INCREASED BODY MASS INDEX (BMI) IN PREGNANCY, LABOUR AND POST DELIVERY

1. Aim/Purpose of this Guideline

Guidance for midwives, obstetricians and anaesthetists on managing a woman with an increased body mass index in pregnancy, labour and post-delivery.

2. The Guidance

The prevalence of obesity in pregnancy has been seen to increase and in 2015 was 19% at RCH. Obesity in pregnancy is associated with an increased risk of serious adverse outcomes. There is evidence that there is a higher caesarean section rate and a lower breast feeding rate in this group of women. There is also evidence to suggest that obesity may be a risk factor for maternal death: the MBRACE Report (2011-2013) reported that 30% of mothers that died were obese.[1]

2.1 Definition

Obesity in pregnancy is usually defined as a body mass index (BMI) of 30kg/m^2 or more at the first antenatal consultation. There are three different classes of obesity: BMI 30.0-34.9 (class 1), BMI 35.0-39.9 (class 2) and BMI 40 and over (class 3 or morbidly obese).

2.2 Booking appointment

The booking midwife should provide appropriate information sensitively which will empower the woman to be fully informed of the risks associated with obesity.

Women should be made aware of the importance of healthy eating and appropriate exercise during pregnancy in order to prevent excessive weight gain and gestational diabetes. To dispel any myths about what and how much to eat during pregnancy, energy needs only increase by about 200 calories a day in the last trimester[2]

2.3 Folic acid and Vitamin D in pregnancy

Women with a BMI of 30 or greater should be advised to take 5mgs of folic acid supplement daily prior to conception and continue during the first trimester. [1]

Women with a BMI of 30 or over should be advised to take 10 micrograms Vitamin D supplement daily during pregnancy. There is an associated increased risk of vitamin D deficiency in both the woman and her baby.[1] This can be part of a multivitamin specific for pregnant women.

2.4 Calculating BMI in pregnancy

All women should have their weight and height measured. This should be done using the appropriate equipment and not by estimation by either the woman or health professional.

All women attending the fetal medicine department for a first trimester dating scan will be weighed and measured and the BMI calculated electronically. The BMI will be documented by the fetal medicine midwife in the hand held notes under the BMI at booking section.

For women that decline a first trimester scan or book late, the named community midwife should arrange to meet them at a community venue where they can weigh and measure them using the appropriate equipment. The BMI should be calculated and the weight and BMI entered in the hand held notes in the BMI section.
The woman's height and weight should be entered on to the maternity 'stork' system and an on screen calculation of the BMI will be available.

The BMI will be calculated again at the dating USS and documented in the handheld notes ante natal clinic section.

If the BMI is greater than 30 the community midwife should re-calculate at 34 weeks and document in the antenatal clinic section of the handheld notes. If the BMI is then greater than 35 care pathways should be altered accordingly.

2.5 Referral pathways

The community midwife responsible for reviewing the woman at the 16 weeks appointment must ensure that the following referral pathways are implemented. These must be clearly documented in the woman's hand held notes.

- Women with a BMI of 30.0-34.9 and no other risk factors at the time of booking or developing throughout pregnancy are suitable for midwifery lead care and community birth.
- Women with a BMI of 35.0-39.9 must be booked under consultant led care and advised to give birth in a consultant led obstetric unit. (The woman does not have to be seen in a consultant lead clinic, this will be as per individual consultant pathway)
- Women with a BMI of 40 or greater must be referred for an appointment with a consultant obstetrician during her 2nd trimester; if other risk factors are present this may be required sooner.
- Women with a BMI of 40 or greater should be referred to the anaesthetic clinic, ex: 4130, during the second trimester of pregnancy, where an individual assessment and management plan will be agreed. During this appointment the woman will have a manual handling and tissue viability risk assessment completed and a management plan developed if required.

- Women with a BMI of 30 or greater must be offered a glucose tolerance test (GTT) at 26 weeks. If there are other risk factors present this may need to be sooner.

- Women with a BMI of 30 or greater should be assessed at booking for the risk of thromboembolism in accordance with the RCHT thromboprophylaxis guideline[3]
- Women with a BMI of 35 or greater have an increased risk of pre eclampsia and should be managed in accordance with the PRECOG guidelines. This should include community monitoring for pre eclampsia at a minimum 3 weekly intervals between 24-32 weeks gestation and 2 weekly intervals from 32 weeks until delivery.

2.6 Ongoing management

- All women with a BMI of 30 or greater should be informed of the limitation of scanning and fetal monitoring in labour.
- All women with a BMI of 30 or greater should be informed, ante natally, about possible intrapartum complications associated with an increased BMI, e.g. increased risk of slow progress in labour, shoulder dystocia, emergency caesarean section and post partum haemorrhage.
- At the birth plan visit women with a BMI greater than 30 should be given the leaflet 'Pressure sores during labour: your risks explained'.
- Women with a BMI of 40 or greater should be given the leaflet 'Why do I need to see an anaesthetist during my pregnancy? Information for pregnant women with a high body mass index (BMI)'. This can be downloaded in several languages from www.oaaformothers.info.

2.7 Care for labour and delivery of women with a BMI of 35 or greater

- Women with a BMI of 35 or greater should be advised to give birth in a consultant led unit.
- Serial ultrasound scans should be booked to monitor growth and fundal height measurement should not be used. A routine schedule is 28, 32 and 36 weeks (and 40 weeks if delivery is not indicated by the EDD) but may be modified in the presence of additional risks
- The perinatal risk folders should be checked for any specific obstetric or anaesthetic plan
- The on call obstetric registrar should be informed of the admission of any woman with a BMI of 40 or greater.
- The duty anaesthetist should review all women with a BMI 40 or greater on admission and perform a CAVE assessment (Co morbidities/Airway assessment/Venous access/consider epidural and equipment)
- Women with a BMI of 40 or greater should have venous access established early in labour.
- The midwife should check the individual risk assessment for any equipment or manual handling requirements and ensure these are available.
- There should be early recourse to fetal scalp electrode monitoring if there are difficulties with external fetal monitoring.
- Extra vigilance should be paid with regard to pressure area care.
- Recommend active management of 3rd stage of labour.
- Women with a BMI of 40 or greater should deliver in a larger room and on an appropriate bed due to the increased risk of intrapartum risk factors.
- A senior Obstetrician and anaesthetist should be involved in the management of a woman with a BMI of 40 or greater, including attending any deliveries in theatre and physical review during the ward round
- When induction of labour/elective delivery is planned, for a woman with a BMI of 40 or greater, the aim should be to deliver her when a consultant obstetrician and consultant anaesthetist is present on delivery suite.

2.8 Delivery by caesarean section

- For women undergoing elective caesarean section, who have a high BMI, their weight should be recorded in the delivery suite diary when booking the caesarean section, to alert theatre staff to prepare the appropriate equipment.
- Additional, appropriate equipment should be considered prior to procedure. E.G use of hover mattress and O-ring

2.9 Post natal care

- Encourage women to mobilise as early as possible
- Women with a BMI of 40 or greater will be offered post natal thromboprophylaxis in line with the RCHT thromboprophylaxis guideline.[3]
- Provide TED stockings in line with RCHT guideline[3]
- Give advice and support regarding initiation of breastfeeding. Obesity is associated with low breastfeeding initiation and maintenance rates.
- Refer to the GP for advice on diet and lifestyle

Care pathway: Management of a woman with an increased body mass index (BMI) in pregnancy, labour and post delivery.

	Booking	First trimester scan	16 weeks	Throughout pregnancy	Labour and delivery	Post delivery
Care for all women with a BMI of 30 or greater	Give information about risks of obesity and pregnancy Support women in healthy eating and lifestyle choices Recommend 5mg folic acid for first trimester Recommend 10 mcg Vit D supplement Assessment for the risk of thromboprophylaxis	Measure weight and height and document BMI in handheld notes	Assessment of suitability for place of birth Book GTT at 26 weeks.	Use appropriate size BP cuff Give leaflet 'Pressure sores during labour: you risks explained' Inform woman about possible intrapartum complications associated with obesity Ensure GTT completed and document results and any follow up	Individual risk assessment to confirm suitability of place of birth Recommend active management of 3rd stage of labour.	Encourage early mobilisation Thromboprophylaxis in line with guideline TED stockings in line with guideline Advice and support to initiate breastfeeding Refer to GP for ongoing dietry and lifestyle support
Additional care for a woman with BMI of 35 of greater	Assessment for risk of pre eclampsia in line with PRECOG		Book under consultant led care and advise delivery in consultant led unit Community monitoring for pre eclampsia as per PREGOC guidelines	Serial USS at 28, 32, 36and 40 weeks (unless altered by other risks). No fundal height measurement. Monitor for pre eclampsia 3 weekly between 24-32 weeks and 2 weekly from 32 weeks If for El LSCS ensure weight is documented in delivery suite diary Check perinatal risk folder for plan of care	Advise birth in consultant led unit Early recourse to fetal scalp electrode monitoring Check manual handling and equipment risk assessment Extra vigilance to pressure area care Consider delivering in a large room	
Additional care for a woman with BMI of 40 of			Refer to consultant obstetric clinic. Give leaflet 'why do I need to see an anaesthetist'. Refer for anaesthetic	Ensure anaesthetic assessment completed Complete risk assessment for manual handling and	Inform duty anaesthetist of admission Early venous access and consider early epidural in labour	

greater			assessment. Obstetric review for thromboprophylaxis.	equipment requirements	Inform senior obstetrician and anaesthetist of admission	

BARIATRIC EQUIPMENT AVAILABLE IN MATERNITY

Wheal Rose Ward:

- Blood pressure cuff (non-latex) size up to 47cms
- Hill-Rom manual use patient bed 180kg (28st 4.8lb or 396.8 pounds) maximum weight.
- Barriactric chair accommodates up to 40 stone

Wheal Fortune Ward:

- Blood pressure cuff (non-latex) size up to 47cms
- Hill-Rom manual patient bed 180kg (28st 4.8lb or 396.8 pounds) maximum weight
- Hill-Rom electric patient bed 250kg (39st 5.2lb or 551.2 pounds) maximum weight
- Barriactric chair accommodates up to 40 stone

Delivery Suite:

- Blood pressure cuff (non-latex) size up to 47cms
- Hill-Rom manual patient bed 180kg (28st 4.8lb or 396.8 pounds) maximum weight
- Hill-Rom electric patient bed 250kg (39st 5.2lb or 551.2 pounds) maximum weight
- Hill-Rom labour, delivery and instrumental patient bed 227kg (35st 10.4lb or 500.4 pounds) maximum weight, foot end of bed maximum load 68kg (10st 9.9lb or 149.9 pounds)
- Hovermat patient transfer system NO weight limit
- Operating table **locked** maximum weight 270kg (42st 7.2lb or 595.2 pounds) **unlocked** maximum weight 135kg (21st 3.6lb or 297.6 pounds)

Reception main entrance: Wheel chairs 209.55kg (33st or 297.6 pounds)

Extra equipment available from RCHT barriatric library includes

- Hoists to accommodate up to 47 stone
- Walking frames to accommodate up to 47 stone
- Commodes to accommodate up to 40 stone
- Pressure relieving mattress to accommodate up to 39 stone
- Beds to accommodate up to 40 stone

3. Monitoring compliance and effectiveness

Element to be monitored	Clinical Guideline for the Management of a Woman with an Increased Body Mass Index (BMI) in Pregnancy, Labour and Post Delivery
Lead	Maternity risk manager
Tool	• Was the BMI documented in the hand held notes • Was the BMI available on the 'stork' maternity system • If the woman's BMI was 40 or greater did she received an ante natal consultation with an obstetric anaesthetist • If the woman's BMI was 40 or greater did she have a documented obstetric anaesthetist plan for labour and delivery • If the woman had a BMI of 30 or above was it documented that she was informed of the risks of possible intrapartum complications. • For woman with a BMI of 40 or greater was an individual manual handling and tissue viability assessment completed and a management plan developed, if required.
Frequency	• 1% or 10sets, whichever the greater, of all health records of women who have delivered, will be audited over a 12 month period • 15 or 10 sets, whichever is the greatest, of all health records of women who have delivered wo required an antenatal consultation with an obstetric anaesthetist, will be audited over a 12 month period. • 1% or 10 sets, whichever is the greatest, of all health records of women who have delivered who have required an individual documented assessment in the third trimester, will be audited over a 12 month period
Reporting arrangements	• A formal report of the results will be received annually at the maternity risk management and clinical audit forum, as per the audit plan • During the process of the audit if compliance is below 75% or other deficiencies identified, this will be highlighted at the next maternity risk management and clinical audit forum and an action plan agreed.
Acting on recommendations and Lead(s)	• Any deficiencies identified on the annual report will be discussed at the maternity risk management and clinical audit forum and an action plan developed • Action leads will be identified and a time frame for the action to be completed • The action plan will be monitored by the maternity risk management and clinical audit forum until all actions complete
Change in practice and lessons to be shared	• Required changes to practice will be identified and actioned within a time frame agreed on the action plan • A lead member of the forum will be identified to take each change forward where appropriate. • The results of the audits will be distributed to all staff through the risk management newsletter/audit forum as per the action plan

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement.

4.2. *Equality Impact Assessment*

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Document Title	Increased Body Mass Index (BMI) in Pregnancy, Labour and Post Delivery.			
Date Issued/Approved:	14th June 2016			
Date Valid From:	14th June 2016			
Date Valid To:	14th June 2019			
Directorate / Department responsible (author/owner):	Obstetrics & Gynaecology/ Maternity Risk Manager			
Contact details:	01872 252270			
Brief summary of contents	Management of a woman with an increased body mass index.			
Suggested Keywords:	BMI Obesity in pregnancy			
Target Audience	RCHT	PCH	CFT	KCCG
	✓			
Executive Director responsible for Policy:	Medical Director			
Date revised:	2nd June 2016			
This document replaces (exact title of previous version):	Guideline for the management of a woman with an increased body mass index (BMI) in pregnancy, labour and post delivery			
Approval route (names of committees)/consultation:	Maternity Guideline Group Obs and Gynae Directorate Divisional Board for noting			
Divisional Manager confirming approval processes	Head of Midwifery			
Name and Post Title of additional signatories	Not Required			

Signature of Executive Director giving approval	{Original Copy Signed}			
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only	
Document Library Folder/Sub Folder	Clinical/Midwifery and Obstetrics			
Links to key external standards	CNST 3.10			
Related Documents/ References.	**References** • CMACE/RCOG March 2010: **Management of women with obesity in pregnancy** • National institute for health and clinical excellence: July 2010: **Weight management before, during and after pregnancy.** • RCHT thromboprophylaxis guideline.			
Training Need Identified?	No			

Version Control Table

Date	Version No	Summary of Changes	Changes Made by *(Name and Job Title)*
June 2009	V1.0	Initial document	Jan Clarkson Maternity risk manager
November 10	V1.1	Updated and compliance monitoring added	Jan Clarkson Maternity risk manager
September 12	V1.2	Change to compliance monitoring only	Jan Clarkson Maternity risk manager
June 2016	V1.3	Updated: • GTT at 26 rather than 28 weeks • Serial growth scans rather than fundal height measurement • 'Why do I need to see an anaesthetist' leaflet given at BMI >40 rather than >35	Rob Holmes Consultant Obstetrician and Gynaecologist

This document is to be retained for 10 years from the date of expiry.

This document is only valid on the day of printing

Controlled Document

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Initial Equality Impact Assessment Form

Name of Name of the strategy / policy /proposal / service function to be assessed (hereafter referred to as *policy*) (Provide brief description):	
Directorate and service area: Obs & Gynae Directorate	Is this a new or existing Policy? Existing
Name of individual completing assessment: Elizabeth Anderson	Telephone: 01872 252879
1. Policy Aim* Who is the strategy / policy / proposal / service function aimed at?	To give guidance to midwives on managing a woman with an increased body mass index in pregnancy, labour and post delivery.
2. Policy Objectives*	Evidence based care for women with increased BMI in pregnancy
3. Policy – intended Outcomes*	Good outcome for women with a raised BMI in pregnancy
4. *How will you measure the outcome?	Compliance monitoring
5. Who is intended to benefit from the policy?	Pregnant women & baby
6a) Is consultation required with the workforce, equality groups, local interest groups etc. around this policy? b) If yes, have these *groups been consulted? C). Please list any groups who have been consulted about this procedure.	

7. The Impact Please complete the following table.			
Are there concerns that the policy **could** have differential impact on:			
Equality Strands:	Yes	No	Rationale for Assessment / Existing Evidence

Age	X		
Sex (male, female, trans-gender / gender reassignment)	X		
Race / Ethnic communities /groups	X		
Disability - learning disability, physical disability, sensory impairment and mental health problems	X		
Religion / other beliefs	X		
Marriage and civil partnership	X		
Pregnancy and maternity	X		
Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian	X		

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked "Yes" in any column above and
- No consultation or evidence of there being consultation- this excludes any *policies* which have been identified as not requiring consultation**. or**
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended.	**Yes**	**No X**

9. If you are not recommending a Full Impact assessment please explain why.

N/A

Signature of policy developer / lead manager / director	Date of completion and submission

Names and signatures of members carrying out the Screening Assessment	1. Elizabeth Anderson 2.	

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust's web site.
Signed: Sarah-Jane Pedler
Date: 14th June 2016