Fetal Growth Assessment Guideline

Classification:	Guideline
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Departments/Group this Document applies to:	Midwives, Consultants, Clinicians

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Guideline to be followed by (target staff): Midwives and Obstetricians providing antenatal care

To be read in conjunction with the following documents:

- Saving Babies' Lives' Version Three: A care bundle for reducing perinatal mortality (July 2023)
- Antenatal Care Pathway Guideline
- Fetal Monitoring Guideline
- Multiprofessional Handover of Care Guideline
- Obesity in pregnancy Guideline
- RCOG Green-Top Guideline: 31. The Investigation and Management of the Small-for-Gestational-Age fetus
- GAP care pathway v2 (November 2019)
- SOP – Fetal Growth ultrasound
- Ultrasound for suspected SGA Guideline

Are there any eCARE implications? No

CQC Fundamental standards:

Regulation 9 – person centred care
Regulation 10 – dignity and respect
Regulation 11 – Need for consent

Regulation 12 – Safe care and treatment
Regulation 13 – Safeguarding service users from abuse and improper treatment

Disclaimer

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.

The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material lies solely with you as the medical practitioner.

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Guideline Statement

This guideline uses a standardised risk assessment tool and care pathway for the management of low, moderate and high-risk pregnancies in relation to fetal growth assessment. It has been developed in conjunction with Saving babies' lives version 3 and the Perinatal Institute's Gap Care Pathway.
The purpose of the guideline is to support provision of care using;

- Standardised method for serial fundal height measurement across all disciplines
- Use of an enhanced fetal surveillance system for higher risk pregnancies
- Facilitating early detection from the normal growth curve when using a customised growth chart leading to appropriate intervention following identification

This guideline aims to address
Element 2: Risk assessment and surveillance for fetal growth restriction

Assessment of fetal growth is an integral element of antenatal care. Fetal growth restriction (FGR) is associated with stillbirth, neonatal death and perinatal morbidity and FGR remains a focus in the most recent MBBRACE report (Draper et al., 2019).

RCOG (2013) suggest the only way to manage growth restriction is early delivery of the baby; Therefore, antenatal detection of growth restricted babies is vital and has been shown to reduce stillbirth risk significantly because it gives the option to consider timely delivery of the baby at risk.

"An epidemiological analysis based on the comprehensive West Midlands database has underlined the impact that fetal growth restriction has on stillbirth rates, and the significant reduction which can be achieved through antenatal detection of pregnancies at risk." (perinatal.org.uk/fetal growth)

Continuity of Carer provides further improves the accuracy of fetal growth surveillance. An accurate and consistent standardised method of measurement allows appropriate clinical decisions to be made therefore promoting best practice.

Executive Summary

Building on the achievements of previous iterations, Saving Babies Lives Care Bundle Version 3 includes a refresh of all existing elements, drawing on national guidance such as from NICE or RCOG Green Top Guidelines, and frontline learning to reduce unwarranted variation where the evidence is insufficient for NICE and RCOG to provide guidance. It also includes a new, additional element on the management of pre-existing diabetes in pregnancy based upon data from The National Pregnancy in Diabetes (NPID) Audit. There are now 6 elements of care:

1. Reducing smoking in pregnancy
2. Fetal growth - Risk assessment, surveillance, and management
3. Raising awareness of reduced fetal movements (RFM)
4. Effective fetal monitoring during labour
5. Reducing preterm birth
6. Management of pre-existing diabetes in pregnancy

Definitions

SGA: Small for gestational age. This is defined as a weight (fetal or at birth) measurement below the 10th centile on the customised growth chart but with normal growth velocity

FGR: Fetal Growth Restriction. The term used for babies that have slow or no growth. This is defined as a growth trajectory which is less or slower than the curve/growth velocity indicated by the **10th centile (for fundal height measurement) or 3rd centile (for EFW by USS)** lines of the customised growth chart over the same gestational age interval

Abbreviations

AC	Abdominal circumference	**MLC**	Midwifery Led Care
ADAU	Antenatal Day Assessment Unit	**NICE**	National Institute for Health and Care Excellence
AGA	Adequate for gestational age	**OGTT**	Oral glucose tolerance test
ANC	Antenatal Clinic	**RCOG**	Royal College of Obstetricians and Gynaecologists
CLC	Consultant Led Care	**SBL**	Saving Babies Lives
CTG	Cardiotocograph	**SFH**	Serial Fundal Height
EFW	Estimated Fetal Weight	**SGA**	Small for Gestational Age
FGR	Fetal Growth Restriction	**USS**	Ultrasound Scan
GAP	Growth Assessment Protocol		
LGA	Large for Gestational Age		
MKUH	Milton Keynes University Hospital NHS Foundation Trust		

1.0 Roles and Responsibilities:

It is the responsibility of all Obstetricians and Midwives working within Milton Keynes NHS Trust to:

- Adhere to this guideline
- Use associated guidelines to support practice
- Complete associated training according to Maternity Specific training policy

2.0 Implementation and dissemination of document

This document will be placed on the Trust's central database (Guidelines and Patient Information System) which can be accessed via the Trust's Intranet.

3.0 Processes and procedures

3.1 Procedure

Using the SBLv3 Care Bundle (NHS England, 2023), midwives should undertake an initial risk assessment at booking (before 14 weeks), or at the point of which a pregnant woman/person transfer's her maternity care to MKUH. See **appendix 1**

This risk assessment provides midwives with a screening tool (based on set risk factors including smoking status) to help identify the level of risk for FGR, decide appropriate care pathway and to request serial scans and initiate referral for consultant led care (if indicated).

High risk SBL pathway (dopplers at 20 weeks)		Moderate risk SBL pathway	
Chronic kidney disease		Previous SGA (< 10th centile)	
Chronic hypertension		Previous stillbirth (AGA birthweight)	
Congenital cardiac disease, post Fontan		Smoker/e-cigarette user at booking (any)	
Auto immune disease: e.g. systemic lupus erythema-tosus (SLE) or antiphospholipid syndrome (APLS)		BMI <18.5kg/m² & other features e.g. eating disorder, bowel disorder causing weight loss	
Hypertensive disease (PET/PIH) in previous or current Pregnancy		Gastric bypass surgery	
Previous FGR (<3rd centile)		Drug misuse	
Previous stillbirth (SGA/FGR birthweight)		Age ≥ 40 years old at booking	
EFW <10th In this pregnancy		Previous pre term birth/second trimester miscarriage (placental mediated)	
Low PAPPA in this pregnancy		IVF pregnancy	
Significant bleeding		Hyperemesis with weight loss >5% with dehydration and electrolyte imbalance (persisting > 14 /40 gest)	
Echogenic bowel		BMI ≥ 35kg/m² at booking	
Diabetes - any (no doppler, serial scans from 28/40)		Large(>5cm)/multiple fibroids	
Single umbilical artery		Uterine abnormalities (serial scans from 28 weeks)	

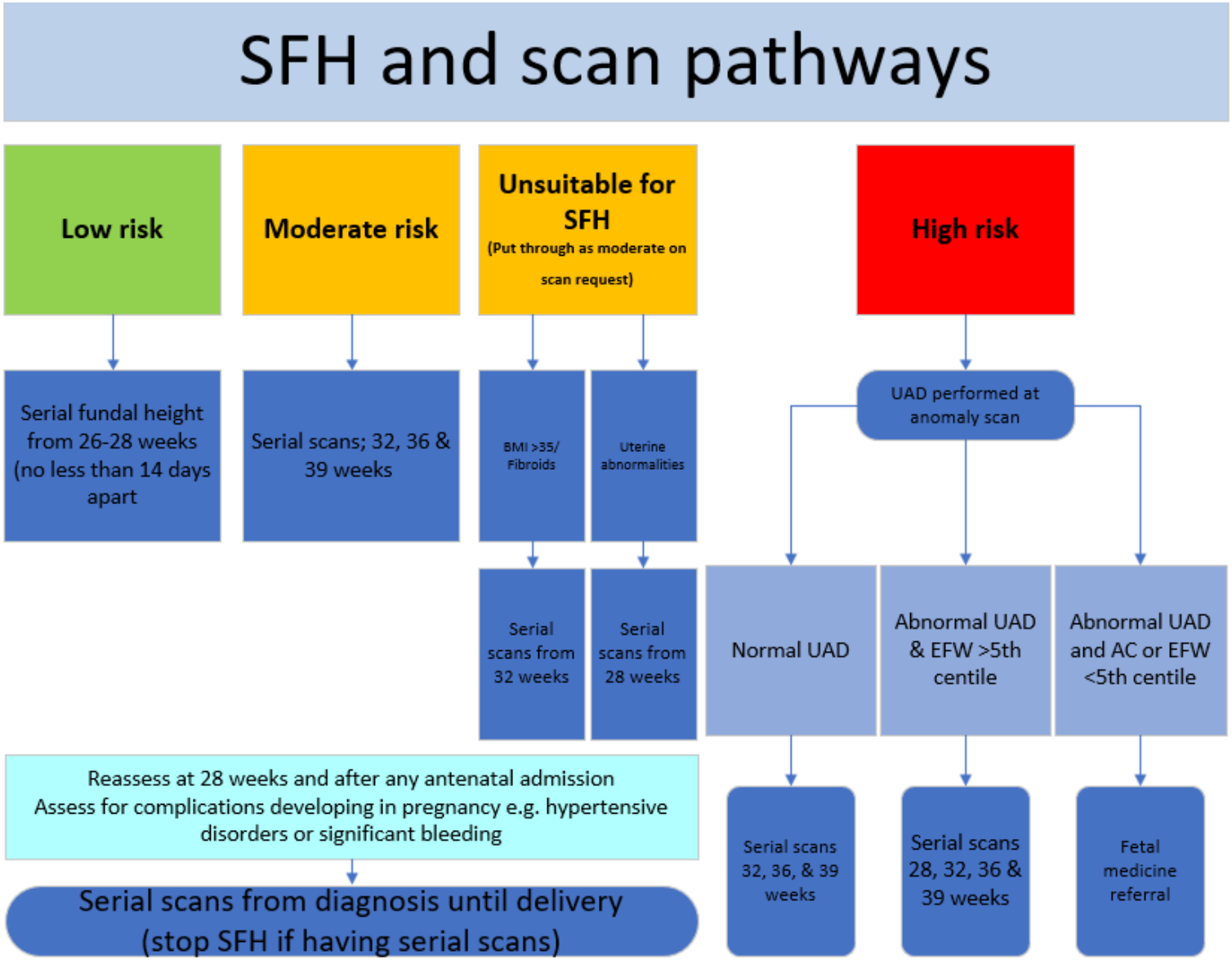
Scan pathway following risk assessment:

Please note: The booking clinician will request serial scans based on risk assessment, scan pathway based on risk assessment below. **See Appendix 2** for scan requesting process.

In addition;

At booking, pregnant women/people should also;

- Be recommended to take Vitamin D supplements
- Have blood pressure measured using a digital monitor (validated for pregnancy)
- Be assessed for Aspirin requirement in pregnancy as per criteria below – recommend Aspirin 150mg (or 75mg if indicated) at night from 12 weeks until delivery



≥ 1 of the high risk factors listed below = 150mg once a day aspirin to be recommended at bedtime		≥ 2 of the moderate risk factors listed below = 150mg once a day aspirin to be recommended at bedtime	
Hypertensive disorder in a previous pregnancy		Age ≥ 40 years old at booking	
Chronic hypertension		Pregnancy interval ≥ 10 years	
Previous SGA/FGR (< 10th centile)		Booking BMI ≥ 35	
Type 1 or type 2 diabetes		Multiple pregnancy	
low PAPPA		IVF	
Autoimmune disease (e.g. systemic lupus		Family history of pre-eclampsia	
Histology confirmed placental dysfunction in previous pregnancy		Primigravida	
Chronic kidney disease (If latest creatinine result is >150 mg/dl low dose aspirin 75mg only)			

Those with a booking weight below 50kg should have low dose aspirin (75mg) *only* ☐

Placental dysfunction

History of placental dysfunction in previous pregnancy is suggested by:

- Abnormal uterine artery Doppler (mean pulsatility index >95th centile) earlier in pregnancy (20 – 24 weeks) and/or
- Abnormal umbilical artery Doppler (absent or reversed end diastolic flow or pulsatility index >95$_{th}$ centile)
- Placental histology confirming placental dysfunction

Please note: Aspirin 75mg for those with a booking weight below 50kg

In addition to the initial risk assessment:

- **All** pregnant women/people should have a customised growth chart generated online, using GROW 2.0 at booking or at the point of which a pregnant woman/person transfer's their maternity care to MKUH.
- GROW 2.0 completion must include the calculation of previous birthweight centiles for multiparous women

Some pregnant women/people may have an indication to use a paper version of the customised growth chart e.g. pregnant women/people sharing care with a different Trust (this is to ensure the sharing Trust has access to view the growth velocity as they will not be able to access MKUH GROW 2.0). Once a chart is generated on GROW 2.0 - the chart can be printed and put in hand held notes.

- **Out or area booking** (CLC by MKUH): For serial scans - all scans at MKUH – Use GROW 2.0 - Print paper copy of chart, manual plotting required on paper chart (best practice to plot on GROW 2.0 in addition to paper chart)

- **Out of area booking:** (MLC outside of Trust): – suitable for SFH – Use GROW 2.0 - Print paper copy of chart, manual plotting required on paper chart
- Shared care – having scans outside of Trust Print paper copy of GROW 2.0 chart, manual plotting required on paper chart

- At every subsequent encounter with the pregnant woman/person the clinician should review changes in risk status update GROW 2.0 and refer for Obstetric review and scans when indicated.
- Pregnant woman/people with "moderate" and "high risk "factors should have serial scans offered in accordance with the protocol outlined in the SBL 2 *"Algorithm for using uterine artery Doppler as a risk assessment tool for early onset FGR*" (appendix 4).

EFW measurements should be entered on the GROW 2.0 system, this will automatically plot on the customised growth chart (if using a paper chart, the measurement should be plotted using a • with a circle around it on the customised growth chart)

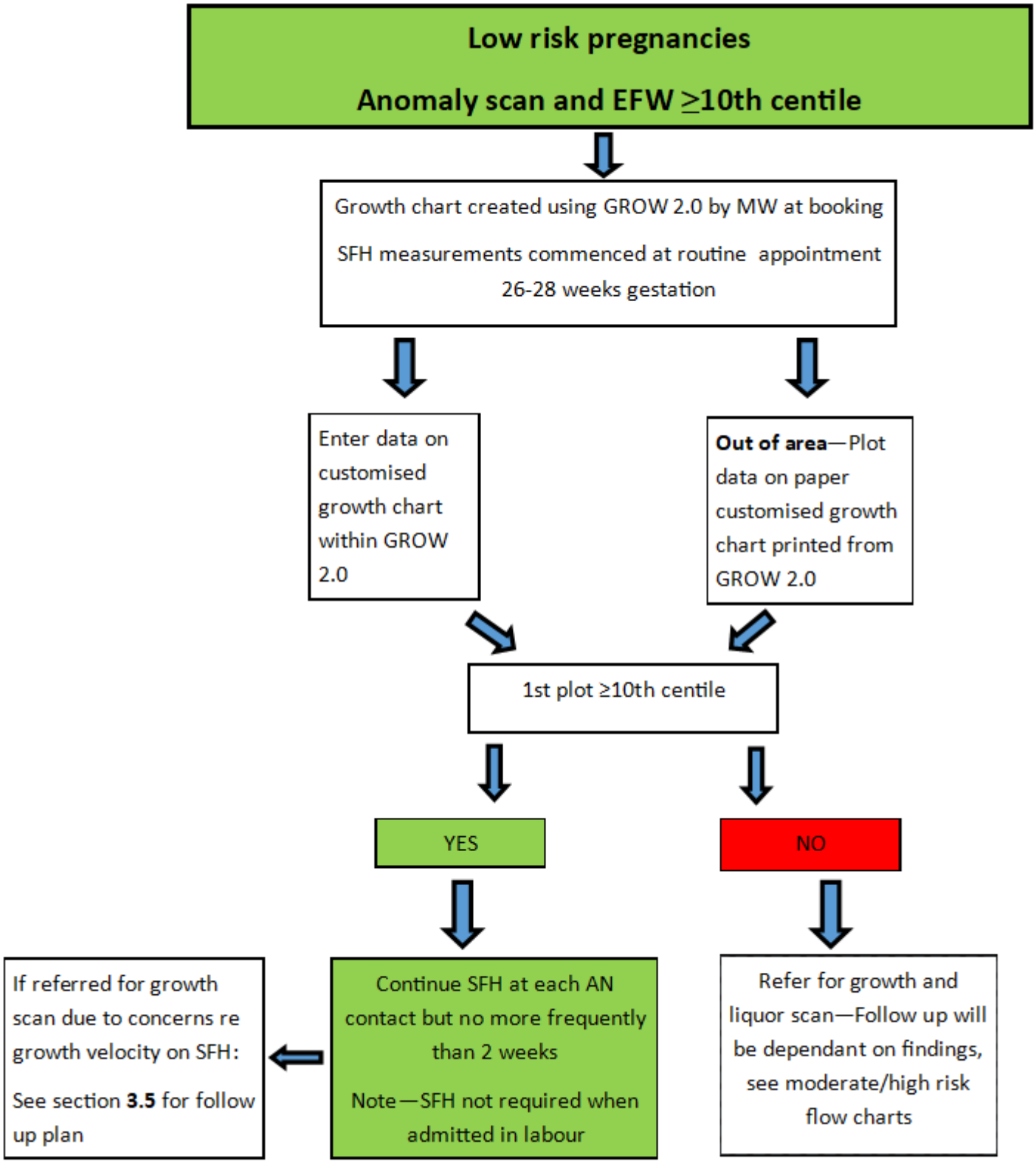
Doppler results must also be entered on GROW 2.0 unless paper charts are in use
AC should be entered in the comments section of when entering EFW and dopplers on GROW 2.0 as this will assist the reviewing clinician when planning care (clinicians will need to refer to USS results if paper chart being used

Referral to consultant led care will initiate an individualised plan of care which will guide all healthcare professionals as to the appropriate, ongoing method of fetal surveillance.

- To ensure a consistent approach, pregnant women/people requiring EFW surveillance should have this clearly and documented within e-care and on the hand-held pregnancy summary
- Low risk pregnant women/people who present with risk factors in pregnancy should be referred to Consultant led care – ensure plan visible on handheld records and eCare

Reassess risk at anomaly scan, at 28 weeks and during/after any antenatal admission. Assess for complications developing in pregnancy, e.g. hypertensive disorders or significant bleeding.
When new complications develop i.e. PET, gestational diabetes, obstetrician to arrange serial USS from detection of complications until delivery.
If changing from low risk (SFH) pathway to Serial scan pathway, ensure SFH is discontinued.

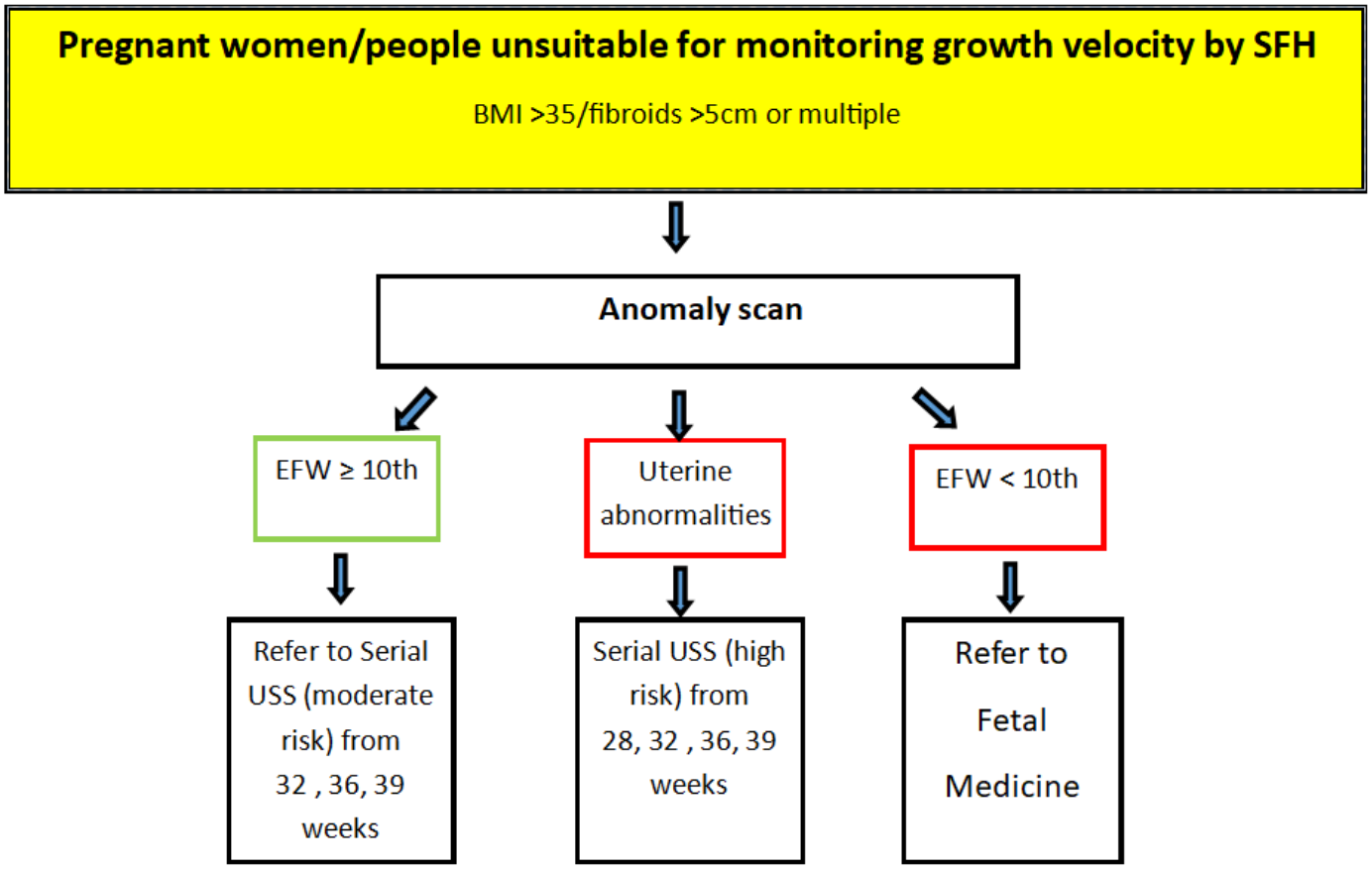
3.1.1 Low risk pregnancies:



SFH entered on the GROW 2.0 system will automatically plot on the customised growth chart (if using a paper chart, the measurement should be plotted using an X on the customised growth chart)
Please note; SFH measurements must commence before 28+6

For pregnancies that are unsuitable for SFH or those of moderate or high risk for FGR, GAP care pathway, RCOG and SBL Care Bundle recommend serial ultrasound assessment of fetal growth and umbilical artery Doppler.

3.1.2 Pregnant women/people unsuitable for monitoring of growth by SFH



3.1.3 Moderate risk factors:

Pregnant women/people at moderate risk of FGR **do not** require uterine artery Doppler assessment at anomaly scan but are still at risk of later onset FGR. They should be offered serial ultrasound assessment of fetal growth in the third trimester.

At MKUH, pregnant women/people with moderate risk factors should be offered the following plan of care: (see appendix 4):

Pregnant women/people with moderate risk factors

Previous SGA/Previous still birth (AGA birthweight)/Current smoker at booking (any)/Drug misuse/Age ≥ 40 at booking, BMI <18.5 & other features e.g. eating or bowel disorders, Gastric Bypass surgery, Previous PTB/second trimester miscarriage (placental mediated)

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Assess risk factors for Aspirin (commence at 12 weeks) - Use checklist criteria in 3.1

Please note:

- **If chronic** kidney disease **(Aspirin 75mg if latest creatinine result is >150mg/dl)**
- History of placental dysfunction in previous pregnancy is suggested by:
  - Abnormal uterine artery Doppler (mean pulsatility index >95th centile) earlier in pregnancy (20 – 24 weeks) and/or
  - Abnormal umbilical artery Doppler (absent or reversed end diastolic flow or pulsatility index >95th centile).
  - Placental histology confirming placental dysfunction

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Anomaly scan

EFW ≥ 10th ⇩ Serial USS from 32, 36, 39 weeks

EFW < 10th ⇩ **Refer to Fetal Medicine**

3.1.4 High risk factors:

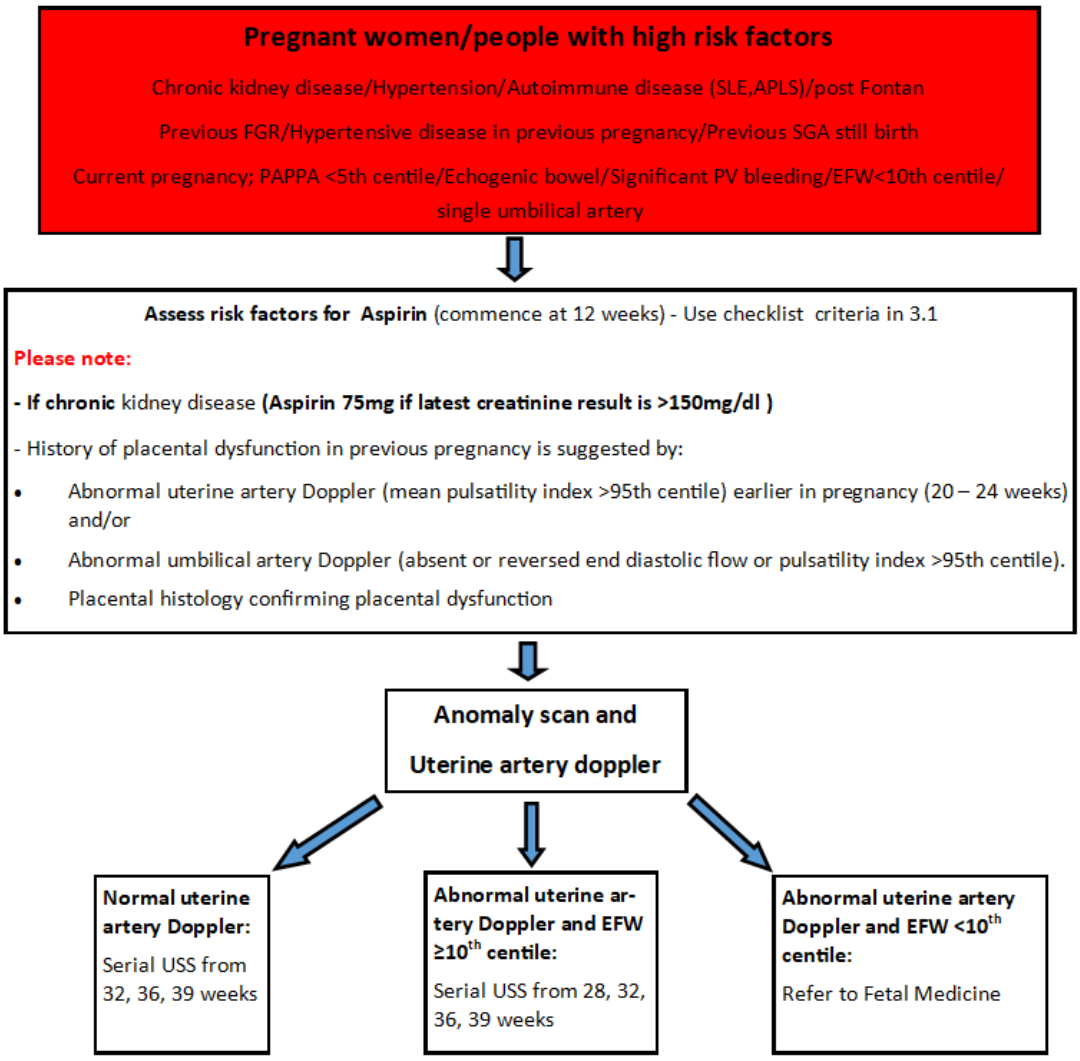
Uterine artery Doppler (UaD) can be used in the second trimester (20 – 24 weeks) to further determine the risk of placental dysfunction and therefore risk of hypertensive disorders or early onset FGR for pregnant women/people at high risk.
At MKUH, UaD will be performed at the anomaly scan following the request for serial scan (high risk pathway).

For pregnant women/people with a normal uterine artery Doppler pulsatility index (mean ≤95th centile), the risk of these disorders is low and thus serial scanning for fetal biometry can be commenced in the third trimester.
The USS department will follow the following uterine artery PI cutoffs to decide how scans will be booked.

- If Combined uterine artery PI >=2.5 – follow HIGH RISK scan pathway
- If Combined uterine artery PI <2.5-follow MODERATE RISK scan pathway
- If only single uterine artery measurement obtainable then PI >=1.25 -Follow HIGH RISK scan pathway
- If Combined uterine artery PI >=2.5 AND AC/EFW <5th centile - refer to fetal medicine
- If Combined uterine artery PI>=4 -refer to fetal medicine for a growth scan at 24 weeks
- If Combined PI >=3 –Refer to ANC to offer delivery at 40 weeks

Pregnant woman/people having serial scans until delivery under fetal medicine pathway do not , need scans in ultrasound department.

Pregnant women/people with high risk factors should be offered the following plan of care: (see appendix 4):



3.2 Plotting EFW on GROW 2.0 chart

- Log into GROW 2.0 using individual clinician log in
- Search for pregnant woman/person using demographic details, Access chart, Click 'Add Scan'
- Enter EFW and all relevant data from scan (include AC in comments section), save and continue, the growth chart will reappear with the plotted scan as a dot
- Click on plotted scan dot to review, add doppler details, review and save
- If deviation from expected trajectory – refer as appropriate (see section 3.4 Recommendations)
- Ensure clinician log out when finished

Note: If using a paper customised growth chart (in cases of shared care between Trusts or transfer, from another Trust) follow steps below:,

- Use the gestational age from the Growth scan and predicted EFW. The weight from charts will need to be rounded up or down using general mathematical principles i.e. 3426 g to be plotted as 3450
- A set square should be used to ensure plot is in the correct place on the GROW chart

- The estimated fetal weight should be calculated and plotted **(using an O)** on the customised GROW chart by the Sonographer

- The plot should be initialled by the Sonographer with the date on the horizontal axis

3.3 Method for measuring (See appendix 3) and plotting SFH;

- Once you have measured SFH
- Log into GROW 2.0 using individual clinician log in
- Search for pregnant woman/person using demographic details, Access chart, Click 'Add SFH'
- Enter SFH as exact measurement e.g. 29.3 (do not round up of down to nearest whole) and all other relevant data save and continue, the growth chart will reappear with the plotted SFH as an X
- Click on plotted X to review and save
- If deviation from expected trajectory – refer as appropriate (see section 3.4 Recommendations)
- Ensure clinician log out when finished

Note: If using a paper customised growth chart (in cases of shared care between Trusts or transfer, from another Trust) follow steps below:,

- Calculate the gestational age from the agreed EDD (dating scan)
- Plot must be exact measurement e.g. 29.3 (do not round up of down to nearest whole)
- A set square should be used to ensure plot is in the correct place on the GROW chart
- The SFH is plotted **(using an X)** on the customised growth chart by the clinician (Midwife or Obstetrician)
- The plot should be initialled by the clinician with the date on the horizontal axis

3.4 Recommendations

Referrals to Ultrasound for Low risk pregnancies where the woman is having SFH measurements;

- When there is an indication for a growth scan the Midwife/Doctor will refer directly for scan via eCare using the '***urgent'*** option from the drop down – details of request should be entered into the clinical details section.
- The ultrasound Department will give an appointment within:
    - 72 hours for slow/static growth or first plot <10th centile, reduced fetal movements
    - 1 week for concerns of increased growth velocity
- Arrangements for follow up by the referrer should be made prior to the scan

Indications for a growth and liquor volume scan are:

GROW 2.0 will automatically highlight this when data is entered and reviewed, click on the plot to review details, separate window will open and detail reason for red • or **X** will be documented (not all

red plots require referral, ensure to check against previous measurement to assess if growth trajectory is normal), if using paper chart, this will be a visual assessment).

- First fundal height measurement plots below the 10th centile on the customised growth chart.
- Slow or Static Growth: If, based on consecutive measurements, growth is static (flat), or slow (On visual assessment - growth trajectory which is less (slower) than the slope of the curve/growth velocity indicated by the 10th centile line on the customised chart over the same gestational age interval)
- Excessive Growth: If, based on consecutive measurements, there is concern about excessive growth because of the sharpness of the curve

Please note - A **first** measurement above the 90th centile line does not need referral for scan for query LGA, unless there are other clinical concerns such as polyhydramnios.

See **appendix 2** for scan request flow chart

3.5 Follow up after growth scan (see appendix 6):

It is the responsibility of the person performing the scan to plot the EFW on the customised growth chart (either using GROW 2.0 (or a paper chart if this is indicated). This will identify any deviation from the expected growth trajectory.

Normal EFW and no drop in AC from anomaly scan = No further scan required

Please note:

- Last SFH will become the new baseline for the subsequent measurements
- SFH measurements should continue every 2-3 weeks – **do not** omit an SFH if there has been a scan performed

Abnormal EFW:

- If EFW plot on GROW 2.0 highlights as red (or on visual assessment for paper charts) and shows:

Slow/static growth:

- **<36 weeks gestation-** Sonographer/Midwife to book additional 2-week scan.
- **>36 weeks gestation-** Refer to flow chart in *Ultrasound for Suspected SGA* guideline
- **Static growth at any gestation -** Refer to Fetal Medicine

Fetal Medicine referral criteria (appointment within 4 days) - *Ultrasound for Suspected SGA* guideline

- Any fetal biometry measurement <5th centile (at any gestation)
- If Combined uterine artery PI >=2.5 AND AC/EFW <5th centile

- If Combined uterine artery PI >=4(additional scan at 24 weeks in fetal medicine)
- EFW <3rd centile (at any gestation)
- EFW <10 centile at or >36 weeks gestation
- If slow or static growth identified at ≥ 35 weeks gestation- (additional scan performed outside of SBL pathway)
- AC drop of ≥40 points ≥36 weeks gestation
- Abnormal Umb PI >95th centile with/without Absent or reversed EDF (with additional same day review in ADAU/Triage)

Maternity Triage referral criteria (Same day) – see *Ultrasound for Suspected SGA* guideline

- Oligohydramnios DVP <2cm
- Cervical length <25mm or funnelling ≥18 weeks gestation
- Growth <3rd centile and ≥36 weeks
- Any abnormal Umb PI >95th centile and/or absent/reversed EDF
- Any ≥39 week <10th centile and/or AC drop of ≥40 points
- Any abnormal presentation ≥36 weeks - call Maternity Triage to triage and arrange appointment if required

Note: Pregnant women/birthing people having serial scans under fetal medicine pathway do not need growth scans booked in ultrasound department.

Other USS findings not within range;

- **Accelerated growth-** A copy of the scan report to be sent to ANC for further review
- **LGA**; EFW >90th centile –. Direct to ANC for a consultant appointment and OGTT within 1 week (If ≥39 weeks, call Maternity Triage for triage and appointment for obstetric review)
- **Polyhydramnios**

○ AFI >=30 – OGTT and referral to fetal medicine (appointment within 4 days)

○ AFI <30 - OGTT and referral to consultant ANC within 4 days.

Upon review the Obstetrician should review the EFW plot and growth trajectory/clinical picture and make subsequent management plan; this **must** be clearly documented within e-Care and printed for the handheld pregnancy records.

3.6 Antenatal admission / attendance:

All pregnant women/people calling with any concerns should be appropriately assessed using the telephone triage sheet. If admission is required, fetal wellbeing assessment using CTG should be planned according to the clinical need and **Fetal Monitoring Guideline**.

3.7 Intrapartum Care:

High risk pregnant women/people – review indication for serial growth scans;

- **BMI ≥35:** If serial growth scans show normal growth velocity and there are no other indications to use continuous electronic fetal monitoring in labour (unless risks change during labour), continuous fetal monitoring is not required for raised BMI.
- **Smoker:** If serial growth scans show normal growth velocity and there are no other indications to use continuous electronic fetal monitoring in labour (unless risks change during labour), continuous fetal monitoring is not required for smokers.
- All other high-risk pregnant women/people be offered an Obstetric review as soon as possible to discuss and develop a clear management plan for intrapartum care which will be documented within the pregnant woman/person's healthcare record (on e-care).

Low risk pregnant woman/people – Offer routine intermittent auscultation unless risk changes during labour

For further guidance on fetal monitoring in labour please refer to the Fetal Monitoring Guideline on the intranet.

3.8 Postnatal Surveillance:

The Midwife will calculate birth weight centile using the GROW 2.0 centile calculator software. This is designed to identify babies at risk of neonatal complications related to FGR and plan appropriate care. Data is also used to monitor and our identification of FGR and assist in auditing early detection and management of FGR in the antenatal period.

- Babies below the 10th centile require additional observations – please refer to the Hypoglycaemia in the Newborn guideline.
- Babies below the 2nd centile require an additional care pathway – please refer to the Hypoglycaemia in the Newborn guideline.
- **All babies who were undetected SGA (<10th centile) require a RADAR incident report**

4.0 Statement of evidence/references:

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5.0 Governance

5.1 Document review history

Version number	Review date	Reviewed by	Changes made
5.4	12/2023	Faryal Nizami	Changes to formatting to make clearer.
5.3	07/23	G Leroux	Alignment of guideline with SBLv3 (v3.2) algorithm and SOP – fetal growth scan
5.2	06/2023	G Leroux	Alignment of guideline with SBL3 algorithm
5.1	03/2022	G Leroux/Miss F Nizami	Guideline review and alignment with new procedure using GROW 2.0
5	11/01/2021	Miss F Nizami	Alignment of guideline with SBL2 algorithm for risk assessment for early onset fetal growth restriction
4	07/2020	Georgena Leroux	Guideline review and implementation of SBL 2 and Gap care pathway 2019
3	05/2016	Kirsty Hart	Implement new national recommendations
2	07/2012	Georgena Leroux	Revision and update
1	03/2009	Mary Plummer	New practice - to originate document

5.2 Consultation History

Stakeholders Name	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Michelle Fynes	O&G Consultant	14/05/2020	15/05/2020	No amendments suggested	N/A
Julie Cooper	Head of Midwifery	14/05/2020	17/05/2020	Incorporated	Yes
Rebecca Daniels	Consultant Midwife	14/05/2020	14/05/2020	Incorporated	Yes
Jessica Matson	Community Midwife	14/05/2020	14/05/2020	Incorporated	Yes
Rachael Bickley	Co-Chair Maternity:MK MVP	02/2022		Incorporated	Yes
Katie Selby	Governance lead	03/2022		Incorporated	Yes
Melissa Coles	ADAU Manager	03/2022		Incorporated	Yes
Charlotte Auker	Midwife	03/2022		Incorporated	Yes
F Nizami M Coles K Selby		06/2023		Incorporated	Yes
F Nizami		07/2023		Incorporated	Yes
Women's Health Guideline Review Group	Maternity	06/12/2023		Version 5.4 approved as chairman's actions	Yes

5.3 Audit and monitoring

This Guideline outlines the process for document development will be monitored on an ongoing basis. The centralisation of the process for development of documents will enable the Trust to audit more effectively. The centralisation in recording documents onto a Quality Management database will ensure the process is robust.

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
Audit compliance against Saving Babies Lives version 3, Element 2	Audit	Fetal Surveillance leads	Set according to SBLv3 element 2	Women's health audit group Women's health CSU

5.4 Equality Impact Assessment

As part of its development, this Guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified. Equality Impact assessments will show any future actions required to overcome any identified barriers or discriminatory practice.

Equality Impact Assessment			
Division	Pregnant woman/people's and Children's Health	Department	Obstetrics
Person completing the EqIA	Georgena Leroux	Contact No.	86582
Others involved:		Date of assessment:	05/2020
Existing policy/service	Yes	New policy/service	No

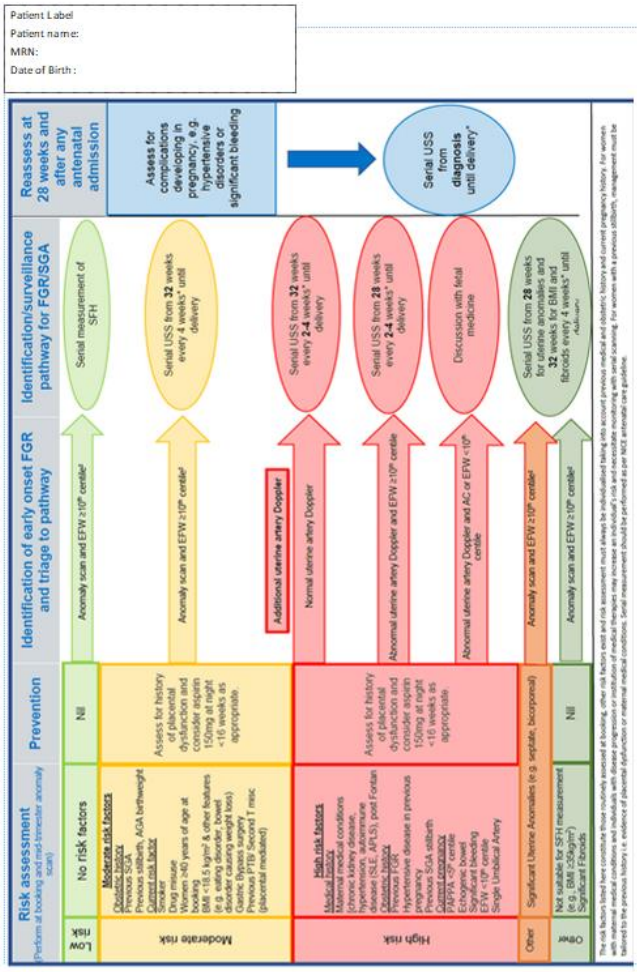
Will patients, carers, the public or staff be affected by the policy/service?	Yes
If staff, how many/which groups will be affected?	*All midwives and doctors working in the maternity department*

Protected characteristic	Any impact?	Comments
Age	NO	Positive impact as the policy aims to recognise diversity, promote inclusion and fair treatment for patients and staff
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	NO	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?
Circulation via email. Discussion at guidelines meeting.
How are the changes/amendments to the policies/services communicated?
Circulation via email. Discussion at guidelines meeting and CIG.
What future actions need to be taken to overcome any barriers or discrimination?

What?	Who will lead this?	Date of completion	Resources needed
Review date of EqIA	03/02/2024		

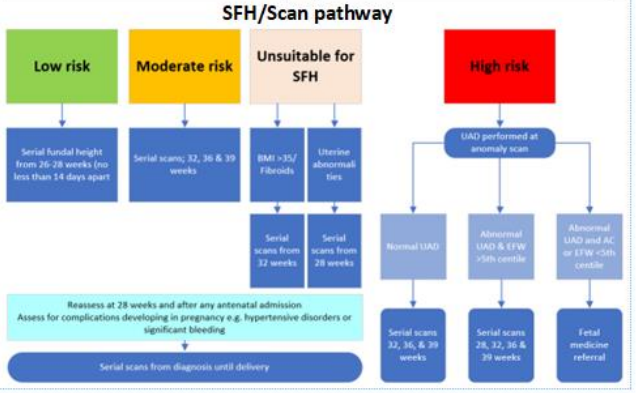
Appendix 1: Booking Risk Assessment



Serial scan/SBL care bundle

When booking serial scans either write
High risk SBL or Moderate risk SBL

High risk SBL pathway (dopplers at 20 weeks)		Moderate risk SBL pathway	
Chronic kidney disease		Previous SGA (< 10th centile)	
Chronic hypertension		Previous stillbirth (AGA birthweight)	
Congenital cardiac disease, post Fontan		Smoker/e-cigarette user at booking (any)	
Auto immune disease: e.g. systemic lupus erythema-tosus (SLE) or antiphospholipid syndrome (APLS)		BMI <18.5kg/m² & other features e.g. eating disorder, bowel disorder causing weight loss	
Hypertensive disease (PET/PIH) in previous or current Pregnancy		Gastric bypass surgery	
Previous FGR (<3rd centile)		Drug misuse	
Previous stillbirth (SGA/FGR birthweight)		Age ≥ 40 years old at booking	
EFW <10th In this pregnancy		Previous pre term birth/second trimester miscarriage (placental mediated)	
Low PAPPA in this pregnancy		IVF pregnancy	
Significant bleeding		Hyperemesis with weight loss >5% with dehydration and electrolyte imbalance (persisting >14 /40 gest)	
Echogenic bowel		BMI ≥35kg/m² at booking	
Diabetes - any (no doppler, serial scans from 28/40)		Large(>5cm)/multiple fibroids	
Single umbilical artery		Uterine abnormalities (serial scans from 28 weeks)	



(Please tick boxes below to demonstrate risk factors)

Preterm Birth Risk Assessment

Previous preterm birth or mid-trimester loss (16 to 34 weeks gestation).		Previous preterm prelabour rupture of membranes under 34 weeks	
Previous use of cervical cerclage		Known uterine variant (e.g. unicornuate, bicornuate uterus or uterine septum)	
Intrauterine adhesions (Ashermann's syndrome)		Previous delivery by Caesarean section at full dilatation	
History of trachelectomy (for cervical cancer)		History of significant cervical excisional event (e.g. LLETZ where more than 10mm depth removed or more than 1 LLETZ procedure carried out or cone biopsy (knife or laser, typically carried out under general anaesthetic))	
2 or more surgical managements of miscarriage/ termination of pregnancy >12 weeks gestation			

(Please tick boxes below to demonstrate risk factors)

Folic acid and vitamin D

Increased folic acid (5mg)		Increased vitamin D (800-1000units)	
Diabetes		Booking BMI ≥ 30	
Epilepsy/Anti epileptic drugs		High risk family origin	
Family history of fetal anomalies		Diabetes	
Booking BMI ≥ 30		Limited sunlight exposure	
Sickle cell/Beta Thalassemia trait			
Coeliac			
Previous baby with neural tube defect			
HIV			

All women should have 400mcg folic acid and 10mcg (400 units) Vitamin D

(Please tick boxes below to demonstrate risk factors)

Checklist criteria for aspirin from 12 weeks

≥ 1 of the high risk factors listed below = 150mg once a day aspirin to be recommended at bedtime		≥ 2 of the moderate risk factors listed below = 150mg once a day aspirin to be recommended at bedtime	
Hypertensive disorder in a previous pregnancy		Age ≥ 40 years old at booking	
Chronic hypertension		Pregnancy interval ≥ 10 years	
Previous SGA/FGR (< 10th centile)		Booking BMI ≥ 35	
Type 1 or type 2 diabetes		Multiple pregnancy	
low PAPPA		IVF	
Autoimmune disease (e.g. systemic lupus erythematosus or antiphospholipid)		Family history of pre-eclampsia (1st degree relative e.g. mother or sister)	
Histology confirmed placental dysfunction in previous pregnancy		Primigravida	
Chronic kidney disease (If latest creatinine result is >150 mg/dl low dose aspirin 75mg only)			

Those with a booking weight below 50kg should have low dose aspirin (75mg) *only* ☐

THINKGLUCOSE **If one risk factor is ticked - routine OGTT**

Booking BMI ≥ 30		Minority ethnic family origin (e.g. Black African, Black Caribbean, Middle Eastern, Asian)	
Age ≥ 40 years old at booking		Cystic Fibrosis	
Polycystic Ovarian Syndrome confirmed		Family History of pre-existing diabetes or GDM in immediate family only	
Previous baby ≥ 4.5kgs		Antipsychotic medications (e.g. Risperidone, Quetiapine, Olanzapine)	

ANY service user who has had bariatric surgery should be directly referred to ANC, as they CANNOT have OGTT due to the risk of dumping syndrome.

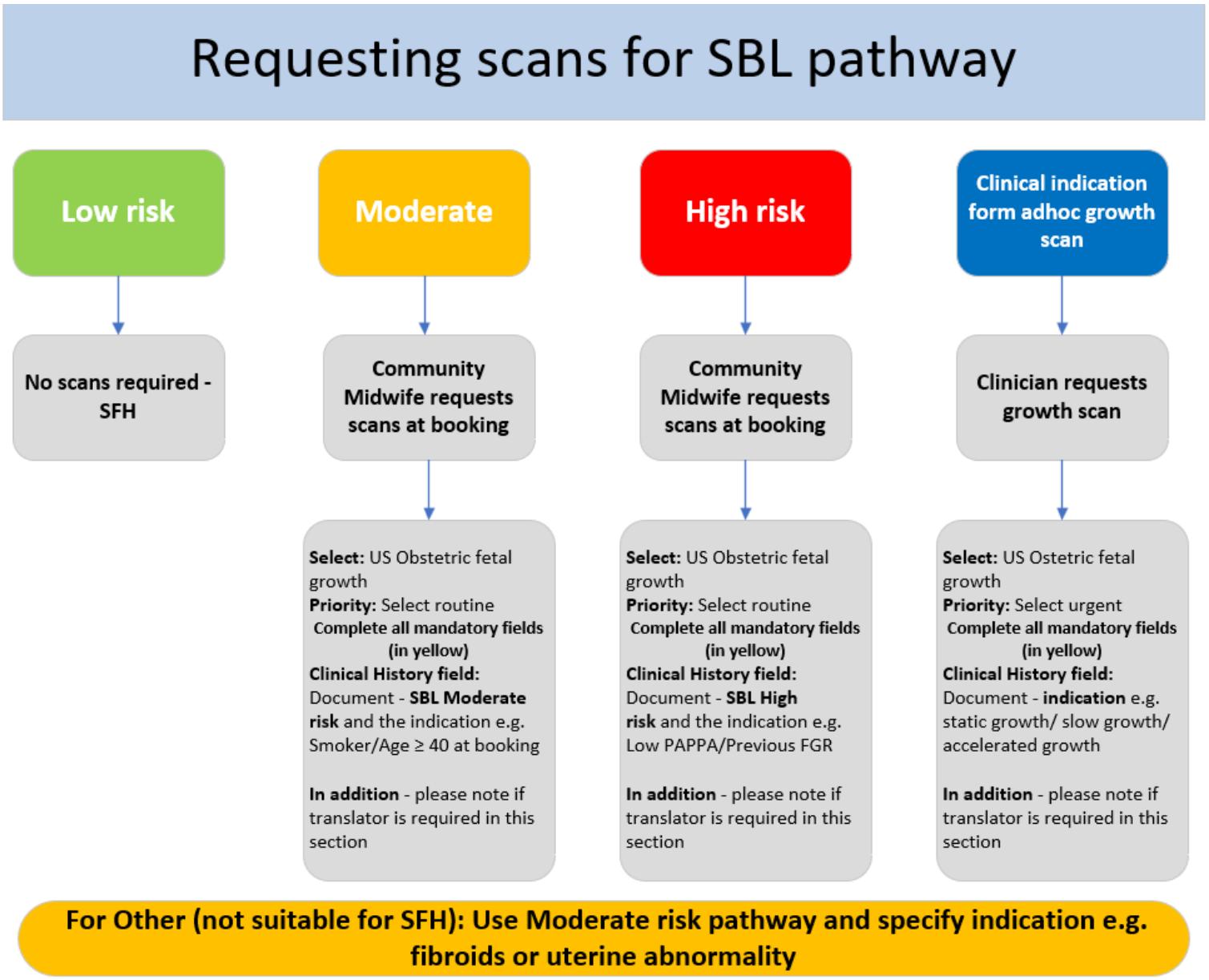
☐ **Pre-existing Type 1/Type 2 Diabetes** immediate referral to Diabetes Midwife via email to-diabetesmidwife@mkuh.nhs.uk

☐ **Previous GDM** needs urgent OGTT between 14—16 weeks, to be booked via the hub

Patient Label
Patient name:
MRN:
Date of Birth :

V4 07/23

Appendix 2: Scan request flow chart



Appendix 3: Fundal Height Measurement

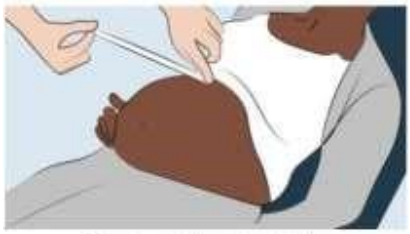
Fetal Growth - Fundal Height Measurements

1. Mother semi-recumbent, with bladder empty.

- Explain the procedure to the mother and gain verbal consent
- Wash hands
- Have a non-elastic tape measure to hand
- Ensure the mother is comfortable in a semi-recumbent position, with an empty bladder
- Expose enough of the abdomen to allow a thorough examination

2. Palpate to determine fundus with two hands.

- Ensure the abdomen is soft (not contracting)
- Perform abdominal palpation to enable accurate identification of the uterine fundus.



3. Secure tape with hand at top of fundus.

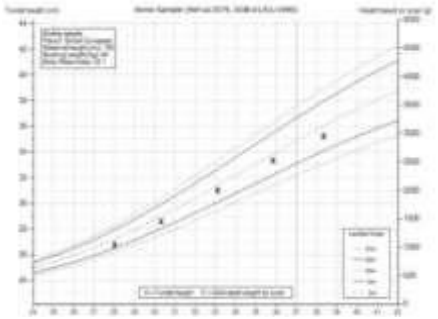
- Use the tape measure with the centimetres on the underside to reduce bias
- Secure the tape measure at the fundus with one hand

4. Measure to top of symphysis pubis.

- Measure from the top of the fundus to the top of the symphysis pubis
- The tape measure should stay in contact with the skin

5. Measure along longitudinal axis of uterus, note metric measurement.

- Measure along the longitudinal axis without correcting to the abdominal midline
- Measure only once

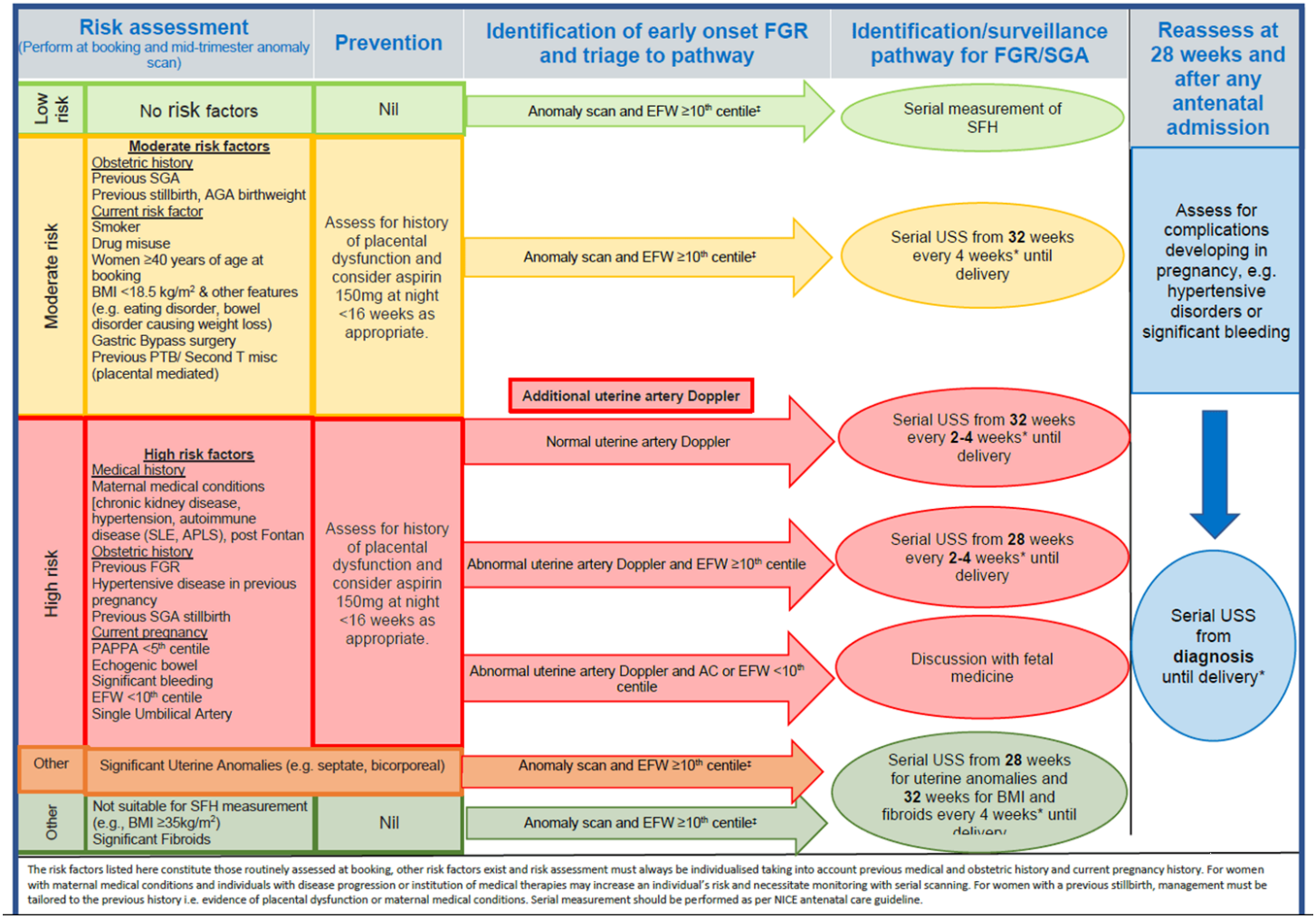


- Record the metric measurement and plot it on the growth chart.

Use GROW 2.0 to plot measurements unless there is an indication to use paper chart e.g., shared care with a different Trust.

Appendix 4: Algorithm for using uterine artery Doppler as a risk assessment tool for early-onset FGR (appendix D from SBLv3 2023) Please note:

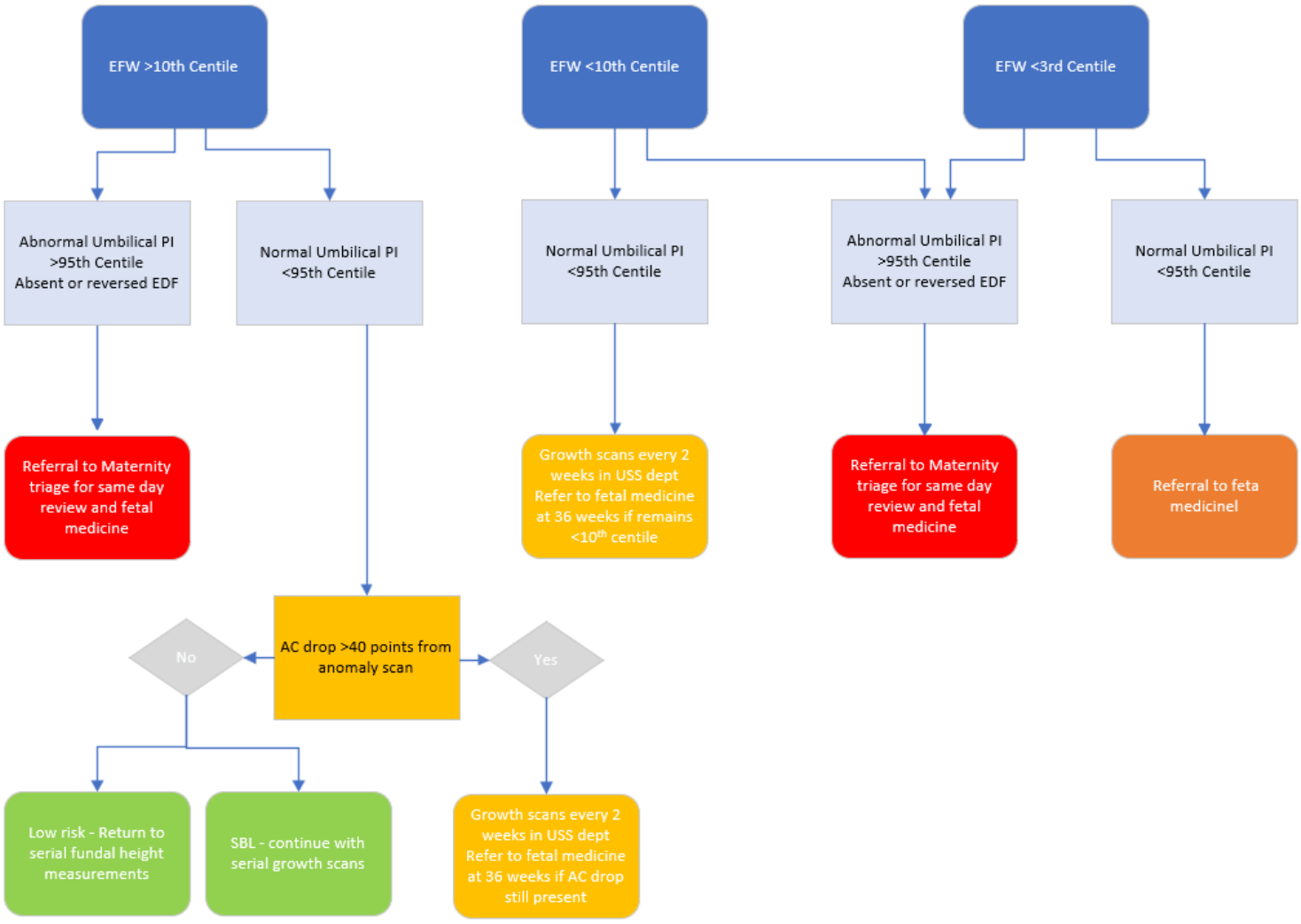
- Smoker at booking (any) includes e-cigarettes
- Unsuitable for SFH – scans 32, 36, 39
- Uterine abnormalities – 28, 32, 36, 39
- Moderate risk – scans 32, 36, 39
- High risk – Uterine artery doppler at anomaly, pathway depends on results of doppler (either; Doppler normal and EFW >10th centile = 32,36,39, Doppler abnormal, EFW > 10th centile = 28, 32, 36, 39 or Doppler abnormal with EFW <10th centile = refer to Fetal Medicine)
- New pregnancy complications: from detection to delivery serial scans to include scan at 39 weeks until delivery
- If pathway changed from low risk (SFH) to a pathway requiring serial scans, SFH must stop. Serial scans should be performed according to risk .



Appendix 5 – Link to resources in intranet https://intranet.mkuh.nhs.uk/grow

Appendix 6 – Pathway following growth scan.

24+0 to 35+6 weeks gestation



≥36 weeks gestation