Northampton General Hospital NHS
NHS Trust

Guidelines for the Management of Women Who Present With a High Body Mass Index at Booking

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CONTENTS

1 INTRODUCTION & AIMS

The increasing prevalence of obesity in the United Kingdom has been widely publicised and the risks of maternal death among pregnant obese women have been highlighted by the *Saving Mothers' Lives* (CEMACH 2007). The complications of obesity during pregnancy have far reaching implications for both mother and newborn. Therefore this guideline has been developed for midwives and the multi professional team to manage the risks associated with obesity and pregnancy. Women with a raised Body Mass Index will be identified at the first booking appointment (NGHT, Antenatal Pathway 2009) and the subsequent management according to this guideline.

The prevalence of obesity defined as Body Mass Index (BMI) greater than 30kg/m2 is about 23% in the female population in England ('Why Mothers Die 2000-2002'). In 1999 about 1.8% of women (approximately 455,000 in the UK as a whole) were described as Morbidly Obese, defined as a BMI greater than 40kg/m2

These groups of women are at increased risk of morbidity, e.g. thromboembolism, hypertension, cardiac problems, post partum haemorrhage, shoulder dystocia, failed spinal/epidural, and failed intubation. They also have an increased risk of mortality. In 'Why Mothers Die 2000-2002' 35% of all women who died from direct and indirect causes were obese. The latest confidential enquiry into maternal deaths (CEMACH, 2007) reported that out of the 295 women who died, 231 had a recorded BMI. Of these 231 women, 119 were overweight and 64 were morbidly or super morbidly obese. Pregnancy complications are also more common in these groups of women, e.g. pre-eclampsia and gestational diabetes. The perinatal mortality is also increased 3 fold and there is evidence of increase risk for the baby of metabolic syndrome in childhood (Boney et al, 2005).

The purpose of the guideline is to provide good communication and arrange appropriate referral so that a plan of care may be developed which will help to eliminate potential complications throughout pregnancy, labour and post delivery.

- To ensure appropriate risk assessments are undertaken and appropriate referrals are made
- To ensure provision of suitable equipment is available in all care settings
- To reduce the prevalence/risk of metabolic syndrome in children.

2 SCOPE

This guideline is to support healthcare professionals caring for pregnant women to identify women with a raised BMI:

- To calculate and record the body mass index (BMI) at booking
- To identify women who present with a BMI of over 35
- Refer appropriately for care to a Consultant Obstetrician and Consultant Anaesthetist

The guideline is to be used in conjunction with the Trust's antenatal care pathway (2009) and the (Draft) Trust Policy for Heavy and Bariatric Patients (NGHT, 2009)

3 DEFINITIONS

Body mass index (BMI) is measured by calculating the body mass index using the formula:
BMI (Quetlet Index)= weight(Kg)/[height (m)]^2

BMI	Classification
<18.5	Underweight
18.5-24.9	Normal weight
25-29.9	overweight
30-39.9	obese
40 or more	morbidly obese

Abbreviations:	
Word/Term	Definition
AAU	Antenatal Assessment Unit
BMI	Body Mass Index
GLT	Glucose Load Test
GTT	Glucose Tolerance Test
Kg	Kilogram
NGHT	Northampton General Hospital NHS Trust
NICE	National Institute of Clinical Excellence
>	Greater than
<	Less than

4 ROLES AND RESPONSIBILITIES

- It is the responsibility of all midwives and the multidisciplinary team to ensure all women when booking for maternity care have their BMI calculated and recorded in the antenatal record (NGHT,2009).
- Women who are identified with a raised BMI should be informed of the risks and referred to a consultant obstetrician for care
- Women with a BMI of >40 should be offered an appointment with the consultant Anaesthetist.
- All staff must complete a risk assessment form in order to identify the availability of suitable equipment within maternity services.

5 MANAGEMENT OF WOMEN WHO PRESENT WITH A HIGH BMI AT BOOKING

5.1 Risk Related To Obesity In Pregnancy

For the Mother

Increased risks include:

- Maternal death or severe morbidity
- Cardiac disease
- Spontaneous first trimester and recurrent miscarriage
- Pre-eclampsia
- Gestational diabetes
- Thromboembolism
- Post caesarean wound infection
- Infection from other causes
- Post partum haemorrhage

Women with obesity in pregnancy also have higher rates of induction of labour, and caesarean section.

For the Baby

Increased risks include:

- Stillbirth and neonatal death
- Congenital abnormalities
- Prematurity
- Low breastfeeding rates

Obese women may have macrosomic babies or their baby may be small for gestational age. There is a 3.5 fold increase in admission to Neonatal Intensive Care Units (CEMACH, 2007)

5.2 Process of Care

Care will be provided according to the Northampton General Hospital NHS Trust Antenatal Care Pathway (2009), with additional attention as detailed:

The named community midwife:
The BMI for all women will be calculated at booking using the formula :persons weight in kg and dividing it by the square of their height (weight kg/height m^2) reference (NGHT, Antenatal Pathway, 2009). This should be documented in the antenatal records and on the short booking summary on Medway.

- Refer to a consultant obstetrician all women with a booking weight > 100kg or BMI >35 having discussed with her the unsuitability of midwifery led care or home birth.

- Inform and advise women on managing their increased risks in pregnancy due to obesity

- Advise woman to have a diet with a low glycaemic load/index (DOH, 2006)

- Provide antenatal care in accordance with the plan of care agreed with the obstetrician

- Perform blood pressure measurement, and urinalysis at each visit and refer back to consultant antenatal clinic as needed. Use appropriate size sphygmomanometer cuff and note cuff size against each blood pressure recording.

- If BMI >30 Perform a glucose tolerance test (GTT) at 26/40. If more than or equal to 7.5 refer to Antenatal Assessment Unit (AAU).

- Weigh woman at 28 weeks gestation to assess weight gain

- Perform a risk assessment to ensure there is availability of specialist equipment in all care settings for women with a raised BMI

- Weigh at 36 weeks and inform Matron Lead Midwife for Hospital Services if the maternal weight is >120kg so that appropriate beds and other equipment can be obtained in preparation for labour

The Consultant Obstetrician

- Discuss with the woman the reason for referral along with the risk and benefits of different modes of delivery, including caesarean section and analgesia/anaesthetic options and complications at these consultations

- Devise a plan of care specific to the individual needs of the woman

- All women with a BMI >35 or weigh>100kg are asked to complete an Antenatal Anaesthetic Questionnaire. This will be sent to the Anaesthetic Office to be reviewed by a Consultant Anaesthetist who will then action as appropriate.

- All women with a BMI >40 will be offered an antenatal assessment with an obstetric anaesthetist.

- Review at 37 weeks of gestation for presentation check

The Matron Lead Midwife Hospital Services:
Should ensure that a central list of equipment is available and suitable for women with a raised BMI in all clinical settings within maternity.

  - Large blood pressure cuffs
  - The theatre table in main obstetric theatre has a safe working load of 300 kg, and the safe working load for the beds in the delivery rooms is 227 kg
  - Theatre table available from general theatre for women over 300 kgs at 36 weeks
  - Large straps for cardiotocograph monitor
  - Delivery beds with a safe working load
  - Correct weight capacity bed/mattress on ward areas
  - Over the bed hoists to ease manual handling

- Recognise that staff supporting/moving/handling these ladies are at greater risk of musculoskeletal injury so ensure appropriate manual handling risk assessments are completed
- Inform the theatre team of the presence of any women, as they have higher rates of Caesarean section
- Inform portering staff of the presence of any women, especially if they will be expected to transfer them to maternity wards or other departments at some point in their stay.

Note for Matron Lead Midwife Hospital Services:
  - Where the weight capacity of the equipment does not match the woman's requirements, alternative plans must be made to hire specialist equipment for any pending admissions and/or birth.

Antenatal Care
It is the matron Community and Primary care services to ensure that community midwives follow the Antenatal Care Pathway (2009) to calculate the BMI at the first booking appointment identify women with a raised BMI and refer as appropriate. The midwife needs to alert the Matron if there is a need for specialist equipment in a community setting. e.g. large blood pressure cuff

Intrapartum

Maintaining normality in labour reduces a woman's risk of significant morbidity/mortality (NGHT, 2009).

The midwife on delivery suite

- Inform the shift co-ordinator, obstetric registrar and duty anaesthetist of all women admitted with a BMI >35 or weight >100kg.

- On admission, weigh all women with a suspected high BMI who have not been weighed at 36 weeks gestation. AAU scales weigh up to 159.9kg. Antenatal clinic scales weigh up to 160 kg. For any women weighing above that weight, scales can be obtained from the Manual Handling Department ext 4904. They also have scales suitable to weigh a person (max 250kg) in bed, or 300kg if ambulant.

- Arrange for an ultrasound where there is any uncertainty over fetal presentation

- Administer Ranitidine 150 mg. orally 6 hourly

- Discuss the birth plan including pain relief options. An early anaesthetic review may be helpful if requesting an epidural.

- Risk assessment to be undertaken in recognition that staff are at greater risk of musculoskeletal injury when supporting/moving/handling these ladies.

5.3 Use of Water for Pain Relief, Labour and Birth

Due to the increased risks inherent with a high BMI >35 for labouring women the use of the pool for birth is not recommended. The maximum weight limit for the Oxford Midi Hoist is 150kg. Due to this limit, women with a weight >150 kg should not use the pool (NGHT 2008).

5.4 Post partum:

- Explain the need for and encourage early mobilization

- These women may need additional help and support to aid breastfeeding. Breastfeeding will help reduce the risk of obesity in childhood.

- Inform Porter as soon as it is known that a transfer to a maternity ward will be required. All such transfers require a second person. Heavier patients may require more.

- Give anti coagulant therapy as prescribed (see postnatal thromboprophylaxis guidelines, NGHT, 2008)

- Give advice on healthy eating (low glycaemic index/load) and lifestyle management (DOH, 2006)

5.5 Liaison with Ambulance Personnel

If a woman with raised BMI requires ambulance transfer, inform the ambulance service of her weight so that this can be factored into the planning arrangements.

6 REFERENCES AND ASSOCIATED DOCUMENTS

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Northampton General Hospital NHS Trust (2009) *Intrapartum Care Pathway*

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Northampton General Hospital NHS Trust (2009) *Waterbirth Policy*

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The Association of Anaesthetists of Great Britain and Ireland, and the Obstetric Anaesthetists' Association. (2005). *OAA/AAGBI Guidelines for Obstetric Anaesthetic Services (Revised edition)*. London: AAGBI/OAA. Available at: www.aagbi.org.uk and www.oaa-anaes.ac.uk

Appendix 1

FLOWCHART FOR THE MANAGEMENT OF WOMEN WHO PRESENT WITH A HIGH BODY MASS INDEX AT BOOKING

COMMUNITY MIDWIFE

- Calculate and record the woman's BMI at the first antenatal booking appointment - refer to Maternity Care Pathway for Antenatal Care 2009

If the BMI is >35 or the woman weighs over 100kg

- Make a referral to an obstetric consultant clinic
- Discuss the risks and benefits of the referral with the woman and rationale for referral
- Discuss dietary advice for a low glycaemic load/index (DOB, 2006)

Continue to provide care in accordance with plan agreed with the Consultant Obstetrician

- Perform a risk assessment (Appendix 2) identifying availability of appropriate equipment in all care settings
- Perform a risk assessment (Appendix 3) for planned caesarean sections

CONSULTANT OBSTETRICIAN

Discuss with the woman the reason for referral along with the risks and benefits of different modes of delivery analgesia/anaesthesia

Devise a plan of care specific to the individual needs of the woman

Ensure an anaesthetic questionnaire is completed and sent to the anaesthetic department

CONSULTANT ANAESTHETIST

An Anaesthetic assessment should be offered for women who present with a BMI >40

Appendix 2

Handling Plan for women in pregnancy who present with a BMI >35

Patient's weight:_____ BMI: _____ Patient's label _____ height:_____

Antenatal period

Task/Procedure	Equipment	Comments

Labour Care

Task/Procedure	Equipment	Comments

Postnatal Care

Task/Procedure	Equipment	Comments

Assessment completed by:

Name: _____ Signature: _____ Date: _____

Northampton General Hospital NHS
NHS Trust

ADDRESSOGRAPH LABEL

Handling Plan for the Surgical Patient

Patient's weight:_____ BMI: _____ Patient's height:_____

Pre-operative period

Task/Procedure	Equipment	Comments

Operative period

Task/Procedure	Equipment	Comments

Immediate post-operative period

Task/Procedure	Equipment	Comments

Assessment completed by:

Name: _____ **Signature:** _____ **Date:** _____

Submission Documents

7 IMPLEMENTATION AND TRAINING

This guideline will be disseminated to all midwives and healthcare professionals who care for women in pregnancy, labour and the postnatal period. A copy of this guideline will be made available on all clinical areas and on the hospital intranet.

The Trust guidelines on manual handling should be followed at all times.
Staff should attend manual handling training and be trained in the use of hoists, hand blocks, pat slides, slide sheets etc. which are readily available.

8 MONITORING AND REVIEW

To monitor compliance with this guideline an annual audit will be conducted. Data will be collected from 50 healthcare records of all women who have delivered and 20 healthcare records of women who have required an antenatal assessment for raised BMI. The Clinical Effectiveness and Audit team will be responsible for monitoring that the audit takes place and will act as a resource for the midwifery and obstetric staff. An audit report will be compiled by the Maternity Clinical Effectiveness Group and the results and recommendations will be discussed at the Directorate Governance Group.

If the audit standards are not being met, the Directorate Governance Group will instigate the development of an action plan, which will have clear timescales. The Head of Midwifery and the Clinical Director will monitor progress against the action plan, and the action plan will remain an agenda item at the Directorate Governance Group until satisfactorily completed.

Auditable Standards

a. Women will have their BMI calculated and recorded at their first booking appointment and recorded in the antenatal record

b. Women with a BMI of >35 or weigh >100kg will be referred to an obstetrician and advised to deliver in hospital.

c. Women with a BMI >40 will be offered an anaesthetic referral to an obstetric anaesthetist

d. Women with a weight of >120kg will have an individual assessment performed for specialist equipment requirements in all care settings

9 COMPLIANCE STATEMENTS

Equality and Diversity Policy Statements

This strategy has been assessed against the Trust's Equality Impact Assessment Tool as required by the Service Equality Scheme 2006 and Race Relations (Amendment) Act 2000.

Human Rights

This strategy has been screened for Human Rights infringements and has been assessed as not breaching anyone's convention rights and it will be implemented in line with the requirements of the Human Rights Act 1998.

General Statement of Intent

NGH aims to design and implement services, policies and measures that meet the diverse needs of the population it serves and its workforce ensuring that none are placed at a disadvantage over others.