CTM obs 135

Suspected large-for-gestational age (LGA) fetus (in non-diabetic pregnancy)

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Disclaimer

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Scope

This guideline is applicable to all women and pregnant people who access maternity services at Cwm Taf Morgannwg University Health Board and aims to support midwives, obstetricians and other members of the multi-disciplinary team to provide consistent care when a fetus is suspected of being large for gestational age (in the absence of maternal diabetes).

Aim

The aim of this guideline is to:

- Support consistent care planning for women and pregnant people who have a fetus who is suspected of being large for gestational age (LGA).
- Reduce the need for unnecessary intervention and anxiety in women who are suspected of having a fetus who is large for gestational age.
- Support information provision and informed decision-making in partnership with women and pregnant people.
- Identify women and pregnant people at risk of having a large for gestational age baby.

Introduction

The definition of a ‘large-for-gestational age’ (LGA) fetus is ambiguous and varies across the literature. National Institute Clinical Excellence (NICE) 2021, states that fetal macrosomia describes a fetus that is believed to be large for its’ gestational age, with an estimated fetal weight (EFW) above the >95th percentile, at or after 36 weeks of pregnancy.

The Royal College of Obstetricians and Gynaecologists (RCOG) identify macrosomia as an estimated fetal weight (EFW) >4.5kg, with this cut-off limit appearing to have the strongest association in terms of fetal outcomes.

Recent evidence suggests that the prediction of a 'large' baby has a negative impact upon women's experiences during pregnancy whereby large babies are framed as a medical problem to be managed, with little tangible improvement in outcomes. Whilst it is understood that ultrasound fetal size predictions can be inaccurate, they heavily influence clinical decision-making. Clinicians should be aware that women often struggle with a loss of control, fear and guilt as they experience their pregnancies as 'risky' or 'problematic' (Baddington, C.L. Parker, G.C, Wakelin, K.J. 2023)

To promote consistency in Cwm Taf Morgannwg University Health Board, Large for Gestational Age (LGA) will refer to a fetus who has an estimated fetal weight (EFW) greater than the >97th centile at or after 36 weeks of pregnancy.

Identification

- The Perinatal Institute Gap/Grow Protocol is implemented within Cwm Taf Morgannwg UHB and aims to identify, investigate and appropriately manage fetal growth surveillance.

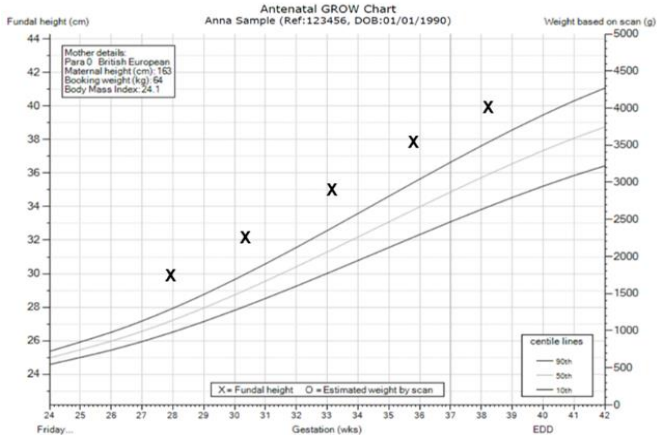
- The Gap/Grow programme puts an emphasis on fetal surveillance according to risk assessment; either by fundal height (SFH) or estimated fetal weight (EFW) measurements serially plotted on customised GROW-charts with printing of the 3rd, 10th, 50th, 90th and 97th centiles.

- Fundal height measurements are an inaccurate way of estimating fetal size. They are a measurement of the uterus and all its contents, and therefore are influenced by maternal size, amount of amniotic fluid, status of the bladder, pelvic masses e.g. fibroids, fetal position and many other factors.

- **Fundal height measurements are not meant to predict the size or weight of the baby, but to assess with serial measurements that the baby is growing well, and consistently.**

- Where fundal height measurement is unreliable because of high BMI (>35), or large/multiple fibroids, growth monitoring by serial ultrasound scan (USS) is indicated.

Fundal Height Measurements:



This chart demonstrates a normal pattern of fetal growth.

An individual fundal height measurement above the 97th centile does **not** require a referral for ultrasound scan (USS) unless there are other concerns, for example suspected polyhydramnios.

- The use of the Growth Rate Calculator is the recommended method to assess whether there is an acceleration in growth, in conjunction with the Perinatal Institute GAP Care Pathway.

- An acceleration in growth by fundal height is an indication for referral for ultrasound scan measurement. This is recommended within 72 hours as per Perinatal Institute guidance.

- If the USS EFW is <97th centile, the woman should continue with her routine antenatal care. Further assessments should continue to be made by fundal height measurements. These measurements would be expected to follow the same trajectory as the last fundal height measurement without the need for further ultrasound scan.

- If the EFW by USS is >97th centile, an Oral Glucose Tolerance Test (OGTT) is indicated within 1 week

- If the OGTT is impaired, a referral should be made to the Diabetic Antenatal Clinic for further management.

- With EFW ≥97th centile; plan for Consultant antenatal clinic between 33-36 weeks; **or** where the woman is otherwise suitable for midwife-led care, a Consultant midwife appointment between 33-36 weeks to support individualised birth planning.

Estimated Fetal Weight (EFW):

- Accelerated growth by ultrasound scan is defined as a growth rate that is faster or steeper than the trajectory of the 97th centile line.

- An estimated fetal weight (EFW) ≥97th centile should prompt a recommendation for an Oral Glucose Tolerance Test (OGTT) within 1 week.

- If the OGTT is impaired, a referral should be made to the Diabetic Antenatal Clinic for further management.

- With EFW ≥97th centile; plan for Consultant antenatal clinic between 33-36 weeks; **or** where the woman is otherwise suitable for midwife-led care, a Consultant midwife appointment between 33-36 weeks to support individualised birth planning.

Informed Decision Making

The following principles around informed decision making Shared decision making (nice.org.uk) should be used during counselling, including:

- Encouraging people to talk about what is important to them
- Communicating with people in a way they can understand
- Using clear language, avoiding jargon and explaining technical terms
- Sharing and discussing the information needed to make informed decisions
- Making sure that the woman understands the choices available to her (including the choice of doing nothing or not changing her current plan)
- Accept and acknowledge that people may vary in their views about the balance of risks, benefits and consequences of treatments, and that they may differ from those of their healthcare professionals.
- Explore risks/benefits/alternatives using the B.R.A.I.N pneumonic:
  Benefits - What are the benefits of the proposed plan?
  Risks - What are the risks of the proposed plan?
  Alternatives - What are the alternatives to the proposed plan?
  Intuition - What does the woman feel about what is right for her, knowing her body and any previous birth experience?
  Nothing - What could happen if the woman does nothing, or says 'not now' and takes some time to think?

Antenatal counselling and birth planning

- Explain to the woman all the different birth settings available (Home, Midwife-led unit (AMU/FMU), Obstetric Unit.
- The options for birth are; awaiting spontaneous labour (expectant management), induction of labour or caesarean birth.
- Where EFW is >90th centile and <97th centile, with no other co-complexity, the woman will be suitable to receive midwife-led care in her chosen birth setting (home, FMU, AMU, obstetric unit).
- Where EFW via USS is >97th centile, with a normal OGTT and an otherwise uncomplicated pregnancy, after an individual discussion and assessment, the woman may be suitable to give birth in a midwifery-led setting.
- Where EFW is ≥97th with any other additional care needs, the woman should be advised to give birth in an obstetric unit. Any women within this category who are planning to give birth outside of the Obstetric Unit will be planning

birth ‘outside of guidance’ and should be offered referral to the Consultant midwife to discuss and agree a detailed individualised care plan.

Ultrasound estimation of fetal size

The accuracy of ultrasound scan (USS) in estimating fetal weight should be discussed. Women should be informed that:

- USS for EFW has around a 40% Positive Predictive Value (PPV), which means that we will be able to detect around 40% of fetuses who are large for gestational age.
- Ultrasound estimation of fetal weight may be inaccurate, and may be equivocal by approximately 15% either way.
- This means that a baby may be born smaller than predicted and interventions may have been or appear to have been unnecessary.

It is important to reassure the woman that most babies up to 4.5kg will be born vaginally without any complications.

The main concern relating to a baby who is suspected of being large-for-gestational-age (LGA) relates to shoulder dystocia.

Women should be informed that:

- There is a wide variation in the reported incidence of shoulder dystocia in the literature. Studies involving the largest number of vaginal births report incidences of between 0.58% and 0.70% (approximately 1:200)

- There remains uncertainty about the benefits and risks of induction of labour compared to expectant management (continuing routine recommendations for timing of induction of labour >41/40) but; with induction of labour the incidence of shoulder dystocia reduced compared with expectant management (7:1000 with induction of labour and 20:1000 with expectant management).
- With induction of labour, the incidence of 3rd/4th degree perineal tear (OASI) is increased compared with expectant management (29:1000 with induction of labour and 6:1000 with expectant management).

- There is evidence that the incidence of perinatal death, brachial plexus injuries (BPI) in the baby or the need for unplanned caesarean birth is the same between those undergoing induction of labour and those that choose expectant management.
- The woman should be supported to discuss and explore to the impact that induction of labour may have upon her birth experience and her baby. Impacts/disadvantages may include: hyperstimulation, unsuccessful induction of labour, increased likelihood of postpartum haemorrhage (PPH) with oxytocin augmentation, a long inpatient procedure and hospital stay, unknown duration for IOL process (including the potential for delays), an increased need for pharmacological analgesia, reduced mobility, less likely to be suitable to use water for labour/birth, additional intervention/s, more internal examinations, continuous FHR monitoring and changes to birth setting and environment.
- Women should be informed that neonatal outcomes are optimised and neonatal morbidity reduced if induced or planned birth occurs >39 weeks gestation as this avoids problems associated with fetal organ immaturity.
- Discuss the options for birth with the woman, taking in to account her individual circumstances and preferences and respect her decision.

Shoulder dystocia

For women planning vaginal birth; explain:

- All maternity staff (both midwives and obstetricians) are trained and skilled to recognise and manage shoulder dystocia as an obstetric emergency.
- The management of shoulder dystocia should be consistent regardless of birth place or setting.
- Brachial plexus injury (BPI) is one of the more significant fetal/neonatal complications of shoulder dystocia. In cases of shoulder dystocia, the incidence of BPI is between 2.3%-16%.
- Other fetal/neonatal complications include fracture to the clavicle or humerus, requirement for neonatal resuscitation, admission to the neonatal

unit, Hypoxic Ischaemic Encephalopathy (HIE), and very rarely, stillbirth or neonatal death.

- The Cochrane database suggests that 60 women would need to undergo induction of labour to prevent 1 neonatal fracture. Clavicular fractures however, heal well without consequences, and it is important to note that clavicular fractures also occur in spontaneous vaginal births which are not complicated by shoulder dystocia.
- There is evidence that there is no difference noted in the risk of perinatal death, brachial plexus injury in the baby or the need for unplanned caesarean birth between those women who are induced around 39 weeks gestation, and those who choose to await spontaneous labour (expectant management).

Planned caesarean birth

- Women should be aware that planned caesarean birth is an option for all women to consider. In the absence of any other complications, a caesarean birth is recommended >39/40 as neonatal outcomes are optimised and neonatal morbidity reduced if induced or planned birth occurs >39 weeks gestation as this avoids problems associated with fetal organ immaturity.
- An EFW of ≥ 5000g, without maternal diabetes, should prompt further discussion around mode of birth with a Consultant obstetrician, and a clinical recommendation for planned caesarean birth. A discussion should take place with the woman around her options should labour commence prior to the date planned for caesarean birth.

Intrapartum Care

- There is no evidence that large-for-gestational-age (LGA) alone is a risk for fetal hypoxia, therefore continuous fetal monitoring will not provide **any** benefit compared to intelligent intermittent auscultation (IIA) in non-diabetic women. In spontaneous labour, IIA should be recommended in line with NICE guidance Fetal monitoring in labour (nice.org.uk).

- Water immersion during labour, and waterbirth are **not** contraindicated where a LGA fetus is suspected, however, explain to the woman that if there are any concerns, she may be asked to exit the birth pool.
- If there is a delay in the 1st stage of labour, a senior review including a full assessment of intrapartum events should occur prior to commencing oxytocin augmentation.
- Early recourse to caesarean birth should be made if there is no descent of the presenting part.
- Instrumental assisted birth should be performed in theatre, and a Consultant Obstetrician should be informed and should attend if required.
- Having a suspected LGA baby should not alter the management of the 2nd stage following the birth of the fetal head (for example, awaiting restitution, waiting for the next uterine contraction and attempting routine axial traction **before** diagnosing/declaring shoulder dystocia).
- If a shoulder dystocia is diagnosed, the PROMPT protocol should be followed and documented (See CTMUHB Shoulder Dystocia guideline).

Auditable Standards

- Evidence that SFH was accurately plotted and appropriate referral was made for USS of EFW
- OGTT appropriately undertaken for women whose baby is noted to be LGA in the antenatal period
- Appropriate discussion between the woman and clinician has been documented regarding the management of LGA fetus
- Individualised 'outside of guidance' care plan discussed and in place for women who are planning to give birth in midwife-led settings with EFW ≥ 97th centile
- Audit timing of IOL for women with suspected LGA fetus, and outcomes for mother and baby

References

NICE Antenatal Care, August 2021 (NG201)

- NICE Intrapartum Care, September 2023 (NG235)
- NICE Inducing Labour, November 2021 (NG170)
- NICE Intrapartum care for women with existing medical conditions or obstetric complications and their babies, March 2019 (NG121)
- NICE Shared decision making, June 2021 (NG197)
- NICE Fetal Monitoring in Labour, December 2022 (NG229)
- RCOG Shoulder Dystocia Green-top Guideline No. 42 (2nd Edition) March 2012
- Perinatal Institute, Growth Assessment Protocol (GAP) Guidance, July 2023
- Baddington, C.L., Parker, G.C., Wakelin, K.J. (2023) “I felt like I had no options”: Navigating an ultrasound prediction of a large baby in pregnancy. Women and Birth https://www.sciencedirect.com/science/article/abs/pii/S1871519223000720