East Midlands Strategic Clinical Networks

East Midlands Maternity Network

Pregnant Women with a Raised BMI

Best Practice Standards of Care

June 2015

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Executive Summary

The national increase in obesity is reflected in increasing numbers of women with raised BMI becoming pregnant. Maternal obesity is recognised as an important risk factor for adverse outcomes in maternity care including still birth. A recent snapshot audit across East Midlands providers suggest that where data was collected, between 6.67% and 13.34% of pregnant women had a BMI of more than 35 at booking. This audit estimates the number of women with a BMI over 35 to be in excess of 4000 women across the East Midlands.

The Maternity Clinical Network High Risk Pregnancy Group with support from the East Midlands Strategic Clinical Network agreed to focus on developing and agreeing a local set of quality and clinical standards for the care of women with a raised BMI. This approach will support local services to use best practice and in so doing help to reduce variations in care across the area.

Each standard sets out a rationale, standard statements, together with basic standard content and reference to published evidence where available. Where the evidence is not available the content is a reflection of clinical experience and consensus of the development group. These standards do not attempt to replicate advice, care and management expected to be delivered to improve the experience and outcomes for all pregnant women but focus on the additional elements of care, advice and general management that should be in place for this particular group of pregnant women. The detailed standards are set out in Appendix 1.

Four further recommendations for consideration by the East Midlands High Risk Pregnancy Group are made to support implementation of these standards and to build on this work.

- All services are asked to put in place mechanisms for information recording and gathering to allow them to undertake the 4 baseline audits given above, during the course of the next year.
- An exemplar birth plan template is developed for East Midlands' wide use building on the Joint Birth Planning Standard.
- Further audits are identified and agreed to include each of the standards
- A self-assessment tool is developed for all of the standards to allow benchmarking and potentially provide some assurance around the delivery of best practice care for women with a raised BMI

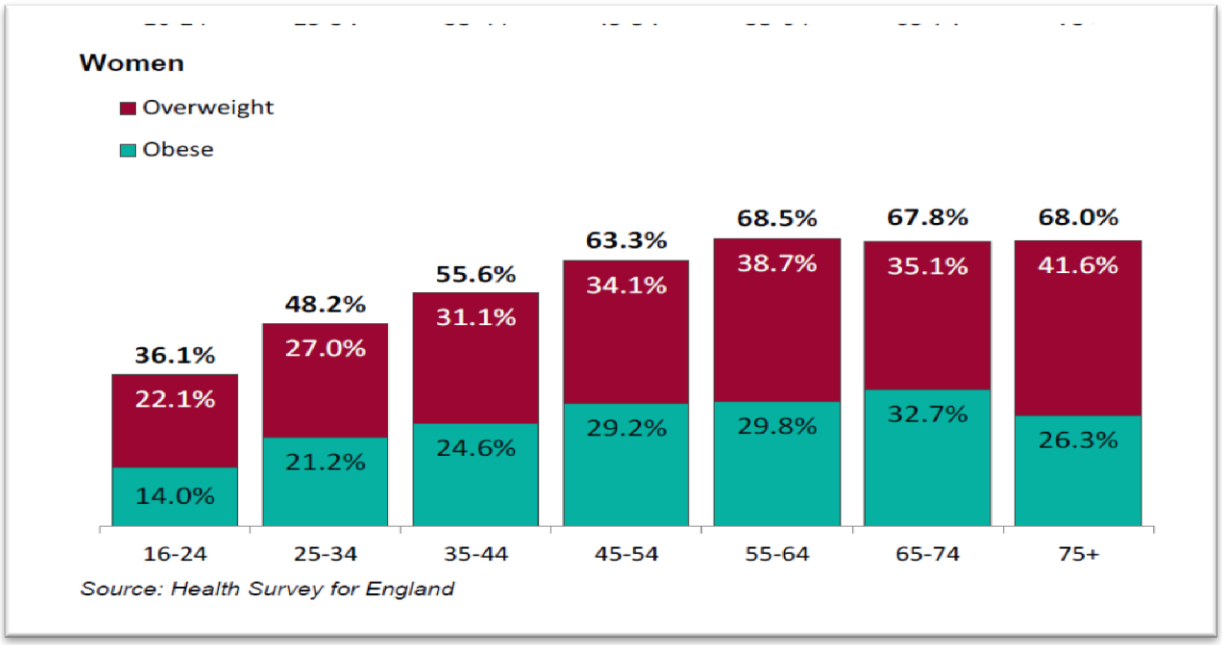
It is recommended that the standards are reviewed in 2018.

Acknowledgement

Many thanks to Lucy Kean, Consultant Obstetrician and Network Clinical Lead for Obstetrics who has led this work over the last 6 months and to everyone who has patiently contributed to the development of the standards and this summary document. This document will be available on the East Midlands Strategic Clinical Network website www.emsenatescn.nhs.uk .

Background

Maternal Obesity is recognised as an important risk factor for adverse outcomes in maternity care. The burden of obesity is increasing nationally as increasing percentages of women of child bearing age are recognised as obese, (BMI> 30) (PHE HES data 2012). The EM had a higher percentage of adult obesity (65.6%) compared to the national average (63.8%) in 2012. Women in low income households have the highest levels of raised BMI.



Taken from http://www.noo.org.uk/securefiles/141016_1053//AdultWeight_Aug2014_v2.pdf

The East Midlands Maternity Strategic Clinical Network carried out a short snap shot audit of some key service and maternity indicators which included measures of BMI at booking. This showed that where data was collected between 6.67% and 13.34% of pregnant women had a BMI of more than 35 at booking. From the snapshot audit data, the average percentage of women, > 35 BMI at time of booking, across the seven hospitals reporting data is **9.9%** for 2013/14. This is higher than both the England (4.99%) and East Midlands' average (**5.27%)** for 2009. The percentage increased further by the time of delivery, although fewer services were able to report this information as it was not routinely collected. This audit estimates the number of women with a BMI over 35 to be in excess of 4000 women across the East Midlands.

Following discussion within the Network, there was agreement to develop and adopt a joint approach to agree baseline standards of care for the management of pregnant women who have a raised BMI. This approach is intended to reduce unwarranted variation and to support a process of continuous improvement.

Given the high prevalence of obesity it was proposed that this stage should focus on the highest risk group. The NHS definition of obesity recognises the different levels:

- BMI of 25 to 29.9 is considered overweight
- BMI of 30 to 39.9 is considered obese
- BMI of 40 is considered severe obesity

Whilst services have to be designed for all groups, prevalence figures suggest a need for a highly focused effort for those with a BMI >40 with a special focus on addressing the peri-partum risks. The recognition is that lessons learned from the highest risk group will reflect in improvements for those with lower levels of BMI.

NICE Guidance

All commissioners and providers should aim to implement NICE Guidance on weight management before, during and after pregnancy (PH27). A particular emphasis of this guidance is on weight optimisation BEFORE pregnancy and if that was missed or was unsuccessful, the other opportunity would be in AFTER delivery. NICE guidance does not currently specifically address intra-partum care. Care of women with diabetes which is commonly associated with obesity is covered in separate NICE guidance (NG3).

Standards Development Process

The standards included in this document have been developed with input from a multidisciplinary group, consisting of obstetricians, midwives, anaesthetists, General Practitioners, diagnostics, and local commissioners, over a 6 month period. This process involved an initial proposal and discussion of the East Midlands High Risk Pregnancy Group followed by two workshops (December 2014 and February 2015) at which the standards and their content were discussed, developed and agreed. These have been further reviewed and refined by both the workshop members and other clinicians with an interest.

Network Approach & Principles

Focusing particularly on women with a BMI ≥40 these standards adopt a unified approach and are based on published evidence where available e.g. RCOG or NICE or a consensus view of current best practice. The development group recommends that the standards:

- Must apply to all women with a BMI≥40
- Should be adopted as best practice to women with a BMI of ≥35 up to 40
- Aim to apply in principle to women with a BMI of ≥30 up to 35

These standards do not attempt to replicate advice, care and management expected to be delivered to improve the experience and outcomes for all pregnant women.

The group agreed a number of key principles related improving care and experience for these women:

- All women should be treated sensitively with privacy and dignity at all times.
- Addressing obesity is a multifaceted issue. Many of the actions needed fall outside the remit of acute providers. But the position of acute providers to influence change through leadership and audit places them with important responsibilities.
- There should be evidence of a multidisciplinary approach and team commitment in both primary and secondary care supported by Commissioners and Providers.
- The principle of **Making Every Contact Count** (MECC) should be adopted in relation to key messages to women with raised BMI.

- Acknowledgment of the specific clinical challenges and the resource of expertise needed to deliver safe and effective care.
- All women are weighed at booking and all women are again weighed (in kg) at 24 – 28 /40 and BMI re-calculated
- Acknowledgment of the value of the network approach to raising the standard of care.
- The network partners will agree on a schedule for clinical M&M multidisciplinary meetings across the EM as a platform for learning and dissemination of best practice and for collaborative research.

Leadership

In order to take these standards forward it is expected that each maternity service will have in place;

- Clear leadership with named clinicians (medical and midwifery) with special interest in the care of these women; to act as a reference point internally, to liaise with the East Midlands colleagues and any focused network group for the management of women with a raised BMI.
- Evidence of communication with broader multidisciplinary team

The Standards

The standards developed by this work are set out below and are divided into quality and clinical standards.

Quality Standards

Standard Area	Standard Content
Equipment and Manual Handling Standard for Safe Practice	Environmental Assessment Equipment Training Antenatal Assessment of women Bariatric moving and handling guidance
Diet and Life Style Standard	Pre-pregnancy Antenatal Post-natal Breast Feeding Contraception
Anaesthetic and Theatre Care	Measures to mitigate risk Communication processes Equipment
Joint Birth Planning Standard	Birth planning BMI 30-40 MDT birth planning BMI 40+ Birth plan check list 3rd Stage management

Clinical Standards

Standard Area	Standard Content
Fetal Wellbeing Standard	Fetal Movement Fetal Growth Enhanced Scanning schedule Intra-partum
Thromboprophylaxis	Antenatal Intrapartum Postnatal
Increased surveillance for the detection of gestational diabetes and hypertension associated with raised BMI	Antenatal Postnatal On discharge
Caesarean section care	Emergency Elective Wound care Subsequent pregnancy/VBAC

Network agreed Auditable Standards

The following four baseline audits have been agreed by the working group as the initial clinical and service audits to help understand current standards of care for this group of women.

	AUDIT	Audit Result rating	FREQUENCY
1	Proportion of pregnant women who have a record of maternal height, weight and BMI in the maternity hand held notes and on the electronic patient information system prior to delivery	>90% Standard achieved 80-90% Standard partially achieved <80% Standard not met	Annual
2	Proportion of women with a booking BMI >40 who had an antenatal anaesthetic review	>90% Standard achieved 80-90% Standard partially achieved <80% Standard not met	Annual
3	Proportion of women with a booking BMI ≥40 who had pharmacological thromboprophylaxis prescribed post-natally	>90% Standard achieved 80-90% Standard partially achieved <80% Standard not met	Annual
4	Proportion of women with a booking BMI >30 who had a glucose tolerance test during pregnancy	>90% Standard achieved 80-90% Standard partially achieved <80% Standard not met	Annual

Recommendations

The following recommendations are made for further consideration by the High Risk Pregnancy Network group;

- All services are asked to put in place mechanisms for information recording and gathering to allow them to undertake the 4 baseline audits given above, during the course of the next year.
- An exemplar birth plan template is developed for East Midlands wide use building on the Joint Birth Planning Standard.
- Further audits are identified and agreed to include each of the standards
- A self-assessment tool is developed for all of the standards to allow benchmarking and potentially provide some assurance around the delivery of best practice care for women with a raised BMI
- The Standards are reviewed in 3 years (2018)

Appendix 1 – The Standards

In the absence of high quality evidence, for some items recommendations are made based on the clinical experience and consensus of the standards development group.

QUALITY STANDARDS

Equipment and Manual Handling Standard for Safe Practice		
Rationale: ***Reducing injury to staff and women will improve working lives of staff and outcomes for women and will reduce the litigation burden on maternity services***		
Quality Standard	**Standard Content**	**Additional Guidance and references**
All maternity units should have a documented environmental risk assessment regarding the availability of facilities to care for pregnant women with a booking BMI 40, for both elective and emergency situations.	**Environmental Assessment** This risk assessment should address the following issues: • Circulation space around bed/birthing space • Accessibility including doorway widths and thresholds • Safe working loads of equipment (up to 250kg) and floors • Appropriate theatre gowns to maintain dignity • Equipment storage • Transportation between labour suite and theatre • Staffing levels necessary for safe patient movement should be identified in care plan	*CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010.* *NHSLA, Clinical Negligence Scheme for Trusts, Maternity Clinical Risk Management Standards Version 1 2013/14*
All maternity Units should ensure availability of, and procurement process for, specific equipment for pregnant women with a booking BMI of 40	**Equipment** • Large blood pressure cuffs, width of cuff should be 40% of the circumference of the arm • Large chairs without arms • Large wheelchairs • Ultrasound scan couches • Beds - ward and delivery (with at least one delivery bed with a higher limit for lithotomy stirrups if possible) • Mattresses suitable for maternal resuscitation • Theatre trolleys • Operating theatre tables • Manual handling and hoist facilities • Specially sourced surgical or medical	*It may be difficult to measure the patient's blood pressure accurately using an upper arm cuff; other places, such as the forearm, may need to be used, and consideration given before surgery to direct arterial blood pressure measurement.* *Association of Anaesthetists of Great Britain and Ireland Peri-operative*

	devices or equipment. • Maternal and fetal monitoring equipment suitable for women with high BMI • Dedicated box or trolley containing emergency equipment suitable for use on high BMI lady including: long needles, bariatric TED stockings • Oxford pillow	*management of the morbidly obese patient 2007*
	Training 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	*CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010*

All pregnant women with a BMI of 45 at booking or who reach this BMI before 36 weeks have a manual handling assessment prior to delivery	**Antenatal Assessment of woman**
	• Arrangements in place to ensure regular weighing and re-weighing to ensure identification of women who will require a Manual Handling assessment and the use of specialist equipment
	• MH Assessment should include:
	  ○ Level of mobility
	  ○ Intention for birth
	• Consideration of limitations for birth options and health and safety risk assessment where appropriate, especially in cases that may be outside suggested care pathways e.g. home or water births
	• Discussion re emergency admission to include home access and advice for very large women to provide information to ambulance services for when a bariatric ambulance may be required
		CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010.

Outcome	Serious incidents related to equipment failure or lack of provision should be reduced to zero	

Bariatric Moving & Handling Guidance and Flow Charts for Obstetric Patients

STANDARD BIRTH

Weight Above 159kg (25 Stone) Or BMI 40 or a body weight/shape distribution

Perform a Bariatric RISK Assessment/Care Plan

Elective

Liaise with the relevant teams in the admitting/treatment area so that equipment and adequate staffing can be arranged.

Emergency

Liaise with the relevant teams in the admitting/treatment area so that equipment and adequate staffing can be arranged.

Equipment Considerations

- Large Blood pressure cuffs suitable to the patients individual needs, Cuff sizes determined by the indicating points falling within the ranges set on the cuff
- Ensure that all beds/trolleys are suitable for the patient re body shape and weight distribution. (does the bed offer enough space for the obstetric patient to move)
- A specialist bariatric birthing bed may be needed if the patient needs more width of bed to be available to allow for greater comfort and support during delivery. Check the safe working load (SWL) of the stirrups/leg supports. Consider the use of two members of staff per limb for support and adjustment of foot support position
- Ensure that all doorways can accommodate and allow for the transfer of the specialist bariatric bed is used for the care of the patient.
- The safe working loads of birthing balls need to be assessed individually to meet the needs of the obstetric patient
- Foot supports on the birthing beds need to assessed to ensure that the patients' limbs are within the safe working load of the limb supports. Consider the use of two members of staff per limb for support and adjustment of foot support position

Environment

- Considerations should be given to doorway widths and thresholds particularly if using the bariatric bed
- Safe working loads of all equipment that may be used in the care of this patient
- Steps may be needed to aid movement on and off the birthing bed. Steps need to have a suitable SWL to meet the patient's needs.
- Contact specialist for more advice and support if needed.

Post – Delivery considerations

- According to the needs of the patient's post-delivery care obtain/arrange for the Bariatric bed and specialist bariatric equipment from local equipment library's/stores or arrange for the hiring of specialist equipment from specialist bariatric equipment suppliers.

NB. Usually there is a minimum hire period for specialist equipment.

HOSPITAL BIRTHING POOL

Weight above 100kgs (25 Stone) or BMI > 40

For body weight/shape distribution Perform a Bariatric RISK Assessment/Care Plan

See Local Guidelines for Management of Labour and Birth in a Birthing Pool

NB: The patient should be able to get in and out of the birthing pool with minimal assistance from the midwife.

The Midwife should have undertaken a RISK assessment at 34-36 weeks gestation or as per local recommendations

Assessment of the patient and suitability for birthing pool should be based on the criteria within the local policy or procedure

If a pool birth is deemed a RISK and the woman is insistent then the case should be taken to Supervision

The co-ordinator must be consulted prior to pool birth to determine adequate staff levels and to ensure appropriate emergency equipment is available.

A decision will be made on an individual basis

YES

NO

Continue standard patient Care with

Equipment Considerations

- Check that the patient's weight is within the SWL of the POOL
- Check the SWL of the Emergency lifting blanket is available for use.
- Check availability of Large Blood pressure cuffs suitable to the patients individual needs, Cuff sizes determined by the indicating points falling within the ranges set on the cuff
- Steps may be needed to aid entry and exit from the birthing pool, ensure that the patient's weight is within the limits of the step being used.

Environment

- Considerations should be taken for doorway widths & thresholds particularly if using the bariatric bed (Emergency purposes)
- Ensure patient's weight is within the Safe working Loads (SWL) of the equipment
- Contact specialists for advice and support as needed.

Peri-Delivery Care Considerations

- Ensure that a suitable bed is available for post-delivery care if needed.
- Ensure that the safe working load of the bed meets the patient's weight and body shape.

CAESAREAN SECTION

Weight Above 159kg (25 Stone) Or BMI 40 or a body weight/shape distribution that

Perform a Bariatric RISK Assessment/Care Plan

Elective

Liaise with the relevant teams in the admitting/treatment area so that equipment and adequate staffing can be arranged.

Emergency

Liaise with the relevant teams in the admitting/treatment area so that equipment and adequate staffing can be arranged.

Equipment Considerations

- Large Blood pressure cuffs suitable to the patients individual needs, cuff sizes determined by the indicating points falling within the ranges set on the cuff
- Ensure that the patient is within the Safe Working Load (SWL) of Beds / Operating Table –
  Be aware that using the lithotomy position reduces the table SWL, check manufacturers recommendations prior to use.
- Check Lithotomy Boots/limb supports Safe working load and that they are of an adequate width to accommodate the limb comfortably and securely. They should be of a good standard with good quality table bracket. Staff considerations the use of two members of staff per limb for support and adjustment of boot position
- Use of table width extension attachments may be needed for support of excess tissue overhang.
- Extra-long epidural needles
- Large flat slide sheets and extension handles or other suitable slide sheets should be available for a safe and effective lateral transfer.
- Specialist surgical retractors and operating devices should be available as needed

Environment

- Elective Caesarean – Consider walking the lady directly into theatre and performing anaesthetic on the operating table
- Consideration should be taken for doorway widths & thresholds particularly if using the bariatric bed
- Ensure that the patient's weight is within the safe working loads of all equipment

Post-operative considerations

- Ensure that a bed/chair is available that will meet the needs of the patient both weight and weight distribution to ensure a safe and comfortable recovery.
- Suitable steps may be needed to allow for ease of access in and out of bed. Ensure that the safe working load of the steps is suitable for the patient's needs.
- If Bariatric equipment is not available locally then consideration will be needed for the hiring in of equipment that will meet the patient's needs.

NB: Hire equipment usually has a minimum hire period attached to it.

Diet and Life Style Standard

Rationale : ***Effective intervention in pregnancy improves birth outcomes and reduces the risk of hypertension by as much as 70%***

Quality Standard	Standard Content	Additional Guidance and references
Women of childbearing age with a BMI≥30 need to understand the effect of obesity on pregnancy and labour outcomes	**Pre-pregnancy** • Discussion with GP regarding weight management and reduction prior to pregnancy • Prescribing 5mg folic acid for 3 months prior to conception	*RCOG Patient Information Why Your Weight Matters* *CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010*
Pregnant women with a raised BMI (35 or more) receive advice on a healthy lifestyle including diet (plus nutritional supplements) and physical activity and are referred to specialist weight management services when appropriate and in line with local pathways of care.	**Antenatal** Local arrangements for: • Identification of local champion • GP prescribing folic acid 5mg and vitamin D 10mcg for women with BMI over 35 • All women should have a discussion about the Eatwell plate, including messages that they do not need to diet or eat for two. • Benefits of breastfeeding and signposting to breastfeeding support services • Advice on physical activity and signposting to local programmes • Information leaflet on managing your weight during pregnancy for mothers with BMI of 35 or more • Staff training on raising the issue and giving appropriate advice	*NICE PH27 Weight management before, during and after pregnancy Jul 2010* *CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010* *Healthy start programme* *NHS Choices Vitamins and Nutrition in Pregnancy* *NHS Choices Where to find Health Start centres* *www.nhs.uk/livewell/goodfood/documents/**eatwellplate**.pd* *Regional use of Tommy's leaflet 'Managing your weight during pregnancy.'* *Training must be available to staff delivering lifestyle care*

	Post natal Women should be advised of; • The importance of perineal hygiene, including frequent changing of sanitary pads, washing hands before and after this, and daily bathing or showering to keep their perineum clean. • The need for greater hygiene surveillance • Women with a booking BMI ≥30 should be encouraged to continue to make healthy lifestyle choices and, if appropriate, be encouraged to access support with weight management from local services following childbirth. • Post-natally women should be signposted to services providing ongoing support according to local pathways • Health and Wellbeing: that women should be advised about the importance of controlling weight between pregnancies **Breast Feeding** Evidence shows women with raised BMI have lower rates of breastfeeding initiation and maintenance. • Women with a booking BMI ≥30 should receive advice regarding the benefits, initiation and maintenance of breastfeeding and be signposted to breastfeeding support services • Need to take 10mcg Vit D whilst breast feeding and can continue healthy start vitamins • Advice for exclusive breast feeding for 6 months to reduce childhood obesity, no early weaning and signposting to weaning advice services • Dietary advice – reinforce message that breastfeeding naturally uses only 500Kcals a day and there is no need for increased calories **Contraception** Advice on continued contraceptive options until weight optimised	*NHS Choices Breastfeeding and Healthy Lifestyle* *NICE PH11 Maternal and Child Nutrition March 2008 last modified: Nov 2014* *With regard to contraceptive choices for obese women, only combined hormonal contraception (CHC) and sterilisation are associated with potential risks. CHC use with a body mass index (BMI) of ≥30–34 kg/m2 is UK medical eligibility criteria (UKMEC) Category 2 (can be used under careful follow-up) and ≥35 kg/m2 BMI UKMEC Category 3 (requires expert opinion/advice). There are no restrictions on using any other methods based on obesity alone (UKMEC Category 1).*
Outcome	All women with a BMI of 35 and above receive advice and support on diet (including nutritional supplements), physical activity and weight management during and after pregnancy, enhancing outcomes for this group of women.	

Anaesthetic and Theatre Standards		
Rationale: ***Maternal Obesity presents major anaesthetic risk***		
Clinical Standard	**Standard Content**	**Additional Guidance and references**
Evidence of measures to mitigate anaesthetic risk for women with BMI greater than 40	• All women with BMI ≥40 will be offered an opportunity for an anaesthetic assessment no later than 36 weeks gestation and on admission to labour ward. • The anaesthetic assessment should include consideration of sleep apnoea • Anaesthetic Departments should have clearly written guidelines on the management of obese women through their pregnancy, labour and delivery. On admission in labour; • Early discussion with a senior (ST6 or above or equivalent) anaesthetist if necessary • Early intravenous access in established labour and post- partum (often more difficult in raised BMI) • Early assessment with regard to airway management for general anaesthesia • Early consideration for Antacid prophylaxis • Early discussion and consideration of insertion of regional anaesthesia • Facilities for ultrasound guided epidural. • Early recognition of potential failure/inadequacy of neuroaxial blockade • Early recognition of logistical problems e.g.: requirement of appropriate equipment/monitoring	*CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010.* *Royal College of Obstetricians and Gynaecologists, Royal College of Midwives, Royal College of Anaesthetists, Royal College of Paediatrics and Child Health. Standards for Maternity Care, Report of a Working Party. London: RCOG Press; 2008* *Saravanakumar K, Rao SG, Cooper GM. Obesity and obstetric anaesthesia. Anaesthesia. 2006 Jan; 61(1):36-48. [Pubmed]* *Manual Handling Standard*
Processes should be in place to ensure that anaesthetic staff are aware of the case and have equipment available to deal with emergency	• The duty anaesthetist covering labour ward should be informed early in the admission when a woman with a BMI ≥40 is admitted to the labour ward if delivery or operative intervention is anticipated. This communication should be documented by the attending midwife in the notes.	*CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010.*

anaesthesia/ resuscitation	• Operating theatre staff, including main theatre coordinator, should be alerted regarding any woman whose weight exceeds 120kg (265 lbs) and who is due to have an operative intervention in theatre. • A senior obstetrician and a senior anaesthetist (ST6 or equivalent) should be available for the care of women with a BMI ≥40 during labour and delivery, including attending any delivery in theatre and physical review during the routine medical ward round, where the duty obstetrician or anaesthetist has not been assessed and signed off as competent in the management of very obese women. • Long spinal and epidural needles must be available. The long epidural needles, 11cm, will suffice for the majority of patients. It may be necessary to use an epidural needle as an introducer for a spinal needle. A 120mm spinal needle for a standard 8 cm epidural needle and 150mm for an 11cm epidural needle. Epidural needles of 15 cm and spinal needles up to 175 mm are available. • Use of pre filled Bariatric Box or trolley of essential equipment for use in women with raised BMI • Oxford pillow and hover mattress should be available • Access to HDU/ITU	*Manual Handling Standard*
Outcome	All women with a high BMI should be able to access staff of adequate seniority to ensure that their care is good	

Joint Birth Planning Standard		
Rationale; *The risks of caesarean section and post-partum haemorrhage rise with increasing weight*		
Quality Standard	**Standard Content**	**Additional Guidance and references**
Women with BMI≥30 need to understand the effect of obesity on labour outcomes All women with a BMI over 40 should have a documented birth plan to include specific risk factors related to delivery	In the absence of other obstetric or medical indications, obesity alone is not an indication for induction of labour and a normal birth should be encouraged. For women with a BMI 30-40 birth planning should be done by the community midwife. Discussion should include recommendations for fetal monitoring and active management of the 3rd stage. For women with a BMI≥40 birth planning should be undertaken in partnership with obstetricians and anaesthetists to discuss the additional issues and risks. Written information should be provided at booking which outlines outcomes and there should be a preliminary discussion regarding birth. • Timing • Facilities • Personnel • Risk reduction/mitigation	*NICE CG62 Antenatal Care March 2008* *CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010.* *CMACE, Maternal Obesity in the UK: findings from a national project, December 2010.*
For women with BMI≥40 multidisciplinary input into birth planning; Midwifery Obstetric anaesthetic	The birth plan discussion should be completed by 37/40 and include; • recorded weight • a moving and handling, • health and safety and risk assessment of choices made especially when against best practice i.e. home/water birth • anaesthetic assessment • lithotomy assessment • communication plan to include labour ward teams and ambulance staff if necessary • need to inform/involve EMAS if	*Manual Handling Standard*

	necessary Drug considerations including; • recommended doses for LMWH and antibiotics [if] required. • management of third stage with regard to choice of drug and route of administration • venous access established at the onset of labour • discuss incision site if CS needed • discuss wound care related to perineum and abdominal wound • airway and apnoea assessment • pressure area care requirements • difficulty of fetal monitoring Women are advised about the possible technical difficulties of intravenous access, this may • include advisability of early epidural	*RCOG Guidelines. No. 37a, Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium 2015* *ACOG Committee Opinion. Obesity in Pregnancy. No. 549, American College of Obstetricians and Gynaecologists. January 2013* *Caesarean Section Standard* *NICE CH190 Intrapartum Care: care of healthy women and their babies during childbirth Dec 2014)*
3rd Stage management	All women with a BMI ≥30 should be recommended to have active management of the third stage of labour. In women with a BMI≥40 additional discussion should include • siting of iv access in labour • mode of administration to ensure efficacy.	*Begley CM, Gyte GML, Devane D, McGuire W, Weeks A. Active versus expectant management for women in the third stage of labour. Cochrane Database of Systematic Reviews 2015, Issue 3. Art. No.: CD007412.* *Westhoff G, Cotter AM, Tolosa JE. Prophylactic oxytocin for the third stage of labour to prevent postpartum haemorrhage. Cochrane Database of Systematic Reviews 2013, Issue 10. Art. No.: CD001808.*
Outcomes	Women should have a plan for the management of birth that includes planning for the various risks associated with obesity, thus minimising these risks where possible.	

CLINICAL STANDARDS

Fetal Wellbeing Standard		
Rationale: ***Growth restriction is increase by 1.5 in obese women and the risk of stillbirth is doubled.***		
Clinical Standard	**Standard Content**	**Additional Guidance and references**
All women with a BMI greater than 35 will have access to facilities and expertise and information to maintain fetal well-being. This will include advice on fetal movement, access to fetal growth monitoring and to an enhanced ultrasound scan schedule	**Antenatal** **Fetal Movement** All women are provided with clear advice on fetal movements monitoring at booking and a clear pathway is in place where reduced movement is suspected. 1st episode after 26 weeks – full clinical assessment. CTG. If any concern regarding growth consider ultrasound. Advice if everything normal. 2nd episode – repeat CTG, clinical assessment and growth scan if not performed within last 2 weeks. **Growth Monitoring** Use of customised growth charts Consultant led decision making if growth appears to be tailing off. Local pathway in place for management of abnormal results **Enhanced Scan Schedule** Facilities and expertise to scan very large women for presentation if there is uncertainty on admission to the labour suite Minimum scan schedule with additional scanning as indicated by clinical need BMI 35+ - normal pathway with additional scans at 32 and 36 weeks, BMI 40+ - normal scan with additional scan at 28, 32, 36 weeks	*RCOG Guideline No. 57 Reduced Fetal Movements* *RCOG Your babies Movements in Pregnancy 2013* *RCOG Guideline No 31. 2013 The Investigation and Management of the Small–for–Gestational–Age Fetus* *Gardosi J, Francis A. Adverse pregnancy outcome and association with small for gestational age birthweight by customized and population based percentiles. Am J Obstet Gynecol 2009;201:28.e1-8 [PubMed]* *Cnattingius S, Bergstrom R, Lipworth L, Kramer MS. Pre-pregnancy weight and the risk of adverse pregnancy outcomes. N Engl J Med 1998;338:147–52 [PubMed* *[3] Harper, Lorie M, Jauk, Victoria C, Owen, John, Biggio, Joseph R. The utility of ultrasound surveillance of fluid and growth in obese women. Am J Obstet Gynecol, 2014: 211 (5) 524.e1*

	In women with BMI≥40 discussion should take place prior to labour about the strategy for fetal monitoring in labour. Potential difficulties and solutions discussed as part of birth plan to include: • Risk assessment based on fetal growth • Processes in place to ensure women are aware of the limitations of fetal monitoring • Auscultation • CTG • FSE • Management Plan Scan on admission in labour if concern about presentation.	*[PubMed]* *RCOG Patient Information Having a Small Baby*
Clear management guidance for women for whom fetal monitoring is difficult	**In Labour** Ensure monitoring by best modality, according to known fetal growth. If adequate monitoring cannot be undertaken discuss alternative delivery options.	
Outcome	The care bundle is available to detect unsatisfactory fetal wellbeing which results in a reduction in the number of women delivering unexpected growth restricted or still born babies	

Thromboprophylaxis in women with a raised BMI		
Rationale: ***Maternal weight is most significant factor for mortality from thromboembolism. In the most recent report 78% of mothers who died from thromboembolism were overweight or obese (CMACE 2011)***		
Clinical Standard	**Standard Content**	**Additional Guidance and references**
All women are assessed for thrombosis risk. As BMI increases risk rises therefore when thresholds are passed women are referred for appropriate preventative management.	**Antenatal** All women should be risk assessed at booking and 28 weeks, with every admission and just before and after birth. All women should be reweighed at 24-28 weeks to detect excessive weight gain Obese women should be weighed at every visit and at least once between 36 weeks and birth to ensure correct dosing for LMWH There is approved documentation to record the finding of the assessment If score is ≥3 antenatal thromboprophlaxis using LMWH from 28 weeks should be recommended. If score is ≥4 discussion with a haematologist should be undertaken. Thromboprophylaxis from the first trimester is recommended. LMWH should be prescribed during every antenatal hospital admission A management plan should be documented in the health records of women who require thromboprophylaxis or treatment for a diagnosis of VTE. [d] **Intrapartum** Women requiring thromboprophylaxis should be advised to omit their LMWH if they believe they are in labour, Women requiring antenatal treatment	*RCOG Guidelines. No. 37a, 2015 Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium* *CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010.* *RCOG Patient Information Leaflet Reducing the Risk of Venous Thrombosis in Pregnancy and After Birth*

	doses of LMWH should have a plan for intrapartum care to minimise the risk of clotting and bleeding **Post natal** Women should be scored according to the RCOG standard. Women scoring **2 or more or in the intermediate risk group (all women with BMI ≥40)** should be recommended treatment with LMWH for 10 days Women with a score of ≥3 should receive • Early mobilisation • Postnatal prophylaxis, for at least 10 days and potentially longer depending on factors contributing to risk and their likely persistence	*Both warfarin and LMWH are safe when breastfeeding*
Outcome	Early and careful risk assessment and continuing reassessment of risk during and after pregnancy will minimise the risk of thromboembolism.	

Increased surveillance for the detection of gestational diabetes and hypertension associated with raised BMI		
Rationale: ***The risk of gestational diabetes is increased by a factor of three and the risk of pre-eclampsia is at least doubled in obese women***		
Clinical Standard	**Standard Content**	**Additional Guidance and references**
Testing for diabetes in pregnancy should be offered to all women with a booking BMI of ≥30. Women with a booking BMI below this who experience excessive weight gain and reach a BMI of 35 should also be tested.	**Antenatal** Weigh at booking - • if BMI ≥30 GTT 24-28 wks • if BMI ≥45 or if previous gestational diabetes GTT at 16-18/40 and 26-28 weeks Re-weigh **all** women (in kg) at 24 – 28 /40 and re-calculate BMI • If BMI now ≥35 GTT at 26- 28/40 **Intra-partum** Fetal macrosomia and growth restriction are both commoner in obese women. There should be awareness of shoulder dystocia and fetal heart rate abnormalities. **Post natal** Women with gestational diabetes should have a test for glucose tolerance at 4-6/52 by GP (fasting glucose or HBA1C) Women with a booking BMI ≥30 and gestational diabetes who have a normal test of glucose tolerance following childbirth, should be signposted to weight management services and follow up by the GP to screen for the development of type 2 diabetes is suggested. All women with a booking BMI ≥30 who have been diagnosed with gestational diabetes should have annual screening for cardio-metabolic risk factors, and be offered lifestyle and weight management advice	*CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010* *NICE NG3 Diabetes in pregnancy Management of diabetes and its complications from preconception to the postnatal period Feb 2015* *NICE PH38 Preventing type 2 diabetes: risk identification and interventions for individuals at high risk Jul 2012* *RCOG Patient Information Gestational Diabetes*
All women with a BMI≥30 need additional	At booking:	*NICE CG62 Antenatal Care March 2008*

surveillance for hypertension	Consider additional risk factors for use of low-dose aspirin Additional measurement of BP fortnightly from 28/40	*NICE CG107 Hypertension in pregnancy: The management of hypertensive disorders during pregnancy Aug 2010* *RCOG Patient Information Leaflet Pre-Eclampsia*
Outcome	A Regional approach to weighing and BMI calculation for all women should reduce variation and improve clinical outcomes for mothers and babies	

Caesarean Section Standard		
Key Fact: ***Obese women are more likely to be delivered by caesarean section than women in the normal BMI category***		
Clinical Standard	**Standard Content**	**Additional Guidance and references**
The provision of standardised care for women with raised BMI undergoing caesarean section	To include the following areas of care: • Equipment (reference) • Surgical technique • Wound care • Antibiotic prophylaxis • Thromboembolic prophylaxis • Postnatal care • Postnatal advice	*Sebire NJ, Jolly M, Harris JP, Wadsworth J, Joffe M, Beard RW, Regan L, Robinson S. Maternal obesity and pregnancy outcome: a study of 287,213 pregnancies in London. Int J Obes Relat Metab Disord. 2001 Aug;25(8):1175-82.[PubMed]*
Surgical technique	Discussion during birth planning of incision site, consideration of supra or just sub-umbilical incision in morbidly obese women Availability of additional specialised retractors	*Houston MC, Raynor BD. Postoperative morbidity in the morbidly obese parturient woman: supraumbilical and low transverse abdominal approaches. Am J Obstet Gynecol. 2000 May;182(5):1033-5. PubMed* *ACOG Committee Opinion. Obesity in Pregnancy. No. 549, American College of Obstetricians and Gynecologists. January 2013*
Wound care	Consider negative pressure wound therapy if BMI ≥40	*Webster J, Scuffham P, Stankiewicz M, Chaboyer WP. Negative pressure wound therapy for skin grafts and surgical wounds healing by primary intention. Cochrane Database of Systematic Reviews 2014*
Antibiotic prophylaxis	Consider dose increase for prophylactic antibiotics	*American College of Obstetricians and Gynecologists . ACOG Practice Bulletin No. 120:*

		Use of prophylactic antibiotics in labor and delivery. Obstetrics and Gynecology. 2011; 117(6): 1472-1483
Thromboembolic Prophylaxis	Calculate dose Low Molecular Weight Heparin based on weight	*RCOG Guidelines. No. 37a, 2015 Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium*
Postnatal care	Use of Waterlow scoring tool MEWs (particular care to measure BP with an appropriate device and assess saturations in the immediate post-operative period to detect sleep apnoea) Advice re wound care	*NICE CG179 Pressure ulcers: prevention and management of pressure ulcers* *RCOG Guideline No 56 Maternal Collapse in Pregnancy and the Puerperium 2011*
Postnatal Advice	Weight management referral Obese women should have the opportunity to discuss VBAC/subsequent pregnancy risks with a senior clinician	*NICE PH27 Weight management before, during and after pregnancy Jul 2010* *RCOG "Why your weight matters during pregnancy and after birth"* *NICE CG132 Caesarean Section Nov 2011* *CMACE/RCOG Joint Guideline, Management of Women with Obesity in Pregnancy, March 2010. p11*
Outcomes	Standardised approach to CS in the obese woman should minimise morbidity	