NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Obesity, Management in pregnancy, Obstetrics

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	2
Does this version include changes to clinical advice:	Yes
Date Approved:	17th September 2019
Date of Next Review:	31st January 2023
Lead Author:	Sacha Haworth
Approval Group:	Obstetrics Clinical Governance Group

Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Greater Glasgow & Clyde

Obstetric Guidelines

Obesity – Management of women with a BMI>=40 in pregnancy

Severe obesity in pregnancy increases the risk of complications for pregnant women. National audits of maternal mortality in the UK have emphasised the importance of obesity as a risk factor for serious complications throughout pregnancy and the puerperium.

Women with severe obesity, defined as a BMI ≥ 40**,** represent a relatively small percentage of the obstetric population; however, they make up a disproportionately large number of cases featured in maternal morbidity and mortality reports. This guideline aims to reduce the risks associated with severe obesity in pregnancy.

Key Points

- **All women must have their height and weight measured at their booking visit and again at 36 weeks, and this must be used to calculate their BMI.**
- **All women should receive a sensitive discussion on the risk of severe obesity in pregnancy and be advised to maintain weight in pregnancy.**
- **Women should be offered 150 mg of aspirin daily from 12 weeks in the presence of co-existing risk factors for pre-eclampsia:**
    - **A family history of pre-eclampsia,**
    - **An interpregnancy interval of over 10 years**
    - **First pregnancy**
    - **Multiple pregnancy**
    - **Age over 40**
- **Women should be offered screening for gestational diabetes at 24 - 28 weeks of gestation.**
- **Women should be offered fetal growth scans in the third trimester.**
- **Women should be offered an anaesthetic review in the third trimester.**

Pre-pregnancy

Women should be advised to aim for, and preferably achieve, a BMI ≤30. They should be advised as to the increased risks in pregnancy with increasing BMI.

Women should be referred for surgical management of severe obesity in line with existing GG&C guidance, prior to pregnancy.

Women with severe obesity should be advised to commence 5mg folic acid daily, from 1 month prior to pregnancy, and this should continue until 12 weeks to provide adequate prophylaxis against neural tube defects.

Women with pre-existing diabetes should be referred to tertiary care for pre-pregnancy counselling, regardless of BMI.

Women should be advised about the limited evidence regarding the safety of orlistat in pregnancy.

Booking

Women with severe obesity are considered high-risk in pregnancy, and should be reviewed at a consultant clinic early in the pregnancy and a plan made for antenatal care.

Women should be counseled regarding the increased risks of severe obesity in pregnancy:

Maternal	**Fetal**
Gestational Diabetes	Fetal anomaly
Hypertension / Pre-Eclampsia	SCBU admission
Caesarean section	Macrosomia & growth restriction
Post-partum haemorrhage	Shoulder dystocia
Venous thrombo-embolism	Stillbirth
Post-dates induction of labour	Neonatal death

Women should be advised that weight loss is not recommended in pregnancy, and that they should aim to maintain their current weight.

Women should be advised to cease orlistat, given the limited evidence for its safety in pregnancy

Women should be advised that calorie requirements do not increase in pregnancy until the 3rd trimester, and this increase is approximately 200kcl/day.

Women should be advised that mild to moderate physical activity (e.g walking or swimming) will not harm their fetus, and that at least 30 minutes of moderate activity is recommended per day.

Height and weight must be measured. Recall estimates by women themselves should not be accepted. This should be documented in both hand-held notes and on obstetric alert sheets within hospital-held notes.

If a woman's weight exceeds the maximum safe load for routine used hospital beds, the antenatal ward manager should be informed. If a woman's weight exceeds the maximum safe load for routinely used operating tables, the obstetric theatre coordinator should be informed.

Women should be offered 150mg of aspirin daily from 12 weeks gestation in presence of co- existing risk factors for pre-eclampsia:

- A family history of pre-eclampsia,
- An interpregnancy interval of over 10 years
- First pregnancy
- Multiple pregnancy
- Age over 40

Women should be advised to take 10 micrograms of vitamin D supplementation daily e.g. cholecalciferol 400u.

Women should be advised that delivery should take place in hospital, and that we cannot provide access to birthing pools.

Antenatal Care

Although these women are considered high risk it is entirely possible to remain well throughout pregnancy. They should be reviewed early in the pregnancy at a consultant clinic and a plan made. Review of scans may need to be at a consultant clinic and they should be reviewed again at the consultant clinic at about 36 weeks to discuss and plan delivery.

Women should have their blood pressure measured with an appropriate sized cuff at each booking appointment.

Risk factors for thromboembolism should be assessed formally at booking and at 28 weeks gestation.

Women should be offered a screening test for gestational diabetes at 24-28 weeks.

Women should be offered a minimum of two scans to assess fetal growth in the third trimester.

36 Week Visit

Women should be reviewed by senior medical staff at the clinic to complete plans regarding delivery.

Women should have a repeat measurement of their weight and this should be documented in both the hand held and base case notes.

Women should receive an ultrasound scan to assess: fetal size, wellbeing and presentation.

Women should have received an anaesthetic review in the third trimester. If this has not been completed, the on-call anaesthetic team should be contacted to review the woman at the clinic on the same day.

Women booking for caesarean section should be booked onto a list with a consultant present. Extra time required for the CS should be highlighted on the elective list.

Women should be offered induction of labour in line with routine policy. Women should be booked for induction of labour from Monday-Thursday where possible.

Labour and Delivery

During Labour

The obstetric and anaesthetic middle-grade staff should be informed if a woman admitted to labour ward has a BMI > 40.

The obstetric and anaesthetic consultants should be informed if a woman admitted to labour ward has a BMI > 50

All women with a BMI > 40 should have IV access established with a 14G (orange) cannula.

Continuous CTG monitoring should be established. If an acceptable CTG can be achieved through an abdominal transducer, it may not be necessary to attach a fetal scalp electrode.

All women with BMI > 40 should be offered early epidural if wished. Obstetric patients are at high risk of failed intubation, and severe obesity further increases this risk. A good quality epidural block can be improved to achieve equivalence to spinal anaesthesia, which may avoid general anaesthesia in an emergency.

All women with BMI > 40 should receive 150mg ranitidine orally, every 6 hours whilst in labour.

Severe obesity is a risk factor for post-partum haemorrhage. Consideration of other risk factors will determine if additional uterotonics required.

All women with BMI > 40 should have appropriate thromboembolic prophylaxis prescribed prior to leaving labour ward.

Instrumental Delivery

Operative vaginal deliveries can be technically difficult in women with morbid obesity. If there are any concerns then the on-call consultant should be contacted.

Caesarean Section

A significant number of women with BMI > 40 kg/m^2 will require delivery by caesarean section, whether elective or emergency. These points apply to both groups.

- Where the BMI is ≥40-49, the operation should be supervised or performed by a middle-grade obstetrician equivalent to ST6 or higher, a staff grade/specialty doctor, or a consultant. The anaesthetic should be performed or supervised by a senior trainee anaesthetist (ST5 or above), a staff grade/specialty doctor or a consultant.
- Where the BMI >50, the operation should be supervised or performed by a consultant obstetrician. All these cases should be discussed with the on call consultant anaesthetist and they will decide on a case by case basis whether their attendance is required.
- There is no specific evidence to advise the optimum location of the surgical incision in relation to the abdominal apron.
- Routine skin preparation should be performed with chlorhexidine, in line with local policy, ensuring adequate coverage beneath any overhanging apron.
- The use of additional abdominal traction straps, or additional retraction devices can be used at the discretion of the operating surgeon
- Prophylactic antibiotics should be administered as per hospital policy, with an additional 1g of amoxicillin if the last weight is > 80kg and patient is not allergic to penicillin.
- After the delivery of the placenta routine third stage management should be given. These women however are at increased risk of post partum haemorrhage and other risk factors should be considered for PPH prophylaxis.
- The use of 2.0 looped PDS to close the rectus sheath is recommended if the BMI is > 50, but can be considered if the BMI is 40-49.
- The subcutaneous fat should be closed with interrupted sutures if > 2cm depth.
- All women with BMI ≥40 should have appropriate thromboembolic prophylaxis prescribed prior to leaving labour ward.

Postnatal Care

These women are at increased risk of all postnatal complications including PPH, sepsis, thromboembolism and wound breakdown.

- **ALL women** with BMI ≥ 40 kg/m^2 should receive prophylactic enoxaparin: the dose should be based on weight as per hospital protocol and be given for a minimum of 10 days
- Early mobilisation should be encouraged

BMI Body Mass Index, calculated by dividing weight in kilograms by the square of the height in metres. E.g. woman weighing 140kg who is 160cm tall:

160cm = 1.6 metres; 1.6 x 1.6 = 2.56

140/2.56 = **54.7**

References

RCOG Green Top Guideline No. 37a. April 2015. Thrombosis and Embolism during Pregnancy and the Puerperium, reducing the risk.

RCOG Green Top Guideline No 72, November 2018. Care of Women with Obesity in Pregnancy.

NICE. Caesarean section, CG132, November 2011. Last updated August 2019.

NICE. Hypertension in pregnancy: diagnosis and management, NG133, June 2019

MMBRACE Maternal Mortality Report 2015

Antiobesity drugs in early pregnancy and congenital malformations in the offspring. Obes Res Clin Pract.(2014)

Weight management before, during and after pregnancy Public health guideline [PH27] NICE (2010)

Lead Author

Dr S Haworth, ST7, PRM

Dr. M. McMillan, Consultant Obstetrician, PRM on behalf of the GGC Obstetric Guidelines Group

Title Obesity guideline Version 2

Implementation date 17.9.19 Review date 05/2022

Approval Obstetrics Governance Group August 2019

Dr Jane Richmond, Clinical Director

GGC..... Date .....

Updated (increased dose of aspirin)