University Hospitals Sussex
NHS Foundation Trust

Obesity In Pregnancy

Maternity protocol: MP011

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Manager responsible:	Jo Sinclair
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Key Principles

A protocol is a set of measurable, objective standards to determine a course of action. Professional judgement may be used in the application of a protocol.

Scope

This protocol applies to:

- Obese women in pregnancy.

Responsibilities

Midwives & Obstetricians:

- To access, read, understand and follow this guidance
- To use their professional judgement in application of this protocol

Management:

- To ensure the protocol is reviewed as required in line with Trust and National recommendations
- To ensure the protocol is accessible to all relevant staff

1 Obesity in Pregnancy

Obesity is a growing problem in the UK

2 Potential Clinical Complications Related to Obesity

2.1 Diabetes
2.2 Hypertension and pre-eclampsia
2.3 Renal disease and UTI
2.4 Cardiovascular disease
2.5 Increased risk of infections in pregnancy and postnatal period
2.6 Increased hospital attendance
2.7 Difficulties with clinical procedures – e.g. fetal monitoring and scanning, IV access
2.8 Limits choice re. place of birth
2.9 Anaesthesia
2.10 Increased incidence of IOL
2.11 Longer labour
2.12 Increased risk of CS
2.13 Larger babies/increased incidence of neonatal complications, stillbirth and shoulder dystocia
2.14 Incontinence
2.15 Breastfeeding problems – though should be encouraged nevertheless as helps weight loss and has long term health benefits for mother and decreases chances of obesity later in life for babies
2.16 Psychosocial factors
2.17 Longer term problem of obesity (also links to childhood obesity)

3 Calculating and Documenting the Body Mass Index (BMI)

3.1 BMI should be calculated using the following formula or using a BMI calculation wheel. Weight should be taken on appropriate calibrated scales at booking appointment and height should be measured using a portable measuring device or wall stick. Women's self-reported height and weight should only be taken if measuring devices are not available (or woman declines measurement). This should be documented in the maternal notes.

$$\text{BMI} = \frac{\text{Weight in Kilograms}}{(\text{Height in Meters}) \times (\text{Height in Meters})}$$

3.2

4 Management of Obesity in Pregnancy (In Addition To Routine Antenatal Care)

4.1 First Trimester: 6 - 12 weeks

4.1.1 Midwife providing booking appointment and care should:

- correctly calculate BMI

- accurately document weight, height and BMI on booking form and maternal hand held notes specifying if weight and/or height has been reported due to lack of suitable equipment required document the antenatal risk assessment in the maternal notes

4.1.2 Clerks or midwives inputting the booking information into the maternity information system should include the booking BMI data

4.1.3 Clerks inputting the booking information on women / pregnant people with BMI >30kg/m^2 are required to update CQUIN database. Any midwives inputting booking information electronically should send booking information questionnaire to Clerk before giving to women to put in hand held notes

4.1.4 Pregnant women who have undergone bariatric surgery should be evaluated for nutritional deficiencies and the need for vitamin supplementation when indicated.

5 For all pregnant people with booking BMI ≥30:

5.1 Women / pregnant people should be counselled at booking regarding the effects of a high BMI during pregnancy. They should be made aware of the above-mentioned risks.

5.2 Antenatal thromboprophylaxis should be considered depending on other risk factors according to the flow chart in the antenatal notes. (see Maternity Protocol MP012 Venous Thrombosis)

5.3 Women / pregnant people should be advised to book for multidisciplinary care during the antenatal period (maternity team based care)

5.4 Women / pregnant people should be offered an appointment with Maternal Health Dietitian. If accepted by women, the maternal obesity dietetic referral form should be completed (see Appendix A) and sent to Nutrition and Dietetics Department, RSCH

5.5 Women / pregnant people should be offered an antenatal consultation during the 3rd trimester with an appropriately trained professional (for example obstetrician or midwife) to discuss possible intrapartum complications and agree an individualised management plan. All discussion should be documented in their notes on Badgernet.

5.6 Women / pregnant people should be recommended to have Vitamin D supplementation in pregnancy 10 micrograms / day (NICE 2008)

5.7 Women / pregnant people should be advised to commence folic acid 5mg daily at least one month before conception and up to 12 weeks of pregnancy. (RCOG, 2010).

5.8 Women / pregnant people should be advised to take 150mg Aspirin from 12 weeks to 36 weeks if they have 2 moderate risks factors for pre-eclampsia (BMI >35 along with either being their first pregnancy, maternal age >40, family history of pre-eclampsia or multiple pregnancy)

5.9 Clinicians should accurately measure blood pressure using large cuff (as with all subsequent antenatal checks) and ensure documentation of booking BP in hand held notes

5.10 If there is difficulties measuring the SFH refer to DAU for Obstetric review

5.11 Glucose Tolerance Test (GTT) and HbA1c

- HbA1C should be checked alongside booking bloods. If >41 to refer to the diabetes team
- Women / pregnant people should also be offered a GTT 26/40

5.12 Scanning

- The booking midwife should offer a referral for first trimester scan to ensure accurate dating of pregnancy and for the anomaly scan (as for routine care)
- No further scans are required unless additional risks are identified or there are other indications.

6 For all pregnant people with BMI ≥ 35 (additional care to above):

6.1 Offer and advise women / pregnant people a referral to obstetric care.

6.2 The midwife completing the booking form should document BMI and referral on the booking form. This should be sent to the A/N lead midwife in ANC who will book the appropriate appointment with an obstetrician and inform the woman by letter.

6.3 Scanning:

- Referring clinicians should document BMI on USS request form to ensure that a 34/40 growth scan is scheduled by scan department for all women with BMI ≥ 35.
- If woman / pregnant people have a dating scan elsewhere ensure to request 34/40 growth scan when completing request for 20/40 anomaly scan.

6.4 Women / pregnant should be offered an ANC appointment with obstetrician after 34/40 growth scan. The obstetrician should review the scan results, discuss possible intra-partum complications, consider need for postnatal thromboprophylaxis and agree an individual plan of care for labour and birth which should be clearly documented and signed in the maternal hand held notes.

6.5 Women / pregnant people should be advised to birth in an obstetric led unit within a hospital environment. If women make an informed decision to birth at home please respect their choice. Please explain and justify your advice and plan of care and document it clearly. Please ask that the woman acknowledge your proposed plans, your advice, and any concerns you may have, and document this clearly.

6.6 If there is difficulties measuring the SFH refer to DAU for Obstetric review

6.7 Women / pregnant people should be advised to access the Anaesthesia In Pregnancy Information leaflet on Maternity - BSUH Maternity

6.8 Women / pregnant people undergoing a caesarean section should have a PICO dressing applied to prevent wound infection

7 For all pregnant people with BMI ≥ 40 (additional care to above):

7.1 Scanning as per 6.3

7.2 On Admission the obstetric anaesthetist should discuss and agree an obstetric anaesthetic management plan for labour and delivery and this should be clearly documented in the maternal notes.

7.3 Women / pregnant people should have an individual documented assessment in the third trimester of pregnancy by a midwife with appropriate training (all Midwives will have an update on manual handling requirements and tissue viability issues as part of their mandatory training rolling programme: see Maternity Protocol MD084 Women's services education strategy) to determine manual handling requirements for childbirth and consider tissue viability issues.

8 For all pregnant people with BMI ≥ 50 (additional care to above):

8.1 The midwife completing the booking form should document BMI and indicate a referral on the booking form. This should be sent to the A/N lead midwife in ANC who will book the appropriate appointment with an anaesthetist in ANC and inform the woman / pregnant person. They should be seen at the 'high risk anaesthetic clinic' at 34-36 weeks gestation.

8.2 Refer those with BMI< 50 ONLY if pre-existing co-morbidities e.g., hypertension, asthma, diabetes, sleep apnoea. If no co-morbidities, please give all pregnant women / people with raised BMI 30-50 the leaflet 'Obesity in pregnancy – what it means for you' which details anaesthetic implications

9 Delivery referral from PRH to RSCH

This list has been compiled by the Obstetric Anaesthetists' Group (east), and reflects many factors at Princess Royal Hospital Central Delivery Suite (CDS) which have the

potential to impact the delivery of safe care. These factors include: the number (and commitment to ITU/ED) of anaesthetists on site out of hours, The level of experience of the out of hours on call anaesthetist for CDS, proximity of the on call consultant (approx. 30 minutes) anaesthetist and availability of allied resources out of hours.

Women or people with the following we would recommend delivery at RSCH:

9.1 Cardiac ladies seen through COCA, unless can be treated as normal

9.2 Abnormal placentation which is likely to need Interventional Radiology

9.3 Reasonable risk for involvement of General Surgeon during CS

9.4 BMI > 60 for any mode of delivery

9.5 BMI > 50 with additional risk factors eg. GDM, PET, sleep apnoea, multiple previous CS (for non-scheduled delivery)

9.6 Likelihood of difficult airway – needs anaesthetic assessment (could consider planned CS with consultant presence at PRH)

9.7 Severe haematological condition, with potential to require product transfusion at short notice – eg. Platelets – due to not being kept on site at PRH.

(This list is not exhaustive but is a guide, and there may be occasions when it is deemed reasonable to plan delivery at PRH after consideration of all factors)

Any patients fitting any of the above criteria should be red flagged for discussion with the anaesthetic team at earliest possible opportunity to make a plan. These ladies should definitely be referred to the Obstetric Anaesthetic Review Clinic (Obs ARC) antenatally to see a consultant obstetric anaesthetist, but IF IN ANY DOUBT PLEASE Bleep the on call anaesthetist to discuss.

10 Labour & Birth

10.1 Women / pregnant people with a BMI ≥ 35 should be advised to birth in an obstetric unit

10.2 The Obstetric team should be aware of women / pregnant people with a BMI ≥ 35 in labour

10.3 The Anaesthetic team should be aware of women / pregnant people with a BMI ≥ 35 in labour and should review them for Anaesthesia

10.4 If continuous CTG is indicated and abdominal tracing not satisfactory or achievable, fetal scalp electrode (FSE) should be recommended

10.5 Women/ pregnant people with BMI ≥40 admitted for IOL should have a presentation scan undertaken by an obstetrician appropriately trained in scanning prior to commencing induction process

10.6 A presentation scan should be considered for those attending in labour where the presenting part cannot be clearly identified by either palpation or through vaginal examination

10.7 All women / pregnant people should be assessed for VTE when admitted in labour (see Maternity Protocol MP012 Venous Thrombosis)

10.8 Women / pregnant people undergoing caesarean section who have more than 2cms subcutaneous fat, should have suturing of the subcutaneous tissue space in order to reduce the risk of wound infection and wound deperation (RCOG Guideline 17, 2018)

11 Postnatal Care

11.1 **BMI ≥ 30** is a risk factor for VTE and all women should be risk assessed post birth for VTE (see Maternity Protocol MP012 Venous Thrombosis)

11.2 Breastfeeding to be encouraged (breastfeeding support to include using different positions to enable successful latch and attachment

11.3 Women / pregnant people should be informed that breastfeeding can help with postnatal weight loss and can help prevent childhood obesity

11.4 Women / pregnant people should be offered continued support by the maternal health dietitian for 6 weeks postnatal. After this time appropriate alternative services will be recommended for continued weight management support. Consultation with weight-reduction specialists before attempting another pregnancy should be encouraged.

12 Specialist Equipment

Requirement to assess the availability of suitable equipment in all care settings for women with a high BMI

12.1 For all women / pregnant people the correct size of sphygmomanometer cuff must be used for all readings of the maternal blood pressure. Large cuffs will be available in all care settings.

12.2 In addition, all women / pregnant people should have their weight measured on scales that can register the weight however large the woman is. Although the majority of clinics in the community setting will have suitable equipment, consideration should be given to sending the woman to a clinic with suitable scales if required.

12.3 **In the community setting**: If no appropriate scales are available in their 'home' clinic, advice should be sought by the midwife from her team leader as to where the nearest appropriate scales are located.

12.4 **In the hospital**: If no appropriate scales are available in the immediate clinical area, advice should be sought by the midwife from the bariatric team as to where the nearest appropriate scales are located.

12.5 Community midwives, GP's and Midwifery leads in clinical areas should give consideration to the suitability of examination couches and make alternative arrangements such as a specialist bed for examinations as/where required.

12.6 A plan should be discussed and made with the woman/ pregnant person regarding the need for any additional or specialist equipment which made be required at any stage during the pregnancy, birth and postnatal period. This may include:

12.6.1 A special theatre table and related equipment (e.g. stirrups) for instrumental or operative birth

12.6.2 A specialist bed and mattress

(Such equipment can be order through Maternity clerks, Labour Ward Leads or the on call manager)

12.7 For woman / pregnant person choosing a home birth, a discussion regarding:

- Access to the flat/house
- Evacuation in case transfer to hospital is required
- the safety of using a birthing pool and the difficulties associated with leaving the pool in an emergency
- Consider discussing with a Community Manager

12.8 All discussion and agreed plans should be clearly documented in their maternity notes on Badgernet. Those women / pregnant people who would like a home birth out of guidelines will need to be referred to the Consultant midwives antenatally.

13 Pregnancy following Bariatric surgery

13.1 Preconception

- Postpone pregnancy during the period of rapid weight loss (at least the first year).
- Ensure safe and effective contraception advice is given. COC may be less reliable following surgery due to gut shortening and reduced absorption.
- LARC (long-acting reversible contraception) eg: IUD (copper / mirena) or progesterone depot.

13.2 Nutrition

- Refer to a dietician
- Supplements: Multivitamins such as Folic acid 5mg, Vitamin B12 (1mg every 3 months IM), Vitamin D and Vitamin A (convert to beta-carotene form when pregnant)

13.3 Antenatal management

- MDT
- Blood tests to check nutritional state in each trimester (FBC, LFTS, Ca, Folate, B12, Ferritin and Vitamin D)
- Inform their bariatric surgeon that they are pregnant.
- Monitor weight (gestational weight gain should ideally be 7 -11kg). Active band management with those who have LAGB (laparoscopic adjustable gastric banding)
- GDM screening. They are unable to have a OGTT performed due to dumping syndrome, therefore BM monitoring should be recommended for one week between 24-28/40.
- Serial growth scans at 32 and 34 weeks
- Anaesthetic referral if BMI > 50 and VTE prophylaxis if relevant.
- Low threshold to investigate pain if they present with abdominal pain, as this may be secondary to intestinal obstruction or gastric band slippage if vomiting.

13.4 Surgical complications

- Internal hernias. Most common location is Petersen's space (defect between the small bowel limbs, transverse mesocolon and the retroperitoneum). This has a high incidence of maternal and fetal death if left untreated after 48 hours of symptoms.
- Gastric band slippage. This may be increased due to vomiting and increased abdominal pressure. This is also more likely to occur if the interval between surgery and pregnancy is short.

13.5 Intrapartum management

- There is no evidence for an earlier induction or timing of delivery
- There is no evidence that a caesarean section is more beneficial than a vaginal delivery.

13.6 Postnatal

- Encourage breast feeding

- VTE assessment
- Follow up with bariatric surgeon if there was band adjustment in the pregnancy.
- If the woman / pregnant person wants body contouring – advise them to wait till they have completed their family.
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14 References

Pregnancy after bariatric surgery: Consensus recommendation for pre-conceptual, antenatal and postnatal care. August 2019

Royal College of Obstetricians and Gynaecologist, Green top guideline 72. Care of women with Obesity in Pregnancy. November 2018

Saving Babies' Lives version two. NHS England. March 2019