Obesity in Pregnancy: Outpatient Management

Goal: ***"Every encounter should provide safety, privacy, and dignity."***

World Health Organization Body Mass Index (BMI) Categories

Category	BMI (kg/m²)
Underweight	***<18.5***
Normal Weight	**18.5-24.9**
Overweight	**25.0-29.9**
Obesity class I	**30.0-34.9**
Obesity class II	**35.0-39.9**
Obesity class III	**40 or greater**
Superobesity	**50 or greater**

Table 2. Increases In Congenital Anomalies in Obese Versus Nonobese Gravldas

Congenital Anomaly	Increaed Risk
Neural tube defects	OR, 1.87; *95%* CI, 1.62-2.15
Spina bifida	OR, 2.24; *95%* CI, 1.86-2.69
Cardiovascular anomalies	OR, 1.30; *95%* CI, 1.12-1.51
Septal anomalies	OR, 1.20; *95%* CI, 1.09–1.31
Cleft palate	OR, 1.23; *95%* CI, 1.03–1.47
Cleft lip and palate	OR, 1.20; 95% CI, 1.03–1.40
Anorectal atresia	OR, 1.48; *95%* CI, 1.12-1.97
Hydrocephaly	OR, 1.68; *95%* CI, 1.19–2.36
Limb reduction anomalies	OR, 1.34; *95%* CI, 1.03-1.73

Abbreviations: CI, confidence interval; OR odds ratio

Data from Stothhard KI, Tennant PW, Bell R, Rankin J. Maternal overweight and obesity and the risk of congenital anomalies: a systematic review and metanalysis. JAMA 2009;301 :636-50.

Table 3. Absolute Risks Per 10,000 Pregnancies for Body Mass Index Categories 20, 25, and 30

	Maternal BMI		
	20	25	30
Fetal death	76	82 (95% CI, 76--88)	102 (95% CI, 93-112)
Stillbirth	40	48 (95% CI, 46–51)	*59* (95% CI, S5-63)
Perinatal death	66	73 (95% CI, 67–81)	86 (95% CI, 76-98)
Neonatal death	20	21 (95% CI, 19-23)	24 (95% CI, 22-27)
Infant death	33	37 (95% CI, 34-39)	43 (95% CI, 40-47)

Abbreviations: BMI, body mass index; CI, confidence interval.

Data from Aune D, Saugstad OD, Henriksen T, Tonstad S. Maternal body mass index and the risk of fetal death, stillbirth, and infant death: a systematic review and meta-analysis. JAMA 2014;311:1536-46.

Preconception

[] Obtain weight, height, and calculate pre-pregnancy BMI for accurate counseling.

[] Review medications and counsel on pregnancy considerations (i.e. weight loss medications or oral antihyperglycemic agents).

[] Counsel patient on obesity related pregnancy risks including increased risk of congenital anomalies and adverse perinatal outcomes.

[] Screen for additional pre-pregnancy cardiometabolic risk factors (HTN, dyslipidemia, elevated triglycerides, impaired glucose metabolism or diabetes mellitus, obstructive sleep apnea, tobacco use) and counsel as appropriate.

[] Screen for obstructive sleep apnea and refer to sleep medicine as indicated.

[] Referral to obesity medicine or bariatric surgery* if patient desires -any weight loss prior to pregnancy will help to decrease riskof adverse outcomes

[] Begin a prenatal vitamin and 1-4mg of folic acid daily prior to conception

*Candidates for bariatric surgery include adolescents and adults with a BMI ≥40 kg/m^2, or a BMI of 35 to 39.9 kg/m^2 with at least one serious comorbidity, who have not met weight loss goals with diet, exercise, and drug therapy.

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First Trimester

[] Baseline HELL P labs and urine protein/creatinine ratio

[] 1hr GTT

[] Baseline TSH

[] Screen for additional cardiometabolic risk factors (HTN, impaired glucose metabolism or diabetes mellitus, obstructive sleep apnea, tobacco use)

[] Screen for OSA > refer to sleep medicine as indicated

[] Consider Baseline EKG BMI≥40kg/m^2

[] Echocardiogram if abnormal EKG, chronic hypertension, or signs/symptoms of suspected cardiac etiology (chest pain, SOB, palpitations, etc...)

[] Nutrition consultation

[] Review total weight gain goal 11-20lbs in pregnancy - approximately .51bs (.4-.6) per week in 2nd and 3rd trimesters

[] Offer aneuploidy screening, discuss limitations of NIPT for patients with obesity

[] Consider collecting a maternal serum AFP in conjunction with US for screening of neural tube defects

Second + Third Trimester

[] Targeted US (BMI >35kg/m^2) - patient should be counseled on limitations of US in identifying structural anomalies

[] Third trimester growth ultrasound for BMI ≥35-39kg/m^2

[] Monthly growth ultrasound for BMI ≥40kg/m^2 or if cannot accurately measure fundal height

[] NST weekly for BMI≥40kg/m^2 starting 34w0d-34w6d weeks

[] Anesthesia consult for any of the following:

1. Cannot walk 2 blocks without stopping or cannot do light housework without stopping
2. Cannot lie flat.
3. Currently on anticoagulants or will be on anticoagulants

[] Contraception counseling

[] BMI≥40kg/m^2 Delivery by EDD in the absence of other obstetric indications

Postpartum:

[] Breastfeeding support

[] Consider lovenox x6 weeks for BMI >50* after cesarean delivery

-BMI 40-59.9kg/m^2: 40mg q12hr

-BMI ≥60kg/m^2: 60mg q12hr

[] Transition care to PCP and obesitymedicine

Obesity in Pregnancy: Management Inpatient

Labor and Delivery Unit Readiness:

[] Huddle with OB attending, charge RN, and anesthesia to determine best unit for patient's care

[] Confirm bariatric bed availability in labor and in OR

On Admission

[] Notify anesthesia team

[] 2 IVs

[] Perform postpartum hemorrhage risk assessment

[] SCDs

Intrapartum:

[] Considerations for intrauterine fetal and tocometry monitoring

[] Review patient positioning and staff needs for intrauterine resuscitation, pushing, and possible shoulder dystocia

If cesarean delivery:

[] Assessment of optimal skin incision preoperatively - paraumbilical may improve visualization and decrease risk ofsurgical site infection

[] Antibiotic prophylaxis:

- 2gm cefazolin for >80kg
- 3gm cefazolin for >120kg

Postpartum Unit:

[] VTE prophylaxis

[] Lactation support

Sources:
Stothard KJ, Tennant PW, Bell R, Rankin J. Maternal overweight and obesity and the risk of congenital anomalies: a systematic review and meta-analysis. JAMA. 2009 Feb 11;301(6):636-50. doi: 10.1001/jama.2009.113. PMID: 19211471.

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Created 11/2021- JJ