**Aneurin Bevan University Health Board**

# Guideline for the Care of Antenatal, Intrapartum and Postpartum women with a Body Mass Index Greater than 35

*N.B. Staff should be discouraged from printing this document. This is to avoid the risk of out of date printed versions of the document. The Intranet should be referred to for the current version of the document.*


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## Contents:

## Introduction

This document should act as guideline for the management of all women with a body mass index (BMI) of 35 or greater. The views expressed in these guidelines are evidence based from NICE guidelines and MBBRACE/RCOG joint guideline and reflect professional opinion. They are designed to support safe and effective practice.

## Policy Statement

A partnership in care, which offers women the optimum opportunity for good maternal and fetal outcomes. Considering at all times the maintenance of dignity and self-esteem of the woman.

## Aims

To provide support for clinical decision making in women with an increased body mass index.

## Objectives

These guidelines are designed to support safe and effective practice

## Roles and Responsibilities

Multidisciplinary communication and documentation is essential from the dietetic service, Obstetric team, Anaesthetic team, midwifery team in hospital and community and other professionals as indicated.

## Training

Staff are expected to access appropriate training where provided. Mandatory annual training includes brief intervention and motivational interviewing techniques. Further training needs will be identified through appraisal and clinical supervision.

## Monitoring and Effectiveness

Six monthly audits in conjunction with Welsh Government.

## Introduction

Maternal obesity is one of the most commonly occurring risk factors in obstetric practice. Obesity is defined as a BMI of 30kg/$m^2$ or more at initial antenatal consultation. It is associated with multiple risks during pregnancy and has been shown to be independently associated with higher odds of dying from specific pregnancy complications. BMI is categorized into 3 classes (see appendix 1), which recognizes the continuous relationship between BMI and morbidity and mortality. Women with obesity are also at increased risk of having at least one co-morbidity diagnosed prior to and/or during pregnancy. The 2014 MBRRACE report of the Confidential Enquiries into Maternal Deaths and Morbidity 2009-2012 found that over 22% of women who died were overweight and 27% obese.

The 8th CMACE report into maternal deaths in the UK, 2006 – 2008, considers risk factors in pregnancy associated with maternal obesity (see appendix 2 for further information on the risks of specific outcomes):

- Miscarriage
- Cardiac disease
- Hypertension, pre-eclampsia and eclampsia
- Dysfunctional labour
- Gestational diabetes
- Venous thromboembolism
- Caesarean delivery and increased risk of requiring general anaesthesia
- Wound infection post caesarean
- Post-partum haemorrhage
- Low breast-feeding rates
- Prolonged post-natal hospital admission (even after adjustment for mode of delivery)

Baby

- Stillbirth and neonatal death
- Admission to neonatal unit
- Fetal macrosomia or small for gestational age
- Birth trauma (including shoulder dystocia)
- Prematurity
- Congenital abnormalities

It is with the background of these risks that this guidance has been written. Should any women require additional advocacy throughout her care by the maternity service, professionals should consider advice and support of a supervisor of midwives.

## Pre-pregnancy

Counselling from primary care, or secondary care if referred, for pre-conception counselling should include information and advice about the risks of obesity during pregnancy and childbirth. Any opportunity, as appropriate, should be used to provide women with information about the health benefits of weight loss to themselves and fetus, should they conceive.

Women with a BMI ≥ 30 should be advised to take 5mg folic acid and 10micrograms of vitamin D daily, starting at least 1 month pre-conception and continuing throughout the first trimester. This should be fully documented including dose in a woman's handheld notes.

Weight-loss support programmes should be offered involving diet and exercise. Women should be supported to aim for a realistic target of losing 5-10% of their weight. Advice should include recommendations from the NICE guidelines that women will be more likely to achieve and maintain a healthy weight before, during and after pregnancy if they:

- Base meals on starchy foods such as potatoes, bread, rice and pasta, choosing wholegrain where possible.
- Eat fibre-rich foods such as oats, beans, peas, lentils, grains, seeds, fruit and vegetables, as well as wholegrain bread and brown rice and pasta.
- Eat at least five portions of a variety of fruit and vegetables each day, in place of foods higher in fat and calories.
- Eat a low-fat diet and avoid increasing their fat and/or calorie intake.
- Eat as little as possible of fried food; drinks and confectionery high in added sugars (such as cakes, pastries and fizzy drinks); and other food high in fat and sugar (such as some take- away and fast foods).
- Eat breakfast; watch the portion size of meals and snacks, and how often they are eating.
- Make activities such as walking, cycling, swimming, aerobics and gardening part of everyday life and build activity into daily life – for example, by taking the stairs instead of the lift or taking a walk at lunchtime.
- Minimize sedentary activities, such as sitting for long periods watching television, at a computer or playing video games.
- Walk, cycle or use another mode of transport involving physical activity.

## Ante Natal Care

Management of women with obesity during pregnancy should be integrated into all antenatal clinics with multi-disciplinary care as needed.

When a woman refers herself to the maternity services in early pregnancy, a full risk and needs assessment should be made. This should include measurement of her height and weight in order to calculate her BMI and should be recorded in handheld notes and on electronic booking. Self-reported weights and heights should not be used as a substitute for accurate weight and BMI assessment. She should be informed of the importance of her BMI as a tool to ensure she is offered appropriate care by the maternity service. An appropriate sized arm cuff should be used for blood pressure measurements and the cuff size should be documented in the medical notes (a large BP cuff should be used if the upper arm circumference is greater than 33 cm).

All women should be provided with accurate and accessible information regarding the risks associated with obesity in pregnancy and how these risks can be minimised in a sensitive manor. Opportunities for discussion and advice from an appropriately trained professional should be provided to ensure the woman has the opportunity to engage with the services. Offer women advice on diet and exercise and referral to a dietician/appropriately trained health professional for assessment and personalised advice on health eating and how to be physically active. However, women should not be advised to diet during pregnancy but eat healthy. (Please see appendix 3 for relevant information).

Women should be advised to continue taking 5mg of folic acid daily until 12 weeks and 10micrograms of vitamin D daily throughout pregnancy and while breastfeeding. If these have not been commenced pre-conception they should be started at the earliest possible opportunity in pregnancy.

All women should be risk assessed for venous thromboembolism prophylaxis at booking and at any hospital admission. Women with a BMI ≥ 45 should be offered antenatal thromboprophylaxis and should have levels of factor Xa monitored (please refer to ABUHB thromboprophylaxis guidelines).

All women with a BMI > 35, or with additional risk factors, should be offered a glucose tolerance test at 28 weeks and the implications of gestational diabetes discussed. (Please see ABUHB guidelines for gestational diabetes).

Women with a BMI ≥35 additional moderate risk factor for pre-eclampsia should be advised to commence 75mg aspirin from 12 weeks. (Additional moderate risk factors include first pregnancy, ≥ 10 yrs since last baby, ≥40 yrs of age, multiple pregnancy, previous PET, family history of PET, diastolic BP ≥80mmHg at booking, proteinuria ≥ 1+ on more than one occasion or ≥0.3g/24hrs, certain co-morbidities including anti-phospholipid antibodies, pre-existing hypertension, renal disease, diabetes. Please refer to ABUHB guidelines on hypertension in pregnancy). Women with a BMI ≥35 with one additional risk factor should have early referral in pregnancy for specialist input. Women with no additional risk factors for PET with a BMI ≥35 should have monitoring for signs and symptoms of PET.

All women with a BMI ≥ 35 should be referred for an obstetric appointment to discuss delivery plan and should recommend shared antenatal care and delivery within a consultant unit, which has facilities for bariatric women .
Considerations should be given to offering women with a BMI ≥ 35 serial ultrasound assessment of fetal size and umbilical artery doppler from 26-28 weeks gestation.

In addition to the above care, women with a BMI of ≥45 require referral to the anaesthetic service for individual clinical assessment. This must be documented in both hand held and medical records in preparation of intrapartum care (please see anaesthetic guidelines).

At every contact episode, the woman should be fully risk assessed and any changes in her management plan should be discussed with the woman and documented.

During the third trimester clinicians should consider re-measurement of maternal weight to allow appropriate plans for equipment and personnel required during labour and delivery and ensuring correct drug doses are administered.

## Intrapartum Care

All equipment should be in place to meet the woman's bariatric requirements. Refer to the Health Board Policy for safer manual handling and handling the heavier person.

Women with a BMI ≥ 35 should be advised to deliver on a consultant-led obstetric unit with appropriate neonatal services.
With no other obstetric or medical indications, obesity alone is not an indication for induction of labour. In addition, with no other indications a BMI of ≥50 alone is not an indication for elective caesarean delivery.

For Obstetric Unit Care:
On admission, women should be risk assessed to identify any extra staff, equipment and facilities that may be required. Obstetric and anaesthetic teams should be informed. Establish venous access early and ensure blood has been sent for a full blood count and group and save. Seek early anaesthetic involvement for the care of women with a BMI of ≥40.

Women should receive continuous 1:1 midwifery care as per labour ward protocol. Monitoring progress of labour and fetal heart can be difficult, consider early application of fetal scalp electrode (or ST analysis) if there are difficulties with external CTG. Labour should be monitored per obstetric care protocols. All women should be offered TED stockings.

An obstetric registrar and anaesthetist should be informed and available during labour and delivery of women with a BMI of ≥40 if needed. All staff should maintain a low threshold for consultant involvement in any aspect of care.

Regardless of mode of delivery all women with a raised BMI should be encouraged to mobilise as early as practical and all women with a BMI ≥40 should be offered thromboprophylaxis as per guidelines.

## Post Natal Care

Regardless of mode of delivery all women with a raised BMI should be encouraged to mobilise as early as practical and offered TED stockings for the duration of hospital stay. Venous thromboembolism prophylaxis should be offered per ABUHB guidelines. Appropriate contraceptive advice should be given, reflecting the high risk of thromboembolytic events

Women should be informed of the importance of appropriate wound care prior to discharge. They should be encouraged to check wounds regularly and present early if concerned regarding infection.

Postnatal care including physiological observations should continue in line with care in community settings guideline.

Women diagnosed with gestational diabetes should be offered a 6-week glucose tolerance test in line with ABUHB diabetes in pregnancy guidelines. They should also be advised to have regular follow-up with their GP to screen for the development of type 2 diabetes and annual screening for cardio-metabolic risk factors and be offered lifestyle and weight management advice.

Regarding weight management – women should be advised against following a calorie restrictive diet whilst breast-feeding and informed that they may require an additional 330 calories per day. Women should be advised to follow healthy diet and exercise advice and talk to their GP if they feel they need to lose weight.

# Appendix 1

## Classification of Body Mass Index

| Body Mass Index ($kg/m^2$) | NICE classification |
|---|---|
| <18.5 | Unhealthy weight |
| 18.5-24.9 | Healthy weight |
| 25.0-29.9 | Overweight Obesity I |
| 30.0-34.9 | Obesity II |
| ≥40 | Obesity III |

## Appendix 2

### Maternal and fetal risks in women with a BMI ≥30 kg/m² compared to women with a healthy BMI. From: CMACE/RCOG Joint guideline. Management of women with obesity in pregnancy. March 2010.

| Risk | Study | Pop. | Odds ratio (95% Confidence Interval)* |
|---|---|---|---|
| **Gestational diabetes** | NW Thames 1989 – 97 [1]<br>Aberdeen 1976 – 2005 [2] | 287213<br>24241 | 3.6 [3.3-4.0] [a]<br>2.4 [2.2-2.7] |
| **Hypertensive disorders** | NW Thames 1989 – 97 [1]<br>Aberdeen 1976 – 2005 [2] | 287213<br>24241 | 2.1[1.9-2.5] [a]<br>3.3 [2.7-3.9] |
| **Venous thromboembolism** | Denmark 1980 – 2001 [3] | 71729 | 9.7 [3.1-30.8] |
| **Slower labour progress 4 – 10cm** | USA 1995 – 2002 [4] | 612 | 7 versus 5.4 hrs p<0.001 |
| **Caesarean** | Meta-analysis of 33 studies | | 2.1 [1.9-2.3] |
| **Emergency caesarean** | NW Thames 1989 – 97 [1]<br>Cardiff 1990 – 99 [5] | 287213<br>8350 | 1.8 [1.7-1.9]<br>2.0 [1.2-3.5] |
| **Postpartum haemorrhage** | NW Thames 1989 – 97 [1]<br>Aberdeen 1976 – 2005 [2] | 287213<br>24241 | 1.4 [1.2-1.6] [a]<br>2.3 [2.1-2.6] |
| **Wound infection** | NW Thames 1989 – 97 [1] | 287213 | 2.24 [1.91-2.64] [a] |
| **Birth defects** | Australia [6] | 11252 | 1.6 [1.0-2.5] |
| **Prematurity** | Aberdeen 1976 – 2005 [2]<br>Australia 1998 – 2002 [6] | 24241<br>11252 | 1.2 [1.1-1.4]<br>1.2 [0.8-1.7] |
| **Macrosomia** | NW Thames 1989 – 97 [1]<br>Sweden 1992 – 2001 [7] | 287213<br>805275 | 2.4 [2.2-2.5] [a]<br>3.1 [3.0-3.3] [b] |
| **Shoulder dystocia** | Sweden 1992-2001 [7]<br>Cardiff 1990 – 99 [5] | 805275<br>8350 | 3.14 [1.86-5.31] [b]<br>2.9 [1.4-5.8] |
| **Admission to NNU** | NW Thames 1989 – 97 [1]<br>Cardiff 1990 – 99 [5] | 287213<br>8350 | 1.3 [1.3-1.4] [a]<br>1.5 [1.1-2.3] |
| **Stillbirth** | Meta-analysis of 9 studies [8] | | 2.1 [1.5-2.7] |
| **Neonatal death** | Denmark 1989 – 96 [9] | 24505 | 2.6 [1.2-5.8] |

[a] 99% Confidence intervals [b] OR for morbidly obese * Unless otherwise stated

## Appendix 3

Relevant information of risks associated with obesity in pregnancy – from maternal obesity in the UK: Findings from a national project:

- Importance of healthy eating and appropriate exercise during pregnancy for the management of weight gain
- Increased risk of hypertensive disorders, gestational diabetes and fetal macrosomia requiring an increased level of maternal and fetal monitoring
- The potential for poor ultrasound visualisation of the baby and consequent difficulties in fetal surveillance and screening for anomalies
- The increased risk of induction of labour
- The potential for intrapartum complications, including difficulty with fetal monitoring, anaesthesia and caesarean section which would require senior obstetric and anaesthetic involvement and an antenatal anaesthetic assessment, and potential for emergency caesarean
- The need to prioritise safety of the mother at all times
- The importance of breastfeeding and opportunities to receive additional breast-feeding support.

Recommendations from NICE weight management before, during and after pregnancy:

- At the earliest opportunity discuss her eating habits and how physically active she is. Find out if she has any concerns about diet and the amount of physical activity she does and try to address them.
- Advise that a healthy diet and being physically active will benefit both the woman and her unborn child during pregnancy and will also help her to achieve a healthy weight after giving birth. Advise her to seek information and advice on diet and activity from a reputable source.
- Offer practical and tailored information. This includes advice on how to use Healthy Start vouchers to increase the fruit and vegetable intake of those eligible for the Healthy Start scheme (women under 18 years and those who are receiving benefit payments).
- Dispel any myths about what and how much to eat during pregnancy. For example, advise that there is no need to 'eat for two' or to drink full-fat milk. Explain that energy needs do not change in the first 6 months of pregnancy and increase only slightly in the last 3 months (and then only by around 200 calories per day).
- Advise that moderate-intensity physical activity will not harm her or her unborn child. At least 30 minutes per day of moderate

intensity activity is recommended.

- Give specific and practical advice about being physically active during pregnancy:
    - recreational exercise such as swimming or brisk walking and strength conditioning exercise is safe and beneficial
    - the aim of recreational exercise is to stay fit, rather than to reach peak fitness
    - if women have not exercised routinely they should begin with no more than 15 minutes of continuous exercise, three times per week, increasing gradually to daily 30-minute sessions
    - if women exercised regularly before pregnancy, they should be able to continue with no adverse effects.
- Explain to those women who would find this level of physical activity difficult that it is important not to be sedentary, as far as possible. Encourage them to start walking and to build physical activity into daily life, for example, by taking the stairs instead of the lift, rather than sitting for long periods.

## References

MBRRACE-UK. Saving Lives, Improving Mothers' Care. Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-2012. December 2014.

CMACE. Saving Mothers' Lives. Reviewing maternal deaths to make motherhood safer: 2006–2008. BJOG. Volume 118, Supplement 1, March 2011.

CMACE/RCOG joint guideline. Management of women with obesity in pregnancy. March 2010

CMACE. Maternal obesity in the UK: findings from a national project. 20

NICE public health guidance 27. Weight management before, during and after pregnancy. July 2010.

RCOG. The investigation and management of the small-for-gestational-age fetus. Green-top guideline No.31. 2nd edition Feb 2013, minor additions Jan 2014.