fetal anomaly scans the sonographer should reappoint for follow up as per the standard policy.

If the fetal anatomy scan (FAS) cannot be completed despite a second attempt no further anomaly scanning should be offered. If a sonographer has specific concerns about significant limitations in views of many parts of the fetal anatomy they should seek consultant advice.

The following should be recorded in the scan report:

"There have been limitations in the scanning of your baby. Two attempts have been made to visualise standard views of your baby's anatomy as per NHS Fetal Anomaly Screening Programme guidance. Limitations in fetal anatomy scanning are most commonly due to either a difficult position of the baby or because of high maternal BMI. No additional scans will be organised for further views of the baby's anatomy. This is in keeping with national policy."

Referral indications for consultant scans

If in doubt as to whether or not consultant review is required, ask the lead obstetric sonographer, the lead consultant for obstetric scanning or the lead fetal medicine midwife. Referrals will be vetted weekly by an obstetric consultant.

Routine referral for consultant fetal anomaly scan (may be suitable from 16 weeks of gestation):

Previous pregnancy affected with significant fetal anomaly.
Family history of major structural anomaly in first degree relative **of the fetus**.
Family history that increases chance of chromosomal or syndromic abnormality (may require earlier appointment if prenatal invasive testing is indicated following clinical genetics review).
Increased chance of chromosomal anomaly on non-invasive prenatal testing (NIPT) and declining invasive diagnostic testing, OR Increased chance of chromosomal anomaly on combined ultrasound and biochemical screening (CUBS) test but declining NIPT/ invasive diagnostic testing.
Exposure to medication with known teratogenic effect as advised by the United Kingdon Teratology Information Service (UKTIS) or “Best Use of Medicines in Pregnancy” (BUMPS).

Referral for consultant anomaly scan with fetal echocardiogram/extended cardiac views (may be suitable from 16 weeks of gestation):

Family history of major cardiac anomaly **REQUIRING SURGERY** in first degree relative **of the fetus.**
NT of 3.5mm or more at dating scan.
Pre-existing diabetes mellitus with HbA1C > 86mmol/mol
Monochorionic twin pregnancy

Referral for uterine or ovarian abnormality:

Suspected maternal ovarian cyst ≥ 6cm in size or complex in appearance – requires 16 week scan with consultant with gynaecological scanning experience (predominantly Dr Ferguson).
Fibroids – see flowchart below.
Bicornuate uterus with uterine septum – consultant scan (any consultant) at 16 weeks of gestation to arrange cervical length scanning is required.
Arcuate uterus – no additional scans required.

Referral due to suspicion of fetal anomaly, needing same day review:

Inter-fetal transfusion (including twin-to-twin transfusion): suspicion of stage 1 or above.
Fetal growth restriction with absent or reversed umbilical artery end diastolic flow (EDF) <32 weeks of gestation (≥ 32 weeks needs urgent referral to triage for computerised cardiotocography (cCTG) and review by the on-call obstetric consultant).
Suspected fetal anaemia
Fetal hydrops ≥ 16 weeks of gestation

Referral due to suspicion of fetal anomaly, needing seen on consultant list within 2-3 working days:

Persistently increased umbilical pulsatility index (PI) with positive EDF < 37 weeks of gestation, irrespective of estimated fetal weight (EFW) on growth chart (≥ 37 weeks of gestation, refer to on-call obstetric consultant).
"Increased chance" result detected at CUBS or quadruple test and declined NIPT.
Increased NT (≥ 3.5mm at less that 14+1 weeks of gestation)
Cystic hygroma
Multiple structural anomalies
Early onset fetal growth restriction (EFW <3rd centile at <32 weeks of gestation)
Any intracranial anomaly, including microcephaly less than 5th centile.
Spina bifida
Facial cleft
Encephalocele
Abdominal wall defect (including gastroschisis, exomphalos, bladder extrophy, limb body wall defect).

Suspected skeletal dysplasia: abnormal structure of long bones and/or long bones ≥ 3 standard deviations (SD) below mean (see short femur guideline).
Megacystis (>7mm at dating scan)
Thoracic abnormality (including congenital diaphragmatic hernia and congenital pulmonary airway malformation (CPAM)).
Cardiac anomaly (structural and arrhythmia)
Intra abdominal cyst/ “double bubble”/ dilated bowel more than 10mm in diameter
Limb reduction defect
Radial ray anomaly/ club hand
Multiple joint abnormalities (fetal akinesia appearance)
Liquor volume discrepancy in monochorionic twins
Sacrococcygeal teratoma
Major bilateral renal anomaly (bilateral renal agenesis, bilateral multicystic kidneys)
Micrognathia
Maternal antibodies (above a titre at risk of haemolytic disease of the fetus and newborn (HDFN) as per “Pregnant Women with Red Cell Antibodies Guidance”.
Suspected congenital infection
Severe oligohydramnios/ anhydramnios at extreme preterm gestation (<24 weeks)
Pleural effusion with **normal umbilical artery and middle cerebral artery peak systolic velocity (MCA PSV) doppler** (otherwise needs same day review)
Ascites with **normal umbilical artery and MCA PSV Doppler** (otherwise needs same day review)

Referral for urgent consultant scan, needs to be seen within a week:

Echogenic bowel
Talipes
Duplex kidney

Unilateral multicystic kidney
Unilateral renal agenesis
Moderate to severe renal pelvis dilatation
Placental abnormality
Growth discrepancy in multiple pregnancy >25%
Monochorionic monoamniotic (MCMA) twin pregnancy
Multiple pregnancy greater than twins
Isolated polyhydramnios in a singleton pregnancy (DVP ≥ 10cm with normal maternal diabetes assessment)
Previous uterine surgery (including caesarean birth) with placental overlying surgical site

Doesn't require referral:

Mild renal pelvis dilatation (up to 7mm at 20 weeks of gestation and up to 10mm from 28 weeks of gestation onwards) – give patient information leaflet and arrange follow-up.
Short femur less than 5th centile – see short femur guideline.
HC ≥ 5th centile, with normal intracranial anatomy.
Isolated CPC's.
Previous poor pregnancy outcome in the absence of fetal anomaly. (at the discretion of own consultant if they wish to perform fetal anomaly scan.)
Fetal anomaly in more distant relative

In the event that a suspected structural anomaly is suspected

At UHW:

- Sonographer should inform the patient that a possible complication has been identified and a second opinion from a consultant is required.
- Request a specialist fetal medicine midwife review if available who will arrange an appointment to be reviewed by a consultant and supply a patient information leaflet “Referral for Specialist Consultant Antenatal Scan” and contact phone number for fetal medicine team.
- In the rare event that a specialist fetal medicine midwife is not available, sonographer to leave message with the fetal medicine team, organise urgent consultant appointment and provide patient information leaflet.

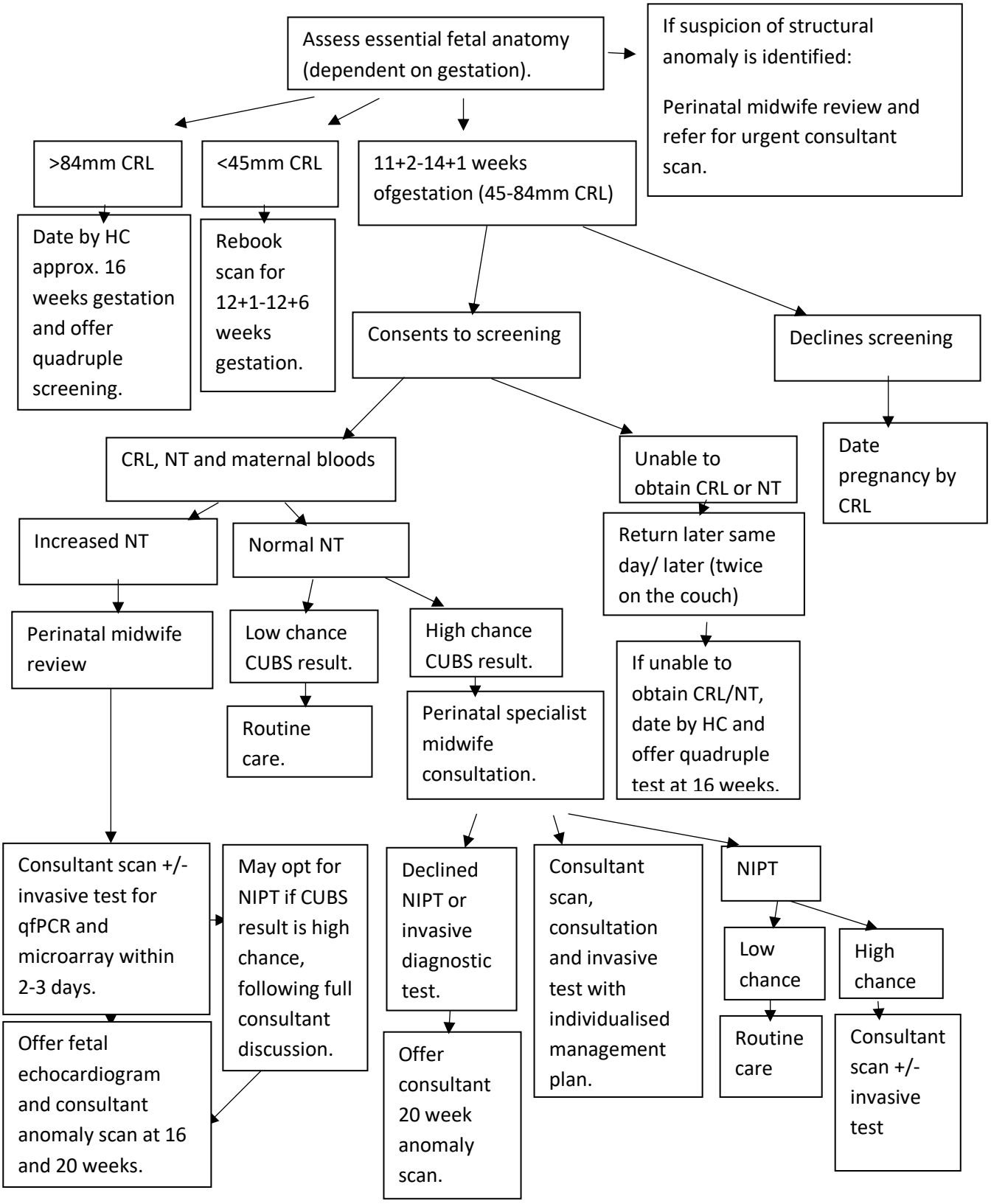
Peripheral scanning site:

- Sonographer to explain that an additional consultant opinion is required.
- Supply patient information leaflet “Referral for Specialist Consultant Antenatal Scan” and contact phone number for fetal medicine team.
- Contact fetal medicine midwife to inform them (leave message if necessary.)
- Fetal medicine team will arrange consultant scan appointment.

Same-day consultant review if complication described in “same-day review” table. This review can be performed by any consultant with a special interest in antenatal scanning. If no suitable consultant is available, the on-call obstetric consultant is to review urgently and discuss with fetal medicine team at the Queen Elizabeth University Hospital on 0141 232 4339.

Dating pregnancy ultrasound scan, screening for common aneuplodies and management of increased NT.

(11+2 – 14+1 weeks of gestation.)



Lead author	L Walker	**Date approved**	8.12.25
Version	3	**Review date**	8.12.28

Management of the Small for Gestational Age Baby

SFH indicative of FGR → Ultrasound with fetal biometry ← Increased risk of FGR

EFW on customised chart <10th centile

OR reduced growth velocity

- <280g over 14 days
- <20g per day if longer than 14 day scan interval.

→ <32 weeks gestation:

- Offer congenital infection screening.
- Offer referral for consultant scan.

Normal umbilical artery doppler

Umbilical artery PI >95th centile but EDF present.

Umbilical artery Doppler has absent or reversed EDF.

EFW <10th centile or reduced growth velocity:

- MCA PI if >32 weeks.
- Book for US every 2 weeks for EFW, umbilical artery Doppler (and MCA PI after 32 weeks).
- Day unit for BP, and Patient Information Leaflet. CTG only if reduced fetal movements (RFM)s.
- Book in named consultant clinic within 14 days.
- CTGs only required in the context of reduced fetal movements.
- BP and urinalysis every 2 weeks.
- Offer delivery at 39 weeks if MCA remains normal (>5th centile).

EFW <3rd centile:

- <32 weeks offer referral for consultant scan and congenital infection screening.
- MCA PI if >32 weeks.
- Book for weekly US, including MCA PI after 32 weeks and EFW every 2 weeks.
- Day unit for BP, and Patient Information Leaflet. CTG only if reduced FMs.
- Book in named consultant clinic within 7 days.
- BP and urinalysis every week.
- CTGs only required in the context of reduced fetal movements.
- Recommend delivery 37-37+6/40.

>37 weeks:

- Refer to Triage for urgent computerised CTG.
- Discussion with on call obstetric consultant regarding delivery. Individualised discussion about mode of delivery.

<37 weeks:

- Sonogrpaher to rescan in 3 days, if PI remains persistently high refer for consultant scan in 3 days. Requires umbilical artery Doppler twice a week.
- Recommend delivery by 37 weeks.
- Individualised discussion about mode of delivery.

>32 weeks:

- Refer to Triage for urgent computerised CTG.
- Inform neonatal team.
- Aim to deliver following administration of steroids (2 doses 24 hours apart).

<32 weeks:

- Same day consultant review for ductus venosus Doppler assessment.
- Refer to Triage for urgent computerised CTG.
- Daily review to be organised as individualised management plan.

Short femur

Femur length <5th centile at

- 18-21 week scan OR
- 3rd trimester growth scan.

Overall small baby suggestive of early onset fetal growth restriction:

HC or AC also less than 5th centile at 18-21 week scan.

OR

<3rd centile on growth chart prior to 32 weeks.

High chance screening result for T13/18 or 21 but declined invasive testing or NIPT.

FL >3 SDs below the mean for the gestation.

(See chart below)

Abnormal appearance of long bones or other structural anomaly.

None of the previous points.

Repeat growth scans at least every 4 weeks.

(Sooner if SGA – follow SGA pathway.)

Reduction in femur growth velocity to >3 SDs below the mean.

Appropriate femur growth.

Refer for consultant scan within 2-3 working days.

Continue sonographer scans.

Gestational age	-3SD
18	**20.4**
19	**23.2**
20	**26.0**
21	**28.6**
22	**31.2**
23	**33.7**
24	**36.1**
25	**38.4**
26	**40.7**
27	**42.8**
28	**44.9**
29	**46.9**
30	**48.8**
31	**50.6**
32	**52.3**
33	**53.9**
34	**55.5**
35	**56.9**
36	**58.2**

Antenatal scanning in multiple pregnancy

11-14 weeks gestation.

- Dating.
- Labelling (eg upper and lower/ left and right).
- Chorionicity (placental number, lambda and T sign. (Image and save.)
- Offer NT measurement and T21 screening.

MCDA twins

DCDA twins

Refer for consultant scan 2-3 days if:

- Possible MCMA twins.
- Increased NT.
- Possible structural anomaly.
- Multiple order >twins.

- 16,18,20,22,24,26,28,30,32, 34,36 weeks gestation: EFW, DVP, UAPI, visualise both bladders, calculate % EFW discordance.
- 20 weeks gestation also to include detailed anatomy scan by obstetric consultant.

- 20 weeks: Detailed anatomy scan.
- 24,28,32,36 weeks gestation: EFW, DVP, UAPI, calculate % discordance.

Indications for consultant scan

Indications for consultant scan

Same day:

- Absent umbilical EDF at any gestation.

- DVPs >8cm and <2cm.

- Absent fetal bladder in twin with reduced liquor.

Clinical presentation of patient with sensation of sudden abdominal distension.

2-3 days:

-DVP discordance with either >8cm or <2cm.

-EFW <3rd centile prior to 32 weeks in either fetus.

-Percentage EFW discordance >20%.

Same day:

-Absent umbilical EDF.

2-3 days:

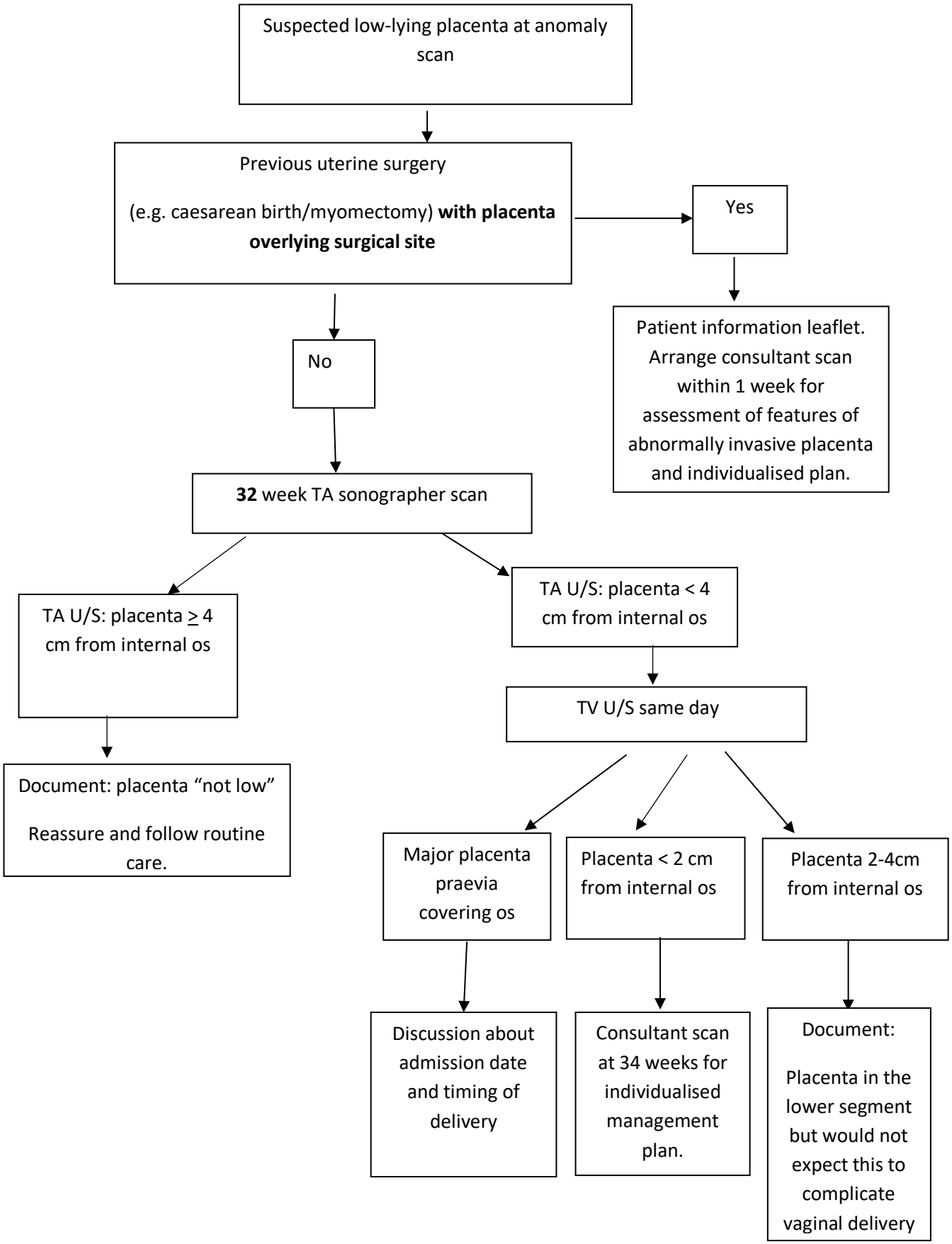
-Suspected structural anomaly.

1 week:

-% discordance >25%

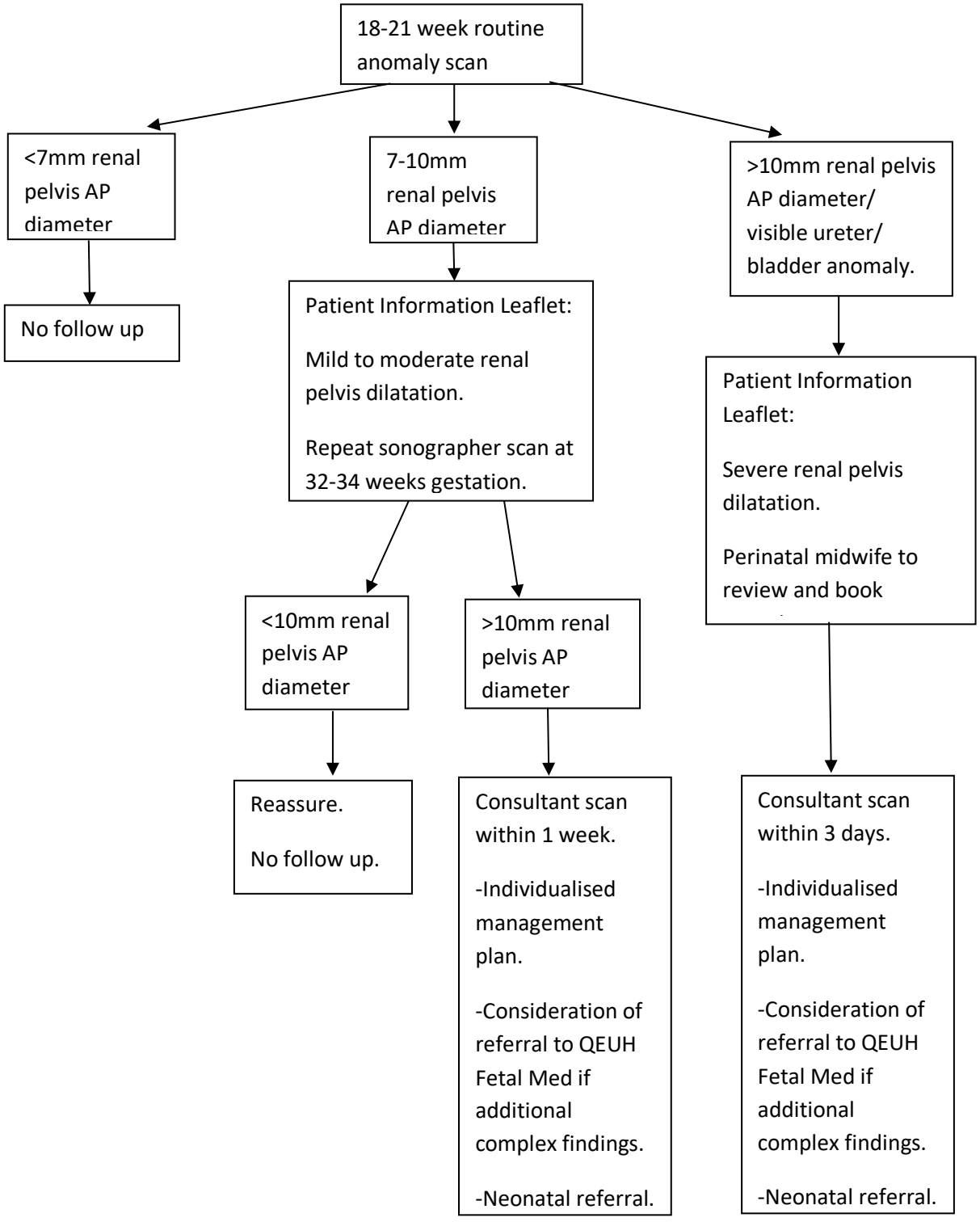
-EFW <3rd centile in either baby prior to 32 weeks gestation.

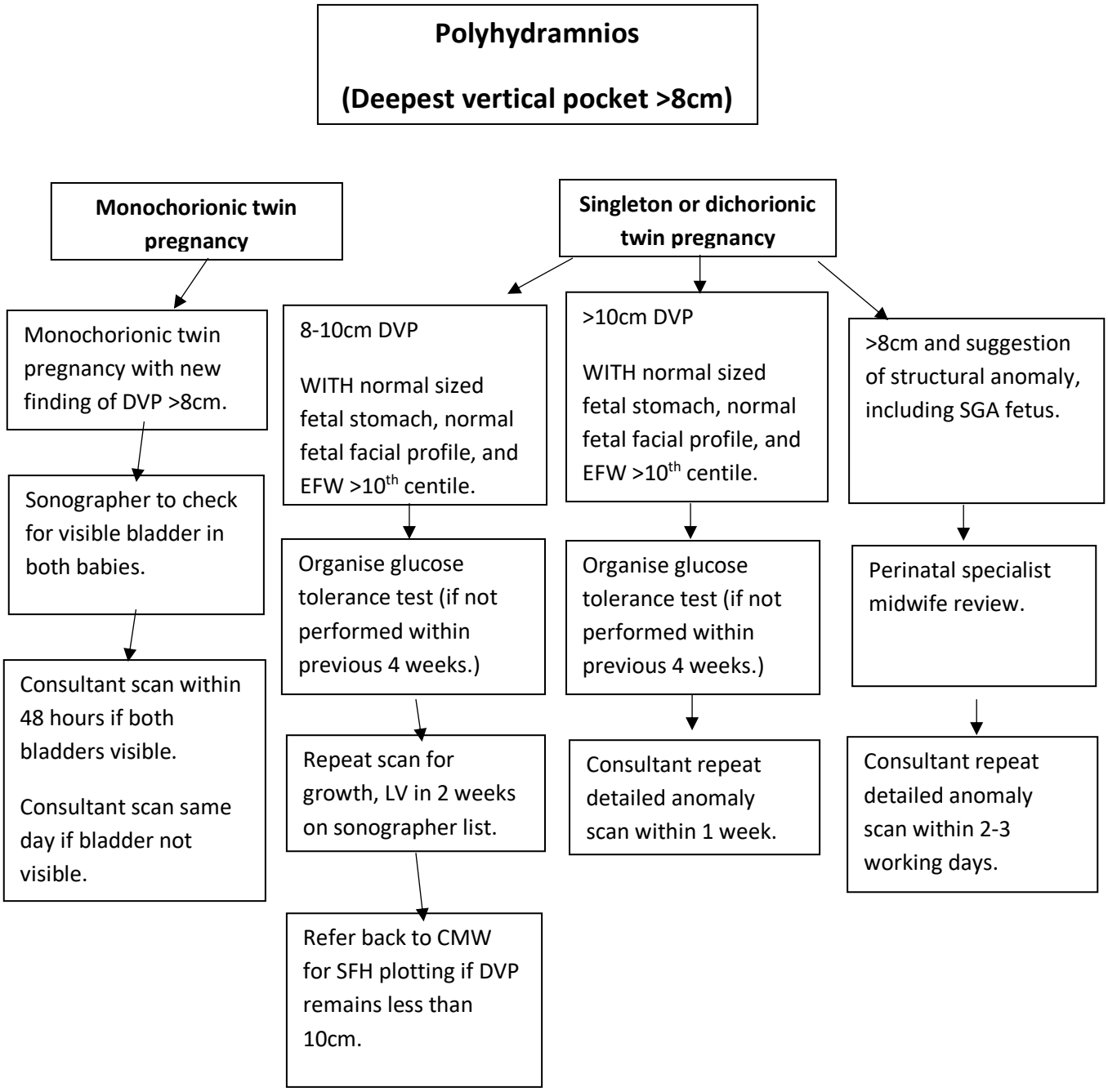
Management of low-lying placenta/placenta praevia



Lead author	L Walker	**Date approved**	8.12.25
Version	3	**Review date**	8.12.28

Fetal Renal Pelvis Dilatation

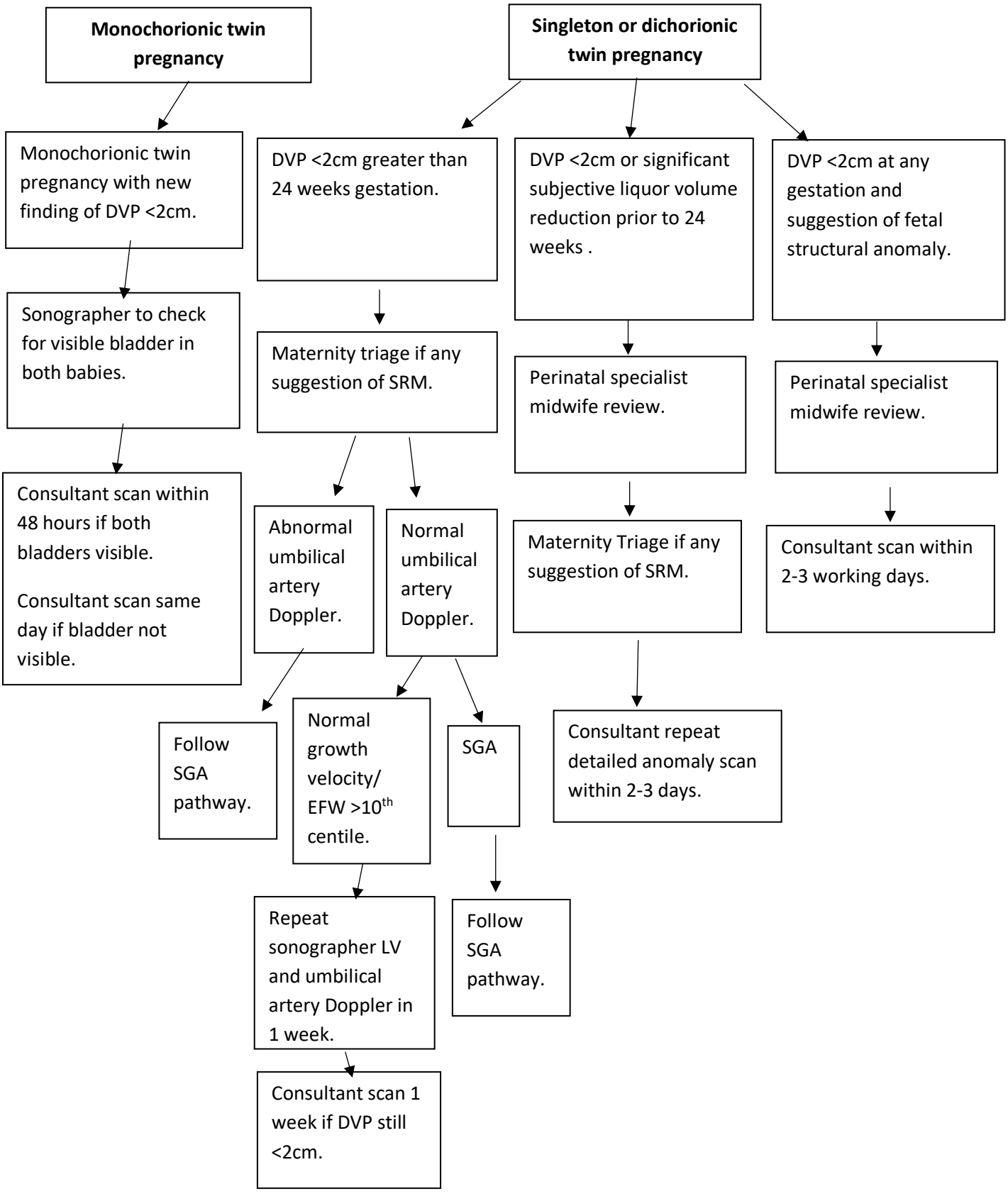


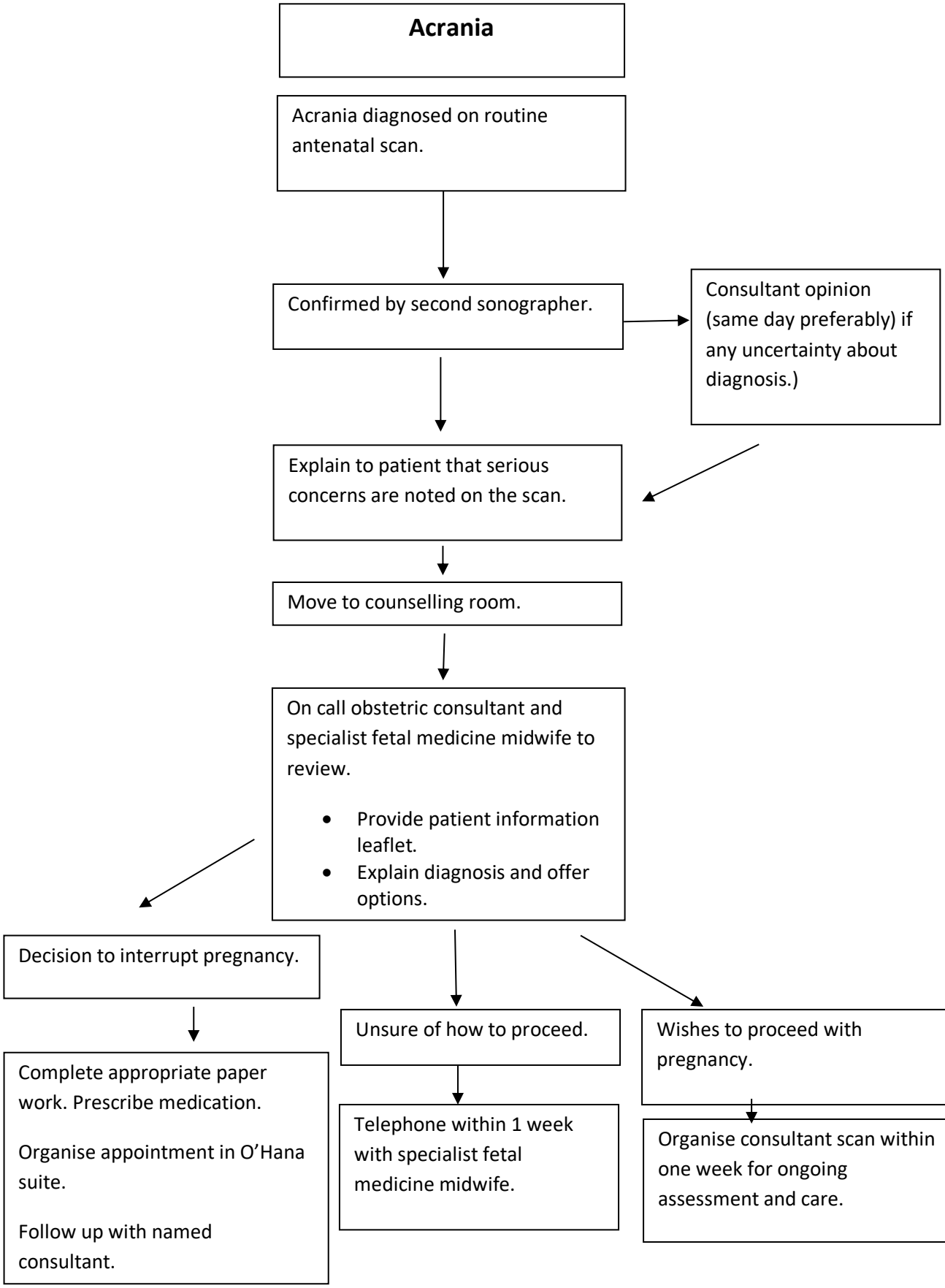


NB: Do not perform maternal congenital infection in the context of isolated polyhydramnios.

Oligohydramnios

(Deepest vertical pocket <2cm)




Acrania
Acrania diagnosed on routine antenatal scan.
Confirmed by second sonographer.
Consultant opinion (same day preferably) if any uncertainty about diagnosis.)
Explain to patient that serious concerns are noted on the scan.
Move to counselling room.
On call obstetric consultant and specialist fetal medicine midwife to review.
Provide patient information leaflet.
Explain diagnosis and offer options.
Decision to interrupt pregnancy.
Complete appropriate paper work. Prescribe medication.
Organise appointment in O'Hana suite.
Follow up with named consultant.
Unsure of how to proceed.
Telephone within 1 week with specialist fetal medicine midwife.
Wishes to proceed with pregnancy.
Organise consultant scan within one week for ongoing assessment and care.

Unable to auscultate fetal heart beat in the community at 20 weeks of gestation or more

Community midwife to contact triage urgently and advise patient to attend.

Patient to be shown to room and seen immediately by triage midwife.

Urgent review and ultrasound scan by clinician able to perform antenatal ultrasound viability scan:

- Obstetric registrar.
- Obstetric consultant, if obstetric registrar cannot attend urgently due to a clinical emergency.
- Gynaecology registrar, if both obstetric registrar and consultant are busy with clinical emergencies.
- Antenatal ultrasound sonographer if all of the above clinicians are busy with clinical emergencies.

In-utero demise confirmed by ultrasound scan.

Second clinician to confirm.

Inform maternity co-ordinator.

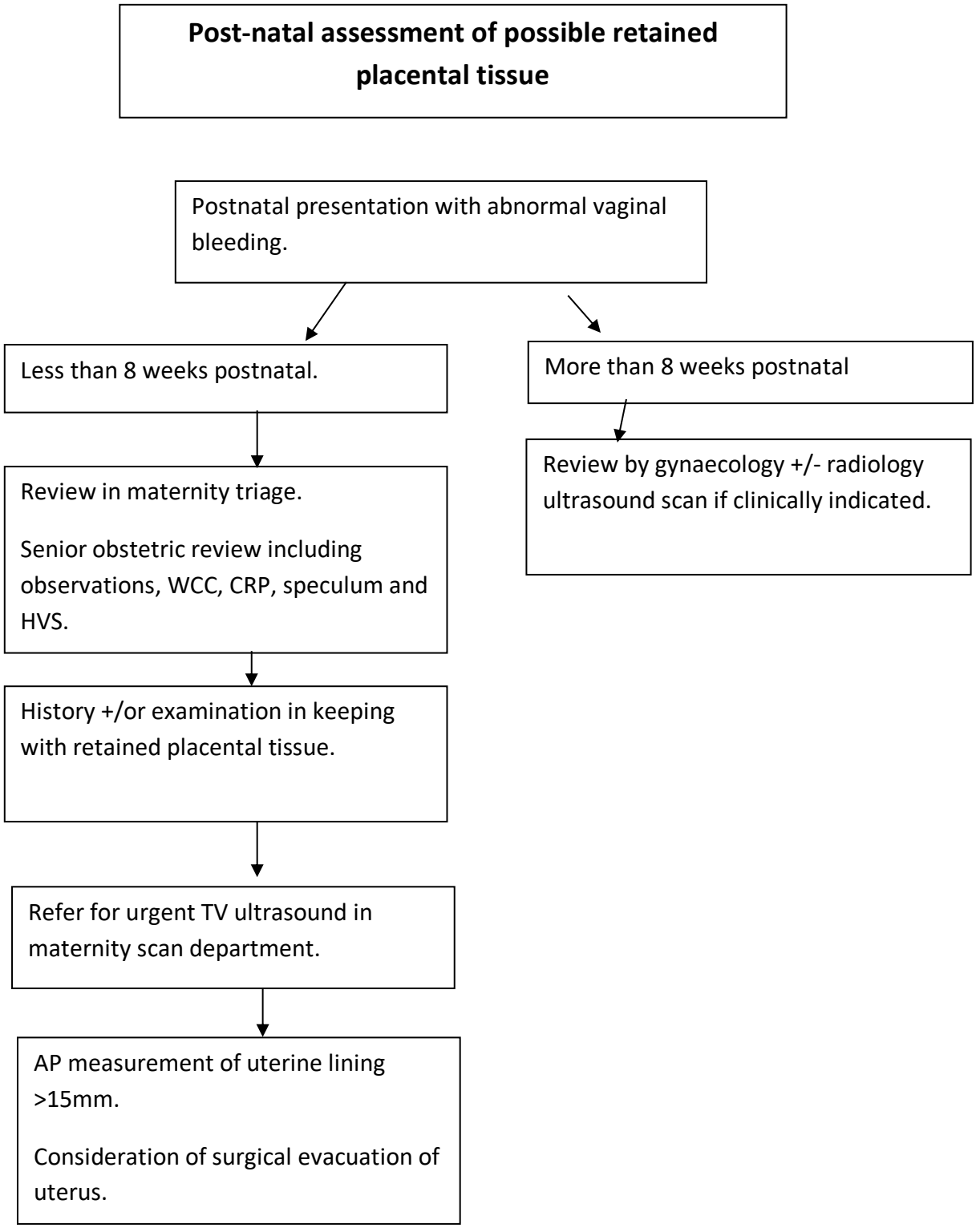
Transfer to labour ward or O'Hana suite for further management.

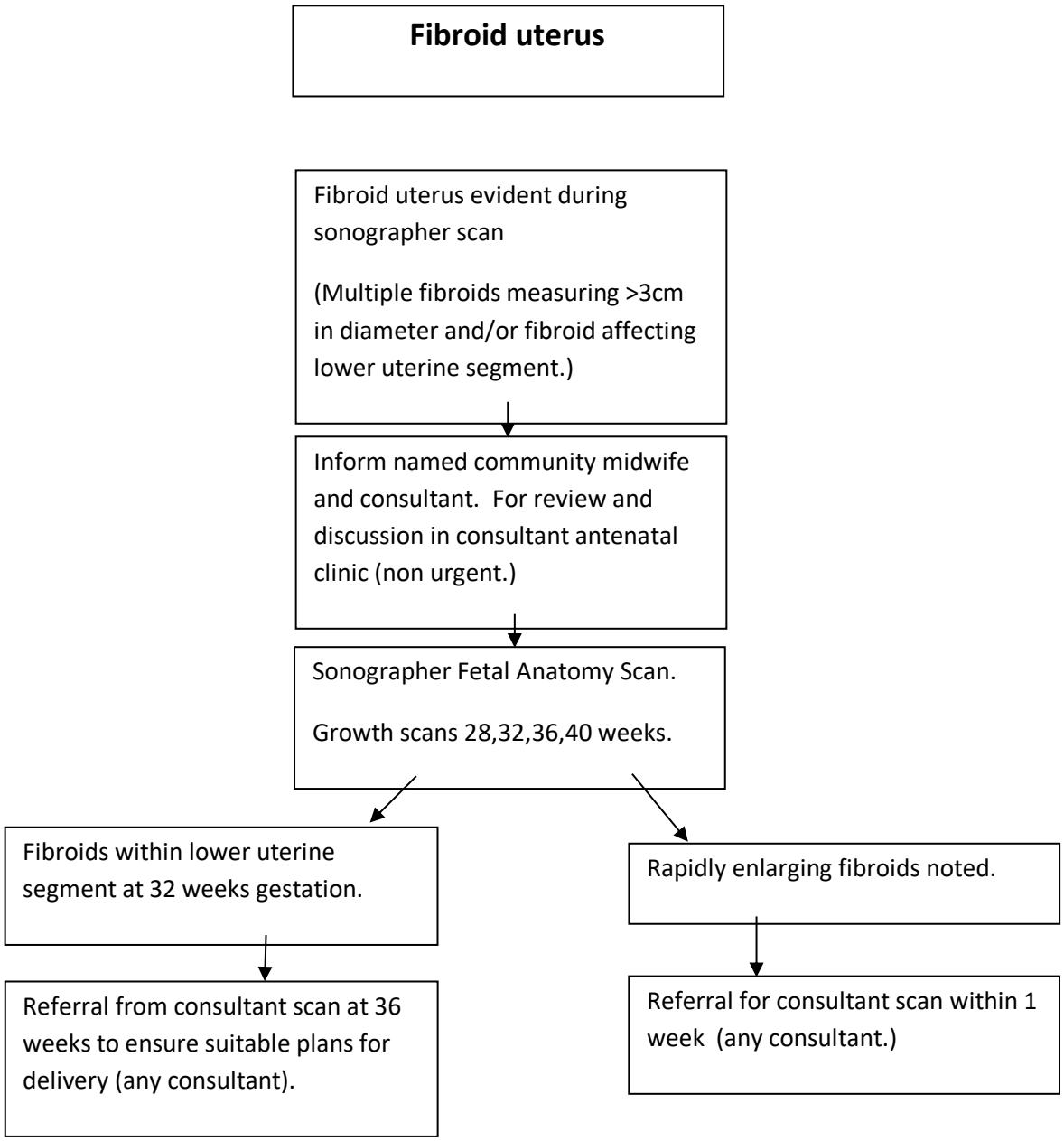
Obstetric consultant to review in person.

Viability confirmed.

Triage review if any other maternal concerns.

Reassure and discharge ensuring community midwifery follow-up is in place.


Post-natal assessment of possible retained placental tissue
Postnatal presentation with abnormal vaginal bleeding.
Less than 8 weeks postnatal.
Review in maternity triage.
Senior obstetric review including observations, WCC, CRP, speculum and HVS.
History +/or examination in keeping with retained placental tissue.
Refer for urgent TV ultrasound in maternity scan department.
AP measurement of uterine lining >15mm.
Consideration of surgical evacuation of uterus.
More than 8 weeks postnatal
Review by gynaecology +/- radiology ultrasound scan if clinically indicated.


Fibroid uterus
Fibroid uterus evident during sonographer scan
(Multiple fibroids measuring >3cm in diameter and/or fibroid affecting lower uterine segment.)
Inform named community midwife and consultant. For review and discussion in consultant antenatal clinic (non urgent.)
Sonographer Fetal Anatomy Scan.
Growth scans 28,32,36,40 weeks.
Fibroids within lower uterine segment at 32 weeks gestation.
Referral from consultant scan at 36 weeks to ensure suitable plans for delivery (any consultant).
Rapidly enlarging fibroids noted.
Referral for consultant scan within 1 week (any consultant.)

Appendix 1

Patient Information

Referral for Specialist Consultant Antenatal Scan

An appointment has been arranged for you to attend an additional antenatal scan with an Obstetric Consultant at University Hospital Wishaw. This is to offer a second opinion regarding part of your baby's anatomy. Please feel free to bring your partner, relative or friend with you to your appointment.

This scan has been arranged on:

…… with Dr ……

Where to attend:

Antenatal ultrasound department, University Hospital Wishaw.

What to expect on the day of your scan:

Most pregnancies are uncomplicated and result in the birth of a normal, healthy baby. However, some pregnancies require additional specialist care for either the mother or her unborn baby. The purpose of the appointment is to have a further detailed assessment of your baby's anatomy and to explain any possible complications to you. In many situations we can be reassured with the findings of this scan and you can return to your previously planned antenatal care. If any abnormality is noted your consultant will explain this to you in detail and arrange for follow up appointments at either University Hospital Wishaw, or in some situations, at the Fetal Medicine Unit at the Queen Elizabeth University Hospital in Glasgow.

On the day of your scan please be prepared that you may be in the scan department for an hour or more. You will meet with an Obstetric Consultant with specialist expertise in assessing fetal anatomy. A specialist Fetal Medicine Midwife may also be present during the scan and consultation.

Your scan can take a varying amount of time depending on a number of factors, including the number of weeks pregnant you are, the position of the baby and whether you are pregnant with more than one baby. After the scan, we will discuss the findings of the scan, what impact the findings may have on the baby, any further tests that could be considered and the options and plan for your pregnancy.

During some appointments your Doctor may discuss the option of further tests which could give further information about the baby. These may include blood tests or a test to assess your baby's chromosomes such as an amniocentesis. There is no expectation or pressure to have additional tests and it is understandable if you wish to have time to consider your decision.

Who to contact if you have further questions about this appointment:

The specialist fetal medicine midwives are part of the team who support patients and their families through pregnancy when a complication is identified.

Michelle Clarke and Louise McCabe can be contacted on 01698 366353.

If phoning out-of-hours or if no one is available to pick up the phone, please leave a message and someone will call you back as soon as possible.

We would advise that trying to access information on the internet prior to your appointment may not be helpful as the information you find may not be suitable or relevant to your pregnancy. The doctor at your scan appointment will explain the findings on the scan and may advise on further resources for you to access useful information.

Information Leaflet written by:

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Antenatal Ultrasound Lead

NHS Lanarkshire

Clinical governance

Lead author:	L Walker
Current responsible author:	L Walker
Endorsing body:	MCEG
Version number:	3
Approval date:	8.12.25
Review date:	8.12.28

Consultation/distribution record	
Contributing authors:	L Walker (Cons O&G)
Consultation process:	MCEG (12.11.25) and CGCEG (8.12.25)
Distribution:	All in maternity via RDS app

Change record			
Date	**Lead author**	**Change**	**Version**
April 2023	L Walker	Initial document	1
April 2024	L Walker	Update	2
8.12.25	L Walker	New guideline format, updated terminology	3