

Third trimester Ultrasound Maternity Sonography Service procedure

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Summary of document:

This guideline is to provide guidance to staff to appropriate refer women for third trimester scans to the Midwife Sonographer Maternity Ultrasound Service.

Scope:

This procedure applies to all pregnant women referred to the Maternity Sonography Service for **third trimester ultrasound** due to recognised clinical indications.

This procedure uses the term “women” to reflect that maternity and reproductive care are sex-based health needs. It applies equally to all people who are pregnant or have recently given birth, including trans men and non-binary people. Care must be delivered in an inclusive, respectful and responsive way.

To be read in conjunction with:

[657 Management of Multiple pregnancy guideline](#) opens in new tab

[669. Fetal growth Surveillance guideline](#) -opens in new tab

[621.Hypertension Disorders in pregnancy](#) opens in new tab

[622. Management of Obesity during Pregnancy guideline](#) opens in new tab

[1216 Gestational Diabetes Mellitus Guideline](#) opens in new tab

[1003 All Wales Altered Fetal Movements](#) opens in new tab

[645 - Prelabour Rupture of Membranes Preterm\(PPROM\) and at Term \(PROM\) Guideline](#) -opens in new tab.

[618 - Placenta Praevia and Placenta Accreta Guideline](#) (opens in a new tab)

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Scope

This protocol applies to:

- All pregnant women referred to the Midwife Sonographers team in GGH for **third trimester** ultrasound scans.

Aim

The aim of the protocol to all healthcare professional to ensure that women are referred to the most appropriate department for ultrasound and care:

Objectives

The aim will be achieved by the following objective:

- Define criteria for referral for third trimester scan undertaken by the Midwife sonographer service in GGH
- The process for appropriate referral to the dedicated ultrasound lists.

Introduction

The Midwife Sonographer team will provide the Maternity third trimester scans service.

There are dedicated ultrasound lists located in

1. Maternity Ultrasound Scan Room A located in MLU(GGH)
2. Maternity Ultrasound Scan Room B located in ANC (GGH)

Note. On Gwennllian ward the Midwife Sonographer may provide support only as her role allows

Ultrasound examinations of pregnancy in the third trimester can only help to identify a limited number of situations which include:

- Monitor fetal growth trajectory
- Assess placental function and fetal wellbeing
- Confirm placental localisation
- Inform timing of delivery and for planning of ongoing care

Ultrasound scans should only be requested where the result will affect the management of the pregnancy or delivery.

Requests should be clear and concise and include relevant clinical details

Indications for referral for Third Trimester Growth Scans

Low risk patients being screened by Symphysis fundal height (SGH) measurements only.
All patients will have GAP Grow growth charts within their BadgerNet notes.

Indications on GAP GROW 2.0 SFH measurement chart for ultrasound growth scans are:

- Static growth: no increase in sequential measurements
- Slow growth: curve not following slope of any curve on the chart.
- The first time a SFH plots below the 10th centile the clinician is to refer for growth scan (if not already had an ultrasound scan in the previous two weeks). If the scan shows a normal growth, then further assessment should be by SFH.

Note. Subsequently If despite a normal scan subsequent SFH measurements continues to plot under and parallel to the 10th centile referral for another scan **is not indicated**

If however subsequently there is definite decrease below 10th centile in the growth trajectory when plotted on the SFH chart, please refer for repeat growth scan.

- If SFH is measured to be above 97th Centile refer for a growth scan.

Note. If despite a normal scan and no evidence of GDM or SGA subsequent SFH measurements continues to plot above and parallel to the 97th centile, referral for another scan **is not indicated**

If however subsequently there is definite increase above the 97th centile, in the growth trajectory when plotted on the SFH chart please refer for repeat growth scan.

Serial growth scans for those at high risk of growth restriction

Some women will be at increased risk of developing fetal growth restriction because of risk factors in the current pregnancy, past medical history or past obstetric history.

The Consultant-led team will arrange for serial growth scans for women with risk factors identified at time of booking or in pregnancy.

For Maternal risk factors identified at booking and in pregnancy

Refer to [669. Fetal Growth Surveillance Guideline](#) (opens in a new tab) for risk factors

Other Indications for third trimester scan

The following conditions are not identified as a risk factor in this guideline so the assessment and growth surveillance should be arranged/ managed in line with their specific guideline.

- Known fetal anomaly affecting growth
- Fetal Ectopic beat. If FH <110bpm or greater than 160bpm and fetal arrhythmias/ ectopic beats present.
- Altered fetal movements i.e. Women recurrent reduced fetal movements (defined as two episodes within past 21 days) **or** have significant risk factors (see [appendix 4](#))
- Multiple pregnancy (specific pathway)
- Pregnancy Induced Hypertension
- Pre-eclampsia
- Gestational Diabetes
- Gestational Diabetes / Type 1 and 2 diabetes
- Prolonged Preterm Rupture of Membranes
- Multiple Pregnancy
- Postdates declining induction of labour
- Placental site / localisation (Transabdominal and Transvaginal scan as required)

- Parvo Virus in current pregnancy
- Oligohydramnios
- Polyhydramnios
- Raised/ Abnormal Doppler PI (confirmed by previous scan)
- Crohns disease, severe IBS
- Substance and Alcohol misuse
- LGA on SFH
- Presentation scan
- Women who decline induction of labour for post-maturity (>42 weeks)
- Women who decline induction of labour for reduced/altered fetal movements after 39 weeks. Note: Women, receiving Midwifery Led Care, who have attended with altered fetal movements after 39 weeks and chose to decline offer of IOL should be transferred to Consultant Care.

Fetal Indications

- Estimated fetal weight (EFW) <10th centile (SGA/ FGR)
- Abdominal circumference (AC) <10th centile
- Reduced growth velocity
- Previous abnormal Doppler findings.
- No fetal movements felt by 24 weeks
- MCA doppler

Late Bookers / Transfer into Area

- The community midwife must contact the antenatal clinic and request serial scans if risk factors are identified.
- Women who have not had any scans in early pregnancy and present for care with gestation **up to 22 weeks and 6 days** gestation refer to Radiology Ultrasound department for dating of pregnancy and anomaly scan by ultrasound department in line with ASW Standards.

After 22+6 weeks gestation women who attend for antenatal care later in pregnancy **are also referred to** Radiology Ultrasound department for dating and are offered an ultrasound scan “*appropriate to their presumed gestation*” when they attend (ASW 8.1.2. Standard US 3). After this has been completed any further required growth scans may then be undertaken by Midwife Sonographer within the Maternity Ultrasound Service.

NOTE If a request is outside the scan indication criteria (as detailed above), the decision to proceed rests with the referring clinician and the Midwife sonographer following review of the clinical indication and discussion where required and on an individual basis.

Indications for scan are NOT inexhaustible.

Timing and Frequency of Scans

Minimum interval between scans: 14 days (to ensure meaningful growth assessment) unless clinical indication /FMU request.

Please note when woman attending for RFM if scan performed within previous 14 days of the day of RFM attendance a further scan is not required. (Refer to [Adopted All Wales Altered Fetal Movements Guideline](#) – opens in a new tab).

Pathway for Referrals

Referral to Maternity Ultrasound Scan Room B list

The Midwife sonographer Scan clinic is situated in the Glangwili antenatal clinic. It is in addition to the ultrasound lists provided by Radiology department.

Inclusion criteria: As per Section 2 (above)

Exclusion criteria;

- First trimester dating and screening
- Second Trimester screening scan (anomaly)

Referral to Maternity Ultrasound Scan Room A (predominantly referred via DAU)

The DAU scan list

Inclusion criteria: refer ONLY third trimester scans

Exclusion criteria:

- Multiple Pregnancy
- Any pregnancy under the care of Fetal Medicine
- MCA dopplers
- Ectopic heartbeat
- Transvaginal scans
- Late booker without full anomaly scan
- Women who have not had a documented anomaly scan in the UK

Appropriate Scan Request

Accurate demographic and relevant clinical information must be included on the ultrasound request or electronic request. Requests will be vetted to ensure that it is appropriate. It is the responsibility of the person or clinician who is requesting the scan to ensure the criteria and information are included on the request form:

- Name, hospital number and date of birth.
- Current Telephone number, (preferably current mobile number)
- EDD, Gestation and parity
- BMI
- Complete name and designation (Dr /MW) or person requesting the scan. This must be legible and so please print and add contact details /Bleep.
- Clear indication for scan / relevant obstetric history. Ultrasound scan requests must include information on relevant obstetric, medical and social issues which can affect fetal wellbeing which may include:
Maternal or fetal complications or risk factors in current/ previous pregnancies, all relevant indications for scan e.g. if late booker, include gestation at first scan).
- Request only what is appropriate

- e.g. Low-lying placenta at 20 weeks anomaly scan-request placental localisation, please DO NOT request growth if not indicated.
- If requesting an MCA doppler to
 - distinguish whether baby is SGA/FGR ensure that it is requested as MCA PI and Umbilical doppler in order for CPR to be calculated
 - If to determine whether baby is anaemic e.g. MCDA pregnancy, request as MCA PSV.

When making referral for scan consider the following questions:

- When did the patient have last scan?
- Minimum duration between growth scans is 14 days.
- When women attend with Altered fetal movements less than 14 days since last growth scan a further growth scan is not indicated. Please do not then book a scan with a future date i.e. 14 days after last scan (Refer to [1003 All Wales Altered Fetal Movements Guideline](#) – opens in a new tab)
- If the scan has been done in the last 2-3 weeks, then question why is it being requested?
- **What information do you want from this scan and how will it change the management of care?**
- Is a scan needed?

NOTE. If unsure whether referral is appropriate for the DAU/ Midwife Sonographer ultrasound scan clinics, please discuss with Midwife Sonographers.

Fetal Survey at Growth scan

- Confirm fetal heartbeat present
- Establish fetal presentation and lie
- Establish placental position – store image
- Identify stomach, kidneys and bladder

Biometry Measurements

- Fetal Biometry required
 - Head circumference (HC)
 - Abdominal circumference (AC)
 - Femur length (FL)

Minimum of 2 measurements of each parameter should be taken and stored

- Estimated fetal weight Estimated fetal weight (EFW) is calculated from the average of these measurements using standard formula Hadlock 3.
- If unable to measure HC then report reason for this in report and use Birth Weight (multiple parameters – AC and FL) Hadlock et al, 1985 chart to calculate EFW

Amniotic Fluid Assessment

Refer to Polyhydramnios guideline and Oligohydramnios guideline

Single deepest vertical pool (SDVP)
and/ or Amniotic fluid index (AFI) (if SDVP >8cm)

Doppler Studies (as indicated)

Umbilical Artery Doppler

Pulsatility Index (PI)

End-diastolic flow

Middle Cerebral Artery (if indicated)

MCA PI for assessment of small for gestational age

MCA PSV for Monochorionic Diamniotic (MCDA) twin pregnancy and in the assessment for suspected fetal anaemia

Cerebroplacental Ratio (CPR) calculation (SGA)

Interpretation of Results

Normal Growth scan findings

Normal Size, Umbilical Doppler and Liquor:
AC $\geq$ 10 th centile and $\leq$ 95th centile
EFW $\geq$ 10th centile and $\leq$ 95th centile
UA PI doppler $\leq$ 95th centile
DVP > 2cm and $\leq$ 8cm / AFI $\leq$ 25cm

Abnormal Doppler Findings.

In presence of Umbilical Artery abnormal scan findings:

- Raised UA PI
- Absent end-diastolic flow
- Reversed end-diastolic flow

Clearly document findings in report and escalate to appropriate clinician.

Placental localisation

Refer to [618. Placenta Praevia, Placenta Accreta and Vasa Praevia Guideline](#) (opens in a new tab).

Reporting Standards

Scan report to include:

- Indication for scan
- Gestational age
- All biometric measurements

- Placental localisation
- Any Doppler findings
- View obtained
- Include name of chaperone/ documentation if chaperone declines
- Sonographers finding/comments / follow up.
- Any limitation documented e.g. poor views/ maternal habitus
- Any anomalies detected

Review after ultrasound scan

The midwife sonographer will appropriately refer for review of scan finding as required.

References

British Medical Ultrasound Society (BMUS) [Professional Guidance for Fetal Growth Scans Performed after 23 weeks of Gestation | BMUS](#) January 2022.

British Medical Ultrasound Society (BMUS) [Statement on the safe use of Doppler in fetal second and third trimester ultrasound examinations | BMUS](#) 2020.

International Society of Ultrasound in Obstetrics and gynaecology (ISUOG); Ultrasound Obstet Gynecol 2019; 53: 715–723 [Ultrasound assessment of fetal biometry and growth](#)

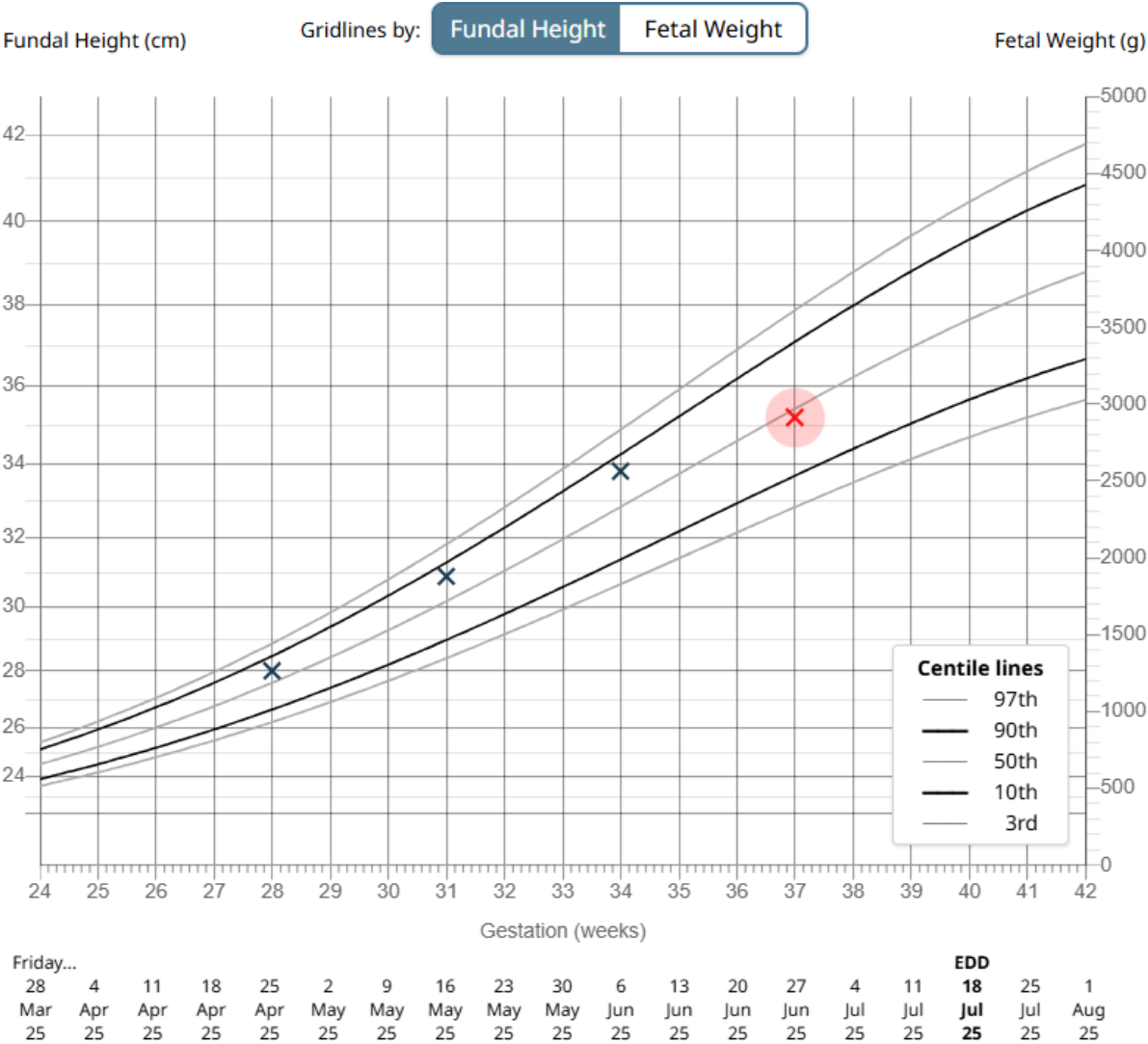
National Institute for Health and Care Excellence Antenatal Care (NICE) Quality Standard QS22. Updated 14 Feb 2023. [Overview | Antenatal care | Quality standards | NICE](#)

National Institute for Health and Care Excellence Antenatal Care (NICE) NG201 [Antenatal care](#)

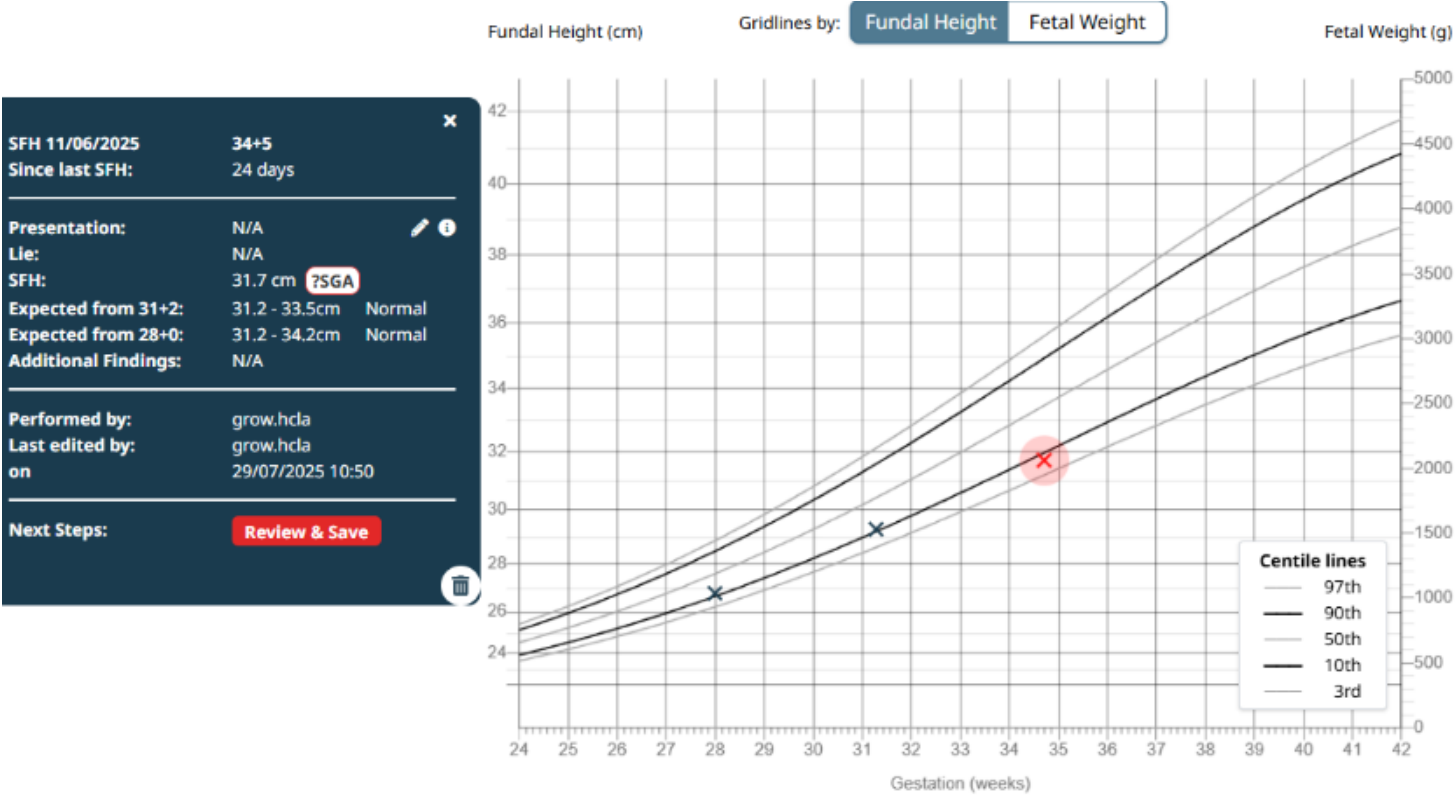
Royal College of Obstetricians and Gynaecologists [Investigation and Care of a Small-for-Gestational-Age Fetus and a Growth Restricted Fetus \(Green-top Guideline No. 31\)](#)

Appendix 1 – example of slow growth

Example of Slow growth

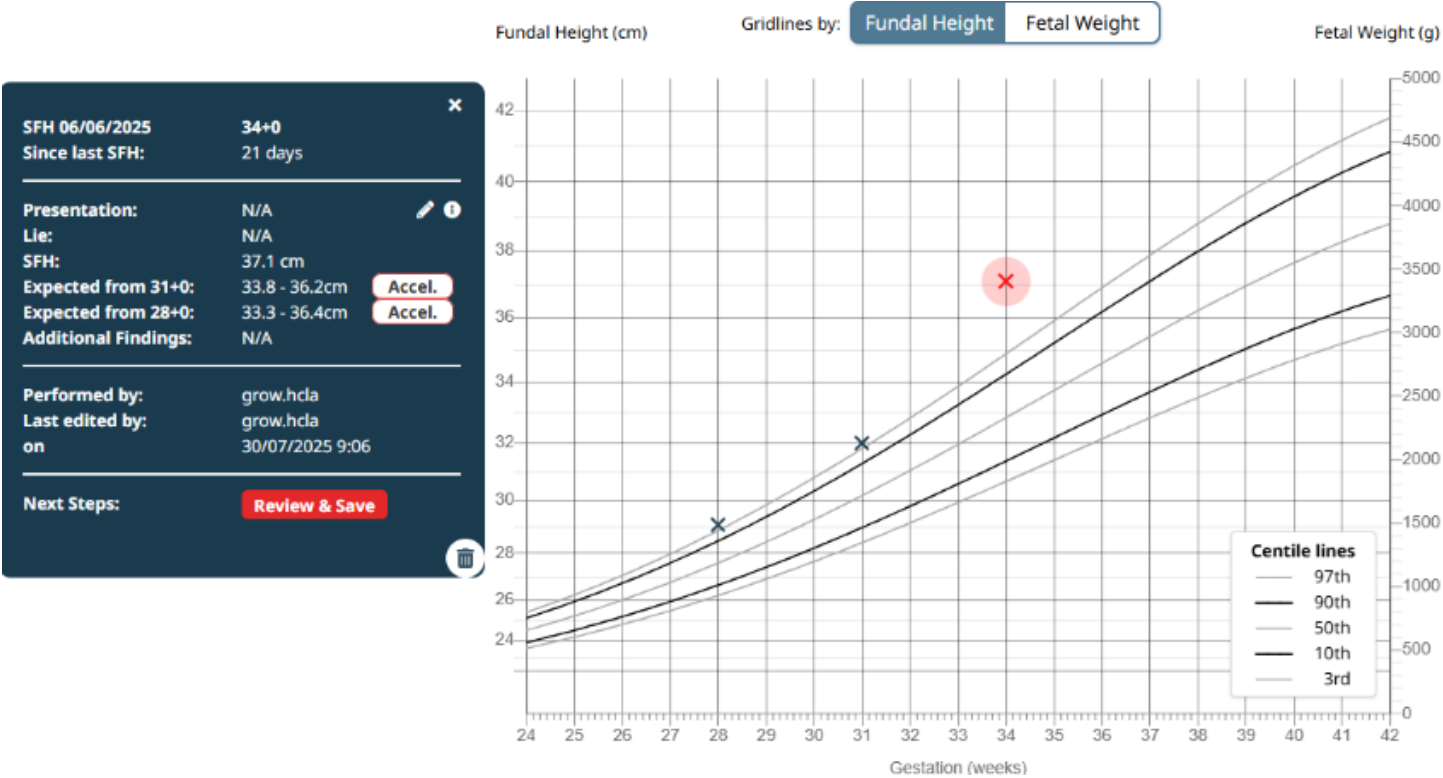


Appendix 2 - Example of first FH measurement below 10th centile



The chart demonstrates first instance of SFH measurement plotting <10th centile. Refer for growth scan. If EFW on scan plots within normal range return to using SFH pathway and last SFH measurement as baseline (not EFW on USS)

Appendix 3 - Accelerated or Excessive growth



Appendix 4

Risk Factor	Odds Ratio of stillbirth
Previous Obstetric history – stillbirth>24/40, Previous SGA	2.1
Smoking	1.8
Medical Factors – diabetes, hypertension	3.0
Second presentation within 21 days of altered movements	5.7
Fundal height <10 th centile, known slowing of growth velocity or drop in fundal height measurement	19.5
Unable to measure fundal height (twins, BMI >35, large fibroids)	n/a

Significant risk factors for stillbirth (refer to 1003 All Wales Altered Movements Guideline[1003 All Wales Altered Movements Guideline](#) – opens in a new tab)