

Safer Care of Obese Pregnant Patients

The recommendations in this publication are intended to prompt providers to address and screen for potential complications and assist facilities in optimizing safety and care for all modes of delivery. In the case of the Class III obese patient (BMI ≥ 40), these recommendations should be implemented, and should be considered in the care of any obese maternal patient (BMI < 40).

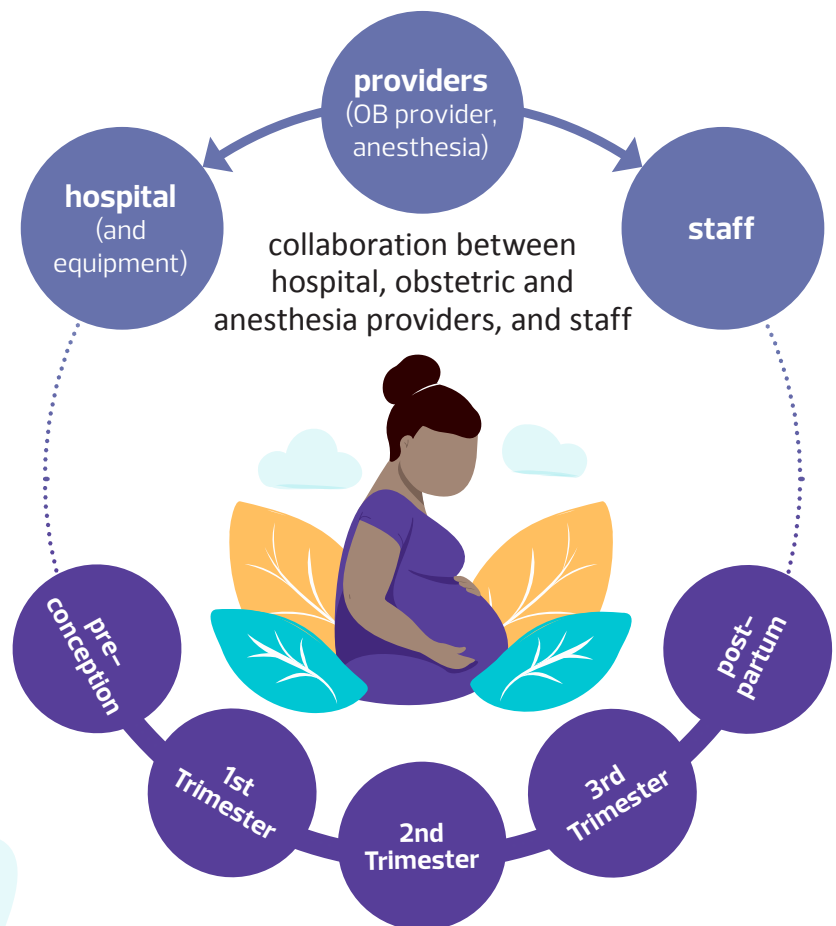
Obesity in Washington State

The Maternal Mortality Report¹ found almost all of the women who died from pregnancy-related causes were greater than or equal to overweight, and nearly a third had a BMI greater than 40. Also, obesity was a contributing factor to death in some of the pregnancy-related deaths.

- 51.8% of women who gave birth from 2017–2019 were calculated to be overweight or obese prior to pregnancy.²
- Overall pre-pregnancy obesity increased 11% from 2010 to 2019.³
- Pre-pregnancy Class III (very severe) obesity increased 14% from 2010 to 2019.³
- 4.9% of deliveries from 2017–2019 were to women with calculated pre-pregnancy Class III obesity.²

It is recommended that all women with BMI > 40 :

- Receive referral to maternal fetal medicine for plan of care.
- Consult with anesthesia before 28–32 weeks gestation.
- Deliver at a facility with equipment and staff experienced in delivering high risk women with a BMI > 40 .



1 Maternal Mortality Report: www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/MaternalMortalityReviewPanel

2 Washington State Department of Health, Center for Health Statistics, Birth Certificate Data 2017–2019, June 2021.

3 Washington State Department of Health, Center for Health Statistics, Birth Certificate Data 2010–2019, June 2021.

* Body Mass Index (BMI) was derived from the 1832 Quetelet Index, developed by Belgian mathematician Adolphe Quetelet to be used as a population-level tool. The development and use of BMI were initially based on a predominantly white and male population, and may not have taken into account natural variations across sexes and racial ethnic groups around the world. While BMI is still used to assess population-level trends in weight gain and loss, specific findings should be interpreted with caution.

Pre-Pregnancy Care and Considerations of the Obese Maternal Patient

Assessment

Health History

- ❑ Assess for pre-existing comorbidities
 - Consider MFM consult/referral based on comorbidities and risk
 - Diabetes Mellitus, thyroid disorders, hypertension, liver/gallbladder disease, cancer history, orthopedic issues, sleep apnea, cardiovascular diseases are more prevalent in the obese population

BMI Classification

- ❑ Assess weight distribution, BMI, and obesity class

Labs

- ❑ Baseline serum chemistries including uric acid, hepatic transaminases, A1C, 24 hour urine collection to assess for proteinuria for those at highest risk (Class III)

Preventative

- ❑ Initiate folic acid (400micrograms) and multivitamin supplementation



Weight Reduction

Weight Reduction

- ❑ Goal setting for weight loss prior to conception
- ❑ Strongly counsel patient to achieve weight loss prior to conception. Weight reduction as little as 10% can improve many chronic conditions associated with obesity and pregnancy.
- ❑ Registered dietitian consult
- ❑ Dietary changes
- ❑ Behavior modification
- ❑ Exercise
- ❑ Pharmacotherapy

Surgical History

- ❑ Assess for prior or consideration of having bariatric surgery
- ❑ Determine type of procedure
- ❑ Recommend 12–18 month interval from procedure to conception
- ❑ Avoid exposure to surgical complications and rapid weight loss phase
- ❑ Educate on possibility of complications (band migration, port infection, etc.)
- ❑ Monitor for malabsorption
- ❑ Start B12 and minimum of 400 mcg folic acid

Pregnancy and Delivery Risks

- ❑ Counsel patient on risks of pregnancy and delivery (adverse maternal, fetal, infant outcomes)
- ❑ Fertility issues
- ❑ Pre-eclampsia
- ❑ Hypertension
- ❑ Diabetes (maternal, fetal, neonatal risks)
- ❑ Cardiovascular compromise
- ❑ SGA and LGA infants
- ❑ Protracted labor
- ❑ Thrombosis
- ❑ Risk associated with C/S
- ❑ Anesthesia complications
- ❑ Fetal malformation, miscarriage, demise
- ❑ Birth trauma
- ❑ Possible need of pre-term delivery/associated risks for infants
- ❑ Lifelong implications of maternal obesity to infant
- ❑ Necessity of increased pregnancy surveillance, labs, monitoring, appointments, etc.
- ❑ Possible need to deliver at a higher level of care if local hospital unable to provide appropriate staff and equipment

Clinical Management of the Pregnant Obese Patient

Those planning to be pregnant and pregnant women with **Class III obesity** should **always** receive referrals to a maternal fetal medicine specialist for a pregnancy and delivery **plan of care**.

World Health Organization: Obesity Classification⁴

Nutritional status	BMI	Risk of co-morbidities
Normal Weight	18.5–24.9	Average
Pre-obesity	25.0–29.9	Increased
Obesity Class I	30.0–34.9	Moderate
Obesity Class II	35.0–39.9	Severe
Obesity Class III	Above 40	Very Severe



Recommendations

1st Trimester

- Thorough health history
- Identify co-morbidities
- Pregnancy history
- Height, weight, BMI
- Ultrasound on entry
- Labs
- HTN/BP checking renal function may be indicated
- Evaluate DM, early glucose tolerance (A1C, in addition to ACOG early GDM screening)
- Medical review with high risk OB provider
- Screen/evaluate for obstructive sleep apnea
- Assess risk for VTE
- Depression screening
- IOM guidelines weight gain (11–20 pounds)
- Diet/nutrition assessment
- Encourage fluids/hydration
- Emotional trauma history/ACEs
- Assess social determinants of health, such as transportation, ability to obtain healthy food and medications, presence of domestic violence, and living environment

2nd Trimester

- Thorough anatomical survey
- Consider fetal echocardiogram (elevated A1C, unable to clear fetal cardiac view on ultrasound)
- Glucose tolerance testing at 14–24 weeks
- Aggressive glucose control
- Aggressive BP control (consider intervention at B/P 140/90 **AND** get MFM consult)
- Pannus health (skin assessment and care)
- Refer to childbirth education
- Discuss feeding plans for newborn
- Determine if patient can deliver at local hospital or plans for delivery at referral facility need to occur

3rd Trimester

- Obstetric/MFM higher level provider consultation at 28–32 weeks (to assist with determination of safest place to deliver patient)**
- Anesthesia consult (to assist with determination of safest place to deliver patient)
- Delivery planning
- Growth ultrasound
- Consider routine antenatal surveillance initiated around 34 weeks gestational age until delivery
- Confirm plans for location of delivery

Intrapartum

- IV access: ultra-sound guided placement/IV team
- Early anesthesia consultation
- Close observation of vital signs (maternity watch guidelines)
- Fetal monitoring adequacy/low threshold for FSE and IUPC monitoring
- Consideration of limited PO intake (ice chips, clears, etc. with higher risk for operative delivery)
- Intrapartum care team huddle
- Manage expectations regarding longer latent labor
- Promote position changes during pushing if possible, and be vigilant assessing progress in 2nd stage
- Active management of 3rd stage
- Appropriate antibiotic dosing for higher BMI

Post Partum

- Hemorrhage kit, tamponade balloon or device
- VTE prophylaxis
- Lactation support
- Wound healing/wound vac
- Discharge planning
- Support at home if mobility challenged

Caring for Maternal Patients with BMI >40

Recommendations for Hospital Services and Capabilities

Service Lines and Staffing

- 24-hour obstetric provider
- 24-hour in-house anesthesia coverage
- Extra staff for anesthesia and/or L&D
- Rapid response team (i.e. ICU team, code blue team)
- Respiratory therapy in-house
- 24/7 neonatal resuscitation team
- Nursing staff 1:1 for OB patient
- Laboratory services
- Hemorrhage protocol (cart/meds)
- Ability to obtain blood products for transfusion in a timely manner
- Wound team/wound vacuum post C-section

Equipment

- Bed: bariatric bed (1000 pound capacity)
- Wheelchairs: extra-wide
- Wide, motorized stretchers

- Toilet: extra-wide/bariatric toilet (500 pound capacity)
- Inflatable transfer mattress
- Motorized lifts

OR/Medical Equipment

- Extra-large sequential compression devices
- Larger belt/straps for OR table
- OR table extenders
- Scanning equipment capable to care for Category III obese patient
- Appropriate size BP cuffs

Surgical instruments

- Appropriate sized instruments, retractors and clamps capable for use on Category III obese patient
- Recommend panniculus retractors
- OR beds capable of accommodating obese patient

Considerations for Intrapartum Complications/Risks

Enhanced Risk of Cesarean Section

- Obtain informed consent
- Labor dystocia intervention
- Active labor management

Enhanced Risk for Hemorrhage

- Emergent hemorrhage protocol
- Hemorrhage cart
- Hemorrhage risk assessment
- Team training/simulation drills
- Blood typed and crossed for transfusion

Enhanced Risk of Infection

- Thorough skin preparation
- Adequate antimicrobial prophylaxis
- Avoidance of subpannicular incision
- Meticulous surgical technique
- Consideration of subcutaneous drain

Enhanced Thrombolytic Risk

- Apply sequential compression device (SCD)
- Heparin or other anti-thrombolytic therapy
- Early post-operative ambulation

Team Awareness/Psychosocial Considerations

- Become your patient's advocate
- Recognize societal bias/discrimination
- Provide a safe, therapeutic environment
- Provide care and compassion – addressing special needs of this patient
- Focus on individual **not** the obesity
- Be attentive to OB needs
- Offer support, reassurance, encouragement
- Preserve dignity at all times

Potential for Difficult IV Access

- Ultrasound available to assist with PIV placement/ IV team
- Reliable PIV or consider a midline or central IV access
- Midline/central line
- Emergent IO access available
- Assess site frequently

Monitoring

- Reliable NIBP
- Low threshold for arterial line placement

Difficulty with Patient Transfers

- Team plan for patient room placement
- Consider OR suite delivery for all Category II FHR tracings and all operative vaginal delivery
- Multidisciplinary plan with OB/nursing/anesthesia regarding transport for emergent C-section
- Bariatric lifts
- Bariatric wheelchairs
- OR table rated for patient's weight
- Bed extenders
- Extra padding/avoid ulcers
- Hover mat/inflatable transfer mattress
- Available additional personnel
- Body mechanics to ensure patient and caregiver safety

Anesthesia Complications

See *Anesthesia Table and Checklists*

- Risk for airway complications
- Risk for respiratory complications
- Potential difficulty acquiring epidural/spinal anesthesia

Provider Discussion Points for the Obese Maternal Patient

Pre-Pregnancy

- A BMI is defined by your weight and height.
- Class III Obesity increases your risk for cesarean section.

Pregnancy

- A BMI is defined by your weight and height.
- Class III Obesity is a BMI ≥ 40 kg/m².
- You have Class III Obesity.
- With Class III Obesity, your risks for maternal and fetal issues during labor are increased.
- We would like to optimize care for you and your baby by having you at a center with a team of experts who can give you the best care (blood, anesthesia).
- We will monitor you closely and you may need to meet with other health care provider, such as an early assessment with an anesthesia provider to have a delivery plan in place.

Delivery

- Class III Obesity increases your risk for cesarean section (well known).
- Less than 50% chance of vaginal delivery.
- Delivery may need to take place at a hospital which can manage potential complications to keep you and your baby safe.



Click here to download Anesthesia Checklists:

- [Plan for Delivery: 3rd Trimester Maternal Obesity Anesthesia Evaluation](#)
- [Delivery Checklist: Maternal Obesity Delivery Anesthesia Checklist](#)



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