Clinical Guideline

OBESITY IN PREGNANCY

SETTING Division of Women's and Children's Services, St Michael's Hospital

FOR STAFF Medical, nursing and midwifery staff

PATIENTS Pregnant women classed as obese

GUIDANCE

Introduction

Centre for Maternal and Child Enquiries (CMACE) has published "**Maternal obesity in the UK; findings from a national project**". This was a three year project involving 5068 women with a Body Mass Index (BMI) 35 and over. The report highlighted the increased risk of morbidity and mortality to both mother and fetus/baby in these women. The Trust guideline has been reviewed following this report.

Obesity is defined as a body mass index (BMI) of >30 and morbid obesity as a BMI of >40. The table below shows the full CEMACE classification of body mass index[1].

Body Mass Index (kg/m^2)	NICE Classification
Under 18.5	Underweight
18.5 – 24.9	Healthy weight
25.0 – 29.9	Overweight
30.0 – 34.9	Class I
35.0 – 39.9	Class II (severe obesity)
40 or over	Class III (morbid obesity)
50 or over	Super-morbid obesity

Obesity in pregnancy carries significant risks for both mother and baby. Obese women are more likely to suffer from miscarriage, pre eclampsia, gestational diabetes and a thromboembolic event**.** In the 2006-2008 CEMACE report "**Saving Mother's Lives"**, overall **49%** of women who died, and for whom BMI was known were either overweight or obese. Fetal complications include fetal distress, macrosomia, and shoulder dystocia, prematurity and congenital abnormalities.

Risks related to morbid obesity in pregnancy

Maternal

- Increased risk of maternal death or severe morbidity
- Spontaneous first trimester miscarriage and recurrent miscarriage
- Cardiac disease
- Pre eclampsia

- Gestational diabetes
- Thromboembolic disease*
- Slow progress in labour
- Increased risk of caesarean section
- Wound infections
- Post-partum haemorrhage
- Low breastfeeding rates

Fetal/neonatal

- Stillbirth and neonatal death
- Congenital abnormalities
- Macrosomia/shoulder dystocia
- Prematurity
- Admission to NICU

Pre pregnancy counselling

- Accurate height and weight measurement and BMI calculation
- Women should be encouraged to optimise weight before pregnancy
- They should be provided with information and advice about risks of obesity in pregnancy
- They should be supported in their efforts to lose weight
- Folic Acid 5mg is advised at least one month pre conceptually and for the first 3 months of pregnancy. Vitamin D 10ug daily is also advised (NICE)
- Consideration should be given to screening for type 2 diabetes

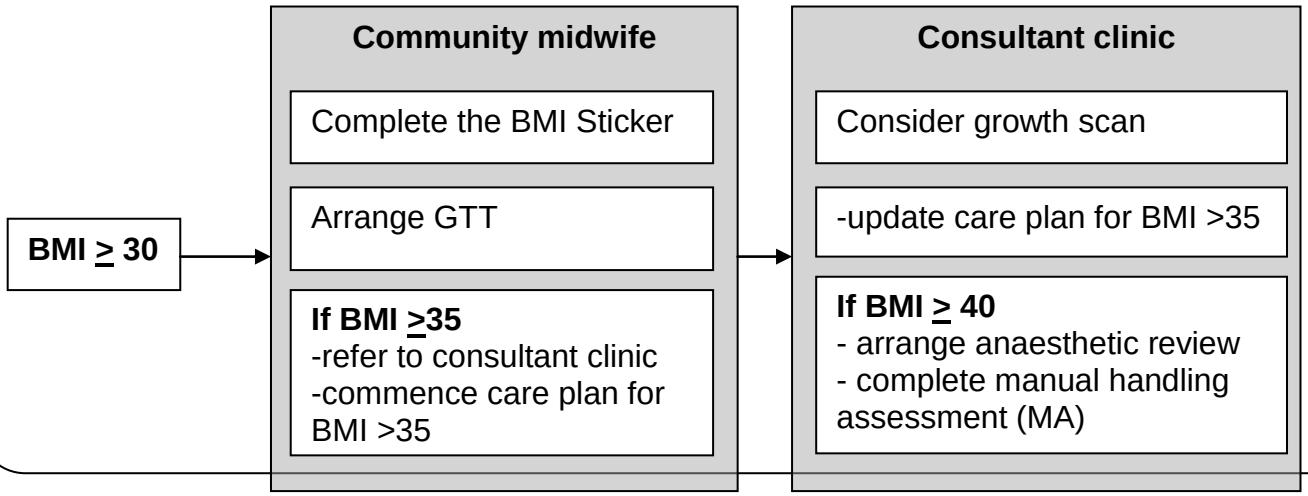
Referral for Multi-professional care

As obesity becomes a growing problem among the child bearing population in the UK, it is important for healthcare professionals to be aware of the risks. Multidisciplinary planning is in place to provide optimum care for all women with a BMI of 35 or above. Women should be treated with sensitivity at all times.

Antenatal care

The BMI will be entered into the electronic patient information system and the print out secured in the hand held maternity records of all pregnant women at booking. **This should be done ideally by 12 weeks and 6 days.**

BMI should also be recorded in the blue antenatal section of the hand held maternity record.



BMI ≥ 30 at booking

Women with BMI 30-34.9 will be booked under the care of the midwifery team. If any other risk factors are identified, a referral to appropriate speciality will be made.

A midwife/obstetrician will discuss and document possible intrapartum complications in relation to raised BMI (use the sticker in Appendix 1).

All women with BMI ≥ 30 will be offered a Glucose Tolerance Test (GTT) at 24-28 weeks gestation.

A Woman with abnormal GTT will be transferred to Obstetric consultant team based care.

BMI ≥ 35 or above at booking

The community midwife will

- Discuss risks of obesity in pregnancy and give advice on diet. Give written information – Tommy's patient information leaflet 'Managing your weight in pregnancy'
- Refer to consultant led care
- Start Care Plan (see appendix 2)
- Record BMI in electronic patient information system
- Ensure BMI is documented on all USS request forms **-** this helps USS department plan ahead for appropriate machine and couch
- Blood pressure monitoring – use a large cuff if arm circumference is ≥ 35cm. **Document size of cuff used in medical notes**
- Consider referral to dietician
- Advise woman that she should deliver in a Consultant led delivery unit and that home birth and water birth are not recommended. If the mother is keen for a water birth, individual risk assessment should be carried out.

At the Consultant appointment

- Discuss risks of obesity in pregnancy and give written information (if not already given to patient).
- Advise Vitamin D and folic acid supplements (see local Vitamin D in pregnancy guidance).
- Consider antenatal thromboprophylaxis particularly if BMI ≥ 40 & other risk factors present.

In the second trimester

- All women should be offered a routine Anomaly USS at 20 weeks
- Offer Glucose Tolerance Test at 28 weeks and repeat in third trimester if recurrent glycosuria

In the third trimester

- Consider USS at 32 and 36 weeks to confirm presentation +/- fetal size
- Weigh at 36 weeks and document in the handheld notes and on the partogram
- Consider elective LSCS if fetal weight at term estimated as >5kg
- Anaesthetic referral **–** refer all patients with BMI ≥ 40 or over, or BMI ≥ 35 or over with co-morbidities which would increase anaesthetic risk such as diabetes, hypertension, asthma or any other significant medical condition
- If elective CS is required, ensure that there is Consultant Obstetrician & Anaesthetist

cover for CDS on the date that the caesarean is booked

- Anaesthetic plan for management of labour & delivery discussed and documented in medical notes for women with a BMI ≥ 40
- If BMI ≥40 women need an individual documented assessment by an appropriately qualified professional to determine manual handling requirements for child birth and consider tissue viability issues

Requirement to assess the availability of suitable equipment in all care settings

The availability of the equipment below will be assessed by two yearly audit of equipment on CDS, level E and obstetric theatres.

Equipment (appendix 3)

1. Beds on CDS include Birthright (up to 150kg) and Hill Rom (up to 227kg).
2. Theatre tables include Maquet in theatre 2 (up to 460kg) and Estiman in theatre1 (up to 135kg).
3. Following manual handling assessment in third trimester, if additional equipment is required, inform Matrons (Intrapartum and Inpatient Services) to ensure additional Bariatric equipment is available (see appendix 4 & 5).
4. Women with a BMI greater that 35 will be advised not to deliver at home. However in the event of unplanned homebirth or homebirth against medical advice, the ambulance service has facilities for bariatric patients.
5. Large BP cuffs are available in all care settings.

Intrapartum care

1. Consider re-measurement of weight on admission to delivery suite.
2. Early anaesthetic review in labour and multidisciplinary discussion re management in labour.
3. Consider early siting of epidural if patient likely to require/ request an epidural, to avoid emergency procedures.
4. Continuous midwifery care and early venous access if indicated.
5. Routine IV access is not required unless it is predicted to be difficult.
6. Fetal Scalp Electrode should be applied when the CTG is of poor quality with the abdominal transducer.
7. Active management of third stage.
8. Caesarean section – ensure the use of appropriate operating table. Inform Senior registrar (ST6 equivalent or above)/consultant obstetrician. Consider use of extra assistants and involvement of general surgeons if there is a large abdominal apron. Consider use of Alexis-O retractor for women with BMI ≥ 45.
9. Inform theatre co-ordinator when admitted in labour or when caesarean section booked – theatre 2 must be used if transfer to theatre is necessary.
10. Senior obstetrician and anaesthetist should be available for operative vaginal and abdominal delivery (ST6 or above).
11. Women having 2 or more cms of subcutaneous fat should have suturing of subcutaneous tissue.
12. Avoid inappropriate manual handling. Where unavoidable ensure safe manual handling at all times.

Post-partum care

1. Follow the Trust postnatal thromboembolism risk assessment policy. In morbidly obese patients prolonged (6 weeks) thromboprophylaxis should be considered if additional risk factors for VTE develop in pregnancy or labour.
   91-130 kg : 60 mg Clexane
   131-170 kg: 80mg Clexane
   >170kg: 0.6mg/kg/day Clexane
2. Use electric ward bed (e.g. Elegenza – 250kg limit) in preference to manual bed (e.g. Nesbitt - 180kg limit) particularly if not fully mobile. Consider specialist pressure care beds / mattresses if Waterlow score dictates. See Tissue Viability Guideline.
3. Contraception – progesterone based contraceptives should be advised. The COCP should be avoided due to increased thrombotic risks. If the progesterone only pill is used, consider doubling the dose.
4. **Repeat GTT 6 weeks postnatally if women had GDM.**
5. **Provide on-going care with view to weight reduction.**

Version 2.1
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Consultation
Antenatal working Party
CDS Working Party

Ratified by
Antenatal Working Party
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REFERENCES

1. National Institute for Health and Clinical Excellence. Obesity: the prevention, identification, assessment and management of obesity in adults and children. 2006
2. Confidential Enquiry into Maternal and Child Health (CEMACH). Saving Mothers Lives. 2003-2005
3. Saravanakumar K, Rao SG, Cooper GM. Obesity and obstetric anaesthesia. Jan 2006;61(1):36-48
4. South West Regional Obstetric Guidelines. The management of the morbidly obese pregnant woman. Sept 2006

RELATED DOCUMENTS

Name of document
DMS address ie http://nww.avon.nhs.uk/dms/download.aspx?did=nnnn

SAFETY

If there are unusual or unexpected safety concerns (to staff or patient), emphasize them here

QUERIES

Contact Rachna Bahl Bleep 6138

Process	Tool	Responsibility of:	Frequency of review	Responsibility for: (plus timescales)			
				Review of results	Development of action plan and recommendations	Monitoring of action plan and implementation	Making improvement lessons to be shared
A minimum of 1% of all cases of women with raised BMI will be audited for • Calculation and documentation of BMI in health record • Calculation and documentation of BMI in Medway maternity system • Women with BMI≥30 have a documentation consultation with a trained health professional to discuss possible intrapartum risks • All women with BMI≥40 ○ have an antenatal consultation with obstetric anaesthetist ○ the anaesthetic plan for labour and delivery is documented ○ have a documented individual assessment in the 3rd trimester by an appropriate health professional to determine manual handling needs for childbirth and tissue viability issues	Audit proforma based on CNST standards and other national or local drivers	ANWP	Two yearly	Presented to Women's Services Clinical Audit Meeting	By ANWP within three months following the audit meeting	Review by ANWP @ 6 months	See monitoring statement for dissemination of learning

Appendix 1 (to be completed in all cases of raised BMI and affixed on the antenatal clinic section of hand held notes)

BMI 30 +	GTT arranged for 28/40 Y / N		
Increased Risks explained: - • Pre-eclampsia / Gestational Diabetes ☐ • Induction of labour ☐ • LSCS / Instrumental Delivery ☐ • Venous thromboembolism ☐ • Shoulder dystocia **/** Large Baby ☐ • PPH ☐	**Advice given:** • Active management of third stage ☐ • Hospital birth advised if BMI >35 ☐ • Increased anaesthetic risk of failed spinal/ epidural and respiratory complications when having a GA ☐	Sign	Date

Appendix 2 Care plan for patients with BMI of 35 or over at booking

Care Plan

MATERNAL OBESITY CARE PLAN

Setting: St Michael's Hospital and Community bases
Patients: Women with a BMI of 35 or over at Booking
For use by: Midwives, obstetricians and anaesthetistists

CAUTION - Do not use away from this specified scope

Hospital no: _____
NHS no: _____
Surname _____
Forename _____
Gender _____ D.o.B. ___/___/_____
Cons_____

At booking

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

Action	Date completed	Signature and PRINT
Midwife to complete antenatally		
Calculate BMI and document in the health records		
Document the BMI in Medway		
Discuss and document antenatal and intrapartum risks (use sticker)		
Give patient information leaflet 'Managing your weight in pregnancy'		
Recommend consultant booking		
Advise Vitamin D supplements and Folic acid 5mg		
GTT at 26-28 weeks		
Document weight at 36/40 and calculate BMI		
To be completed by the obstetric team		
Discuss antenatal and intrapartum risks (if sticker not completed)		
Consider USS at 32 and 36 weeks for size and presentation		
Anaesthetic referral if BMI>40 or 35-39.9 with co-morbidities		
To be completed by the anaesthetic team		
Anaesthetic assessment completed and documented in maternity notes		
Manual handling and tissue viability assessment in 3rd trimester		
Booking BMI ≥ 40 complete care plan below		

Appendix 3 Bariatric Equipment Availability in St. Michaels Hospital

Equipment	Manufacturer/Model	Location	Weight Capacity
Delivery Beds	Birthright Hill Rom	CDS, St. Michael's Hospital	150 kg 227 kg
Ward Beds	Nesbitt Eleganza	Level E, St. Michael's Hospital	180 kg 250 kg
Chair	Bradfern	Ward 78, St. Michael's Hospital	254 kg
Operating Table	Maquet Alphamaxx ALM	Theatre 1 & 2 St. Michael's Hospital	450 kg 180 kg
Transfer Device	Air Pal Patient Transfer Device	Theatres, St. Michael's Hospital	544 kg (up to 86 stone)
Large Blood Pressure Cuff	▪ CDS (one in each delivery room and recovery ward) ▪ Level E: Two on each ward (76,74,71) ▪ Antenatal Clinic: One ▪ Day Assessment Unit: One ▪ Community (one in each of the 13 community bases)		

Appendix 4

Bariatric Equipment Available for Loan within UH Bristol Trust

Equipment Type	**Manufacturer/Model**	**Numbers & Location**	**Weight Capacity**
Bed	Huntleigh Contoura 1080	Ward 02, BRI Ward 11, BRI	450kg/990lbs/71 stone
Hoist	Liko Viking XL	Mattress Store, Old Building, BRI	300kg/660lbs/47 stone
Chair	Bradfern	Ward 78, St. Michael's Hospital Ward 10, BRI Brunel Ward, BGH Clinic 4, BRI	254kg/560lbs/40 stone
Commode	Nightingale Zenith Bradfern	Porters, St. Michael's Hospital **General or** House Porters, BRI	318kg/700lbs/50 stone 254kg/560lbs/40 stone
Walking Frame	Trulife Heavy Duty Frames (wheeled & non'wheeled) Nightingale Bariatric Walking Frame	Physiotherapy Department, BRI Physiotherapy Department, BRI	220kg/476lbs/34 stone 318kg/700lbs/50 stone
Operating Table	Maquet Alphamaxx	Theatre, St. Michael's Hospital	450kg/990lbs/71 stone
Transfer Device	AirPal Patient Transfer Device	Theatre, St. Michael's Hospital	544kg/1190lbs/85 stone

New Equipment

- The Trust have managed to secure funding for another Viking XL mobile bariatric hoist which should be available by the end of January 2010
- In addition the Trust will be trialling an ultra low bed starting from the 26th of January 2010, if this evaluates well there is funding for 4 if it evaluates well.

Appendix 5

Bariatric Equipment Available for Rental outside UH Bristol Trust

If no available equipment within the Trust please contact the Manual Handling team in the Health & Safety department on 0136 for advice

Rental Price list for UH Bristol
Huntleigh
Nurse Advisor, Clair Reed

Contact for rentals 0845 734 2000 or speed dial #6408

All rentals must be agreed by: Budget holder / Modern Matron or CSM prior to ordering

Product	Description	Rental price per day	Price per week	Install Charge	
CONTOURA 1080 SYSTEM	Bariatric Electric Profilling Bed Frame	£ 80.00	£ 560.00	Nil	
BARIATRIC CHAIR / COMMODE	Bariatric Commode	£ 12.86	£ 90.00	Nil	
BARIATRIC ELITE ARM CHAIR	Bariatric Arm Chair	£ 20.00	£ 140.00	Nil	
STATIC ARM CHAIR SWL 40 STONE	Arm Chair	£ 20.00	£ 140.00		
COMMODE WITH POTTY SWL 254KG-40ST	Commode	£ 12.86	£ 90.00	Nil	
HEAVYWEIGHT WALKING FRAME	Walking Frame	£ 4.29	£ 30.00	Nil	
ENTERPRISE 8000 (39 stone)	Electric Profiling Bed Bed Frame –	£ 14.95	£ 104.65		
ENTERPRISE 9000 (39 stone)	Electric Profiling Bed Bed Frame with scales	£ 35.00	£ 245.00		