Guideline for the Management of Women with Obesity in Pregnancy

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Guidelines Definition

Clinical guidelines are systemically developed statements that assist clinicians and woman in making decisions about appropriate treatments for specific conditions. They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person

Equality Impact Assessment Statement

This Procedure has been subject to a full equality assessment and no impact has been identified.

Contents

Rationale

Obesity in pregnancy is now one of the most important challenges in obstetric care. Approximately 50 per cent of women who become pregnant are either overweight (BMI≥25–30) or obese (BMI≥30). Obesity in pregnancy is associated with an increased risk of a number of serious adverse outcomes. MBRRACE 2015 identified that over half the women who died either directly or indirectly from pregnancy related causes were overweight or obese. Babies born to obese women also face several health risks. There is a higher caesarean section rate and lower breastfeeding rate in this group of women compared to women with a healthy Body Mass Index (BMI). The risk of the following outcomes are increased for obese women during pregnancy;

Antenatal;

- Impaired fasting glucose and impaired glucose tolerance and gestational diabetes
- Miscarriage
- Stillbirth
- Pre-eclampsia
- Thromboembolism
- Obstructive Sleep apnoea
- Maternal death
- Abnormalities in fetal growth and development

Intrapartum;

- Induction of labour, prolonged labour and failure to progress
- Instrumental delivery and caesarean section
- Postpartum haemorrhage
- Shoulder dystocia
- Difficulties with fetal heart rate monitoring
- Difficulties with labour analgesia
- Use of general anaesthesia

Anaesthetic;

- Difficulty with positioning
- Difficulty with correct catheter siting within the epidural space, difficulty with spinal anaesthetic and increased risk of dislodgement
- Difficulty maintaining an adequate airway
- Increased risk of need for ICU care post operatively

Post-partum;
- Delayed wound healing
- Increased rates of wound infection
- Greater likelihood of needing support with breastfeeding establishment and continuation
- Postnatal depression
- Long term neonatal consequences: neonatal body composition, infant weight gain, obesity

Definition

Obesity in pregnancy is defined as a Body Mass Index (BMI) of 30 kg/m2 or more at the first antenatal consultation. BMI is a simple index of weight-for-height and is calculated by dividing a person's weight in kilograms by the square of their height in metres (kg/m2). Maternal BMI is categorized by the World Health Organization (WHO) as follows;

- Underweight (BMI <18.5kg/m2)
- Normal (BMI 18.5-24.99 kg/m2)
- Overweight/pre-obese (BMI 25-29.99kg/m2)
- Obese class 1 (BMI 30-34.99 kg/m2)
- Obese class 2 (BMI 35-39.99 kg/m2)
- Obese class 3 (BMI ≥40 kg/m2)

While the majority of the recommendations within this guideline pertain to women with a BMI ≥ 30 kg/m2, some recommendations are specific to women in the higher classes of obesity only. Obese women with a BMI below the threshold specified may also benefit from particular recommendations.

Preconception care

It is important that women are aware of the increased risk of maternal and fetal complications associated with obesity. They should have the opportunity to minimise the risk of these complications prior to pregnancy.

- All women who are planning pregnancy should have accurate height and weight measurement and BMI calculation. They should be encouraged to maintain BMI in the range of 20kgm2 to 25 kg/m2. Women with BMI ≥30 kg/m2 should be advised to reduce weight before conception to reduce the risk of pregnancy complications.
- The woman should be encouraged to adopt healthy lifestyle practices by improving diet quality and physical activity patterns.
- Consideration should be given to screening for type 2 diabetes prior to conception.
- Women with a BMI ≥30 kg/m2 wishing to become pregnant should be advised to take 5mg folic acid supplementation daily, starting at least one month before conception and continuing during the first trimester of pregnancy.

Antenatal Care

- ✓ Maternal weight and height should be measured at the dating scan appointment for all women, and the BMI should be calculated and documented in the hand-held notes, and on MITS. **Self-reported weights and heights should not be used as a substitute for accurate weight and BMI assessment.**

- ✓ If the BMI is 35 kg/m2 or above, the woman should be advised to book for consultant–led care and to give birth in an obstetric unit. If a woman has a BMI of 35-39.9 with no other risk factors and has gained up to 9kgs by 36 weeks gestation (IOM recommended weight gain) then a midwifery led birth may be discussed with the Consultant Midwife after 36 weeks. Obesity alone is not an indication for induction of labour and a normal birth should be encouraged. Depending on weight gain in pregnancy those with BMIs close to 35 may be offered birth centre / home birth initially, which would then be discussed with their named consultant on an individual basis after 36 weeks gestation.

- ✓ If the woman has booking BMI of 45 or over an early consultant appointment is needed before Bump Start appointment at 16 weeks to discuss thromboprophylaxis in pregnancy and consideration of an early GTT.

- ✓ Women with a booking BMI ≥30 kg/m2 may be advised to take 10 micrograms Vitamin D supplementation daily during pregnancy and while breastfeeding. 5mg Folic Acid should also be advised in the first trimester.

- ✓ All women with a BMI 30-35 kg/m2 should be provided with accurate and accessible information about the risks associated with obesity in pregnancy and how they may be minimised. Women should be given the opportunity to discuss this information. The RCOG patient information leaflet 'Why You Weight Matters in Pregnancy and After Birth' can be found by clicking on the following link; https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-why-your-weight-matters-during-pregnancy-and-after-birth.pdf

- ✓ All women with a BMI of ≥35-39.9 must be supported by the "Community Bump start" weight management service provided by their named / community midwife and supported by the Public Health Midwife. Women with BMI ≥ 40 in the Rhondda, Cynon, Taff and Merthyr localities (not available in Bridgend at present) are referred automatically to the "Bump Start" weight management service with the Public Health Midwife for more intense support to help manage this cohort of women's higher risks. Recent guidance has advised against dieting during pregnancy as it may cause harm to unborn child.

However, for women with a BMI of 40 or greater, a modest weight loss during pregnancy may be acceptable. The weight loss should not be drastic, should be individualised for each woman, and should be done only under a health care provider's close supervision. Consultants are informed of weight loss of 5% or more at 24 weeks gestation to check on wellbeing of fetus (Bump Start and Community Bump Start women).

- ✓ An anaesthetic alert should be sent for all pregnant women with BMI ≥ 45 kg/m2. These women should be offered an antenatal consultation with an obstetric anaesthetist at approximately 32 weeks gestation. An obstetric anaesthetic management plan for labour and delivery should be discussed and clearly documented in the notes. If they have not been seen in antenatal clinic, they should be seen and assessed by the duty anaesthetist when they are admitted.

- ✓ An appropriate size of arm cuff should be used for blood pressure measurements taken at the booking visit and all subsequent antenatal consultations.

- ✓ All women with BMI ≥ 35 to have serial ultrasound scans for fetal growth carried out at 28 weeks, 32 weeks, 36 weeks and 39 weeks as per "Fetal Growth Assessment Guideline" and "GAP and GROW" guideline. However, ultrasound measurements may not be as accurate in women with high BMI. Fundal height measurement should NOT be carried out on this cohort of women as it is an unreliable means of estimating fetal growth and will contradict scan measurements on the GROW chart.

- ✓ A Glucose Tolerance Test (GTT) should be undertaken at 28 weeks gestation for all women with a BMI ≥ 30kg/m2

- ✓ Women with BMI ≥ 40 who test positive to Gestation Diabetes Mellitus at any stage of pregnancy will be transferred from Bump Start to the pregnancy diabetes service and the Diabetes Specialist Midwife.

- ✓ Obese women should be advised regarding risk of thrombosis during pregnancy. Physical activity and the importance of hydration should be advised.

- ✓ If admitted antenatally, thromboprophylaxis should be considered in accordance with VTE guidelines. Thromboprophylaxis should be withheld if the woman is in labour or thinks she is in labour.

- ✓ All women admitted to the maternity unit will have a Waterlow score performed within 2 hours of admission to consider tissue viability issues.

- ✓ When booking for induction of labour or elective Caesarean section, the labour ward co-ordinator should be informed of the woman's latest weight, so that the weight bearing capacity for equipments can be checked and in place for her admission. On admitting morbidly obese women theatre staff should ideally be informed in sufficient time for them to make suitable arrangements.

- ✓ Women with a booking BMI $\geq$ 35 have an increased risk of pre-eclampsia and should be monitored for Pre-eclampsia 3 weekly between 24 -32 weeks, and 2 weekly from 32 weeks to birth. Prophylactic aspirin recommended and prescribed as per policy.

- ✓ Women with a booking BMI $\geq$30 should have an informed discussion antenatally about possible intrapartum complications such as slow progress in labour, shoulder dystocia and emergency caesarean section. Management strategies should also be discussed. This should be documented in the notes

- ✓ Maternal weight should be recorded (regardless of booking BMI) at the end of pregnancy (after 36 weeks), documented in All Wales hand held records and inputted into MITS via Gridviewer.

Intrapartum Care

- ✓ On admission to the delivery unit the end pregnancy maternal weight should be recorded for those women where it has not been obtained.

- ✓ All equipment should be checked to ensure that it meets the woman's weight requirements. The operating theatre staff should be alerted regarding any woman admitted whose weight exceeds 120 Kg.

- ✓ The on call obstetrician and the duty anaesthetist on-call should be informed on the admission of any women with BMI ≥40 kg/m2.

- ✓ When active labour is established, external fetal monitoring may be difficult to achieve in women with high BMI. Internal monitoring with a fetal scalp electrode (FSE) is indicated when there is difficulty in external monitoring.

- ✓ Women with BMI ≥ 40 kg/m2 should have intravenous access established early in labour.

- ✓ All labouring women with a BMI > 30 should be given Ranitidine 150mgs orally, every 8 hours when in established labour

- ✓ Any woman with a BMI ≥35 Kg/m2 who has not been seen antenatally by an anaesthetist should be referred to the duty anaesthetist when admitted to labour ward.

- ✓ Early epidural may be recommended for some obese women. If the woman has been seen by an anaesthetist and it has been decided that she should have an epidural, then it should be considered an integral part of her care. It is imperative that it should be sited as soon as she is in active labour. In the morbidly obese or in those whom regional anaesthesia has been predicted to be difficult, consideration should be given to siting the epidural before active labour has commenced. In this situation, the epidural could be sited but not fully topped up so as to preserve mobility.

- ✓ Women with BMI ≥ 30 kg/m2 should have active management of third stage as obesity is associated with increased risk of postpartum haemorrhage.

- ✓ Obese women with who require caesarean section, and who have subcutaneous fat layer > 2cm, should have suturing of the subcutaneous tissue space in order to reduce the risk of wound infection and dehiscence. Subcutaneous drain and interrupted skin sutures are recommended.

Postnatal Care

- ✓ Encourage early mobilisation irrespective of the mode of birth.

- ✓ TED stockings are recommended for the duration of the hospital stay, irrespective of mode of birth.

- ✓ BMI > 30kg/m2, or body weight greater than 90kg are independent risk factors for venous thromboembolism (VTE). A postnatal risk assessment should be completed and signed using the VTE risk assessment form. Please refer to VTE Guideline.

- ✓ All staff involved in the care of obese women should be aware of the symptoms and signs of thromboembolism. When VTE is clinically suspected the relevant investigations should be requested urgently.

Therapeutic doses of anticoagulation should be started and the consultant obstetrician informed.

- ✓ Women with a booking BMI ≥ 30 should receive appropriate specialist advice and support antenatally and postnatally regarding the benefits, initiation and maintenance of breastfeeding

- ✓ Contraception should be discussed before discharge. The advice should reflect the high risk of thromboembolism with combined oral contraceptive pills. Also, advice should be given regarding weight loss prior to next pregnancy.

- ✓ All women with a booking BMI ≥30 who have been diagnosed with gestational diabetes should have a test of glucose tolerance approximately 6 weeks after giving birth

- ✓ Women with a booking BMI ≥ 30 and gestational diabetes who have a normal test of glucose tolerance following childbirth, should be informed that they should have regular follow up with their General Practitioner (GP) to screen for the development of type 2 diabetes.

- ✓ All women with a booking BMI ≥ 30 who have been diagnosed with gestational diabetes should be advised to have annual screening for cardio-metabolic risk factors, and lifestyle and weight management advice.

Manual Handling

A central list of all facilities and equipment required to provide safe care to pregnant women with a booking BMI ≥ 30. The list should include details of safe working loads, product dimensions, where specific equipment is located and how to access it;
All health professionals involved in maternity care should receive training in manual handling techniques and the use of specialist equipment which may be required for pregnant and postnatal women with obesity.

Auditable Standards

BMI documented at booking appointment (100%)

Women with a BMI≥30kg/m2 offered routine screening for gestational diabetes at 28 weeks gestation (100%)

Women with BMI ≥40kg/m2 reviewed by an obstetric anaesthetist in the third trimester and plan documented for birth (100%)

End pregnancy weight document in notes and inputted onto the maternity electronic record

References

CMACE/RCOG Joint Guideline Management of Women with Obesity in Pregnancy, March 2010.

MBRRACE (2015) Saving Lives, Improving Mothers' Care. Accessed January 2016

National Institute for Health and Clinical Excellence (2011) Weight management Before, During and After Pregnancy. Accessed January 2016

RCOG Green-top Guideline 37a (2015). Reducing the risk of thrombosis and embolism during pregnancy and the puerperium

World Health Organization. Obesity and overweight fact sheet No 311 2013 [1 July 2013]. Available from: http://www.who.int/mediacentre/factsheets/fs311/en/.

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Appendix One

Care Flow Chart

Dating Scan Appointment

Measure height and weight and document BMI

BMI ≤18.5 (Underweight)

Book for Consultant Led Care

BMI 18.5-29.9 (Healthy-Overweight)

May be booked for Midwifery Led Care if appropriate

Suitable for Normal Labour Pathway in the absence of other risk factors

BMI 30-34.9 (Obese Class One)

Discuss risks of being overweight. Advise healthy lifestyle and give Healthy Lifestyle Leaflet

Advise 5mg Folic acid in first trimester and 10mg Vitamin D throughout pregnancy

Book for GTT at 28 weeks

May remain under Midwifery Led Care if no other risk factors present

Suitable for Normal Labour Pathway if no other risk factors

Give Ranitidine 150mg PO 8 hourly in labour

Actively manage third stage

Postnatal TED stockings and consider thromboprophylaxis

BMI ≥ 35-39.9 (Obese Class 2)

Book for consultant led care

Refer to 'Community Bump Start' weight management clinic

Advise 10mg Vitamin D and 5mg Folic acid

Book for GTT at 28 weeks

Book consultant led care

If obesity (BMI35-39.9) only risk factor and weight gain under 9kgs consider MLC birth following consultation with Consultant Midwife

Monitor BP 3 weekly at 24 -32 weeks, and 2 weekly from 32 weeks to birth

Serial growth scans at 28, 32, 36 and 39 weeks gestation

Discuss possible intrapartum risks. **Not suitable for NLP**

Give Ranitidine 150mg PO 8 hourly in labour

Consider early epidural

In addition, women with a BMI≥40 (Obese Class 3);

Refer to "Bump Start" with Public health Midwife for intense support

If BMI≥45 for Anaesthetic Plan at 32 weeks

Alert on call anaesthetist when admitted in labour

If> 120kg, inform theatre staff to ensure adequate equipment is available

Establish IV access early in labour