Community Care
OF NORTH CAROLINA

Pregnancy Medical Home Program Care Pathway

Management of Obesity in Pregnancy

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Table of Contents

Appendices

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Introduction

Obesity is the most common health problem in women of reproductive age. Approximately 34% of women have a BMI > 30 and 7.5% have a BMI > 40.[1] In North Carolina, 33% of pregnant women receiving care at a Pregnancy Medical Home had a BMI>30.[2] In this care pathway we provide suggestions for the care of the obese pregnant patient. For detail behind these recommendations, please review the references included below.

This pathway focuses on two patient groups:

- Class I/II Obesity: Patients with BMI >30 - 40
- Class III Obesity: Patients with BMI >40

Guidance for the management of pregnancy in a patient of any weight with a history of bariatric surgery can be found in Appendix A.

Note: Pregnancy Medical Home Care Pathways are intended to assist providers of obstetrical care in the clinical management of problems that can occur during pregnancy. They are intended to support the safest maternal and fetal outcomes for patients receiving care at North Carolina Pregnancy Medical Home practices. This pathway was developed after reviewing ACOG resources such as practice bulletins, committee opinions, and Guidelines for Perinatal Care as well as current obstetrical literature. PMH Care Pathways offer a framework for the provision of obstetrical care, rather than an inflexible set of mandates. Clinicians should use their professional knowledge and judgment when applying pathway recommendations to their management of individual patients.

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[1] Flegal KM, Carroll MD, Kit BK, Ogden CL. Prevalence of obesity and trends in the distribution of body mass index among US adults, 1999-2010. JAMA. 2012;307(5):491-497. doi:10.1001/jama.2012.39
[2] Tucker CM, Berrien K, Menard MK, et al. Predicting Preterm Birth Among Women Screened by North Carolina's Pregnancy Medical Home Program. Matern Child Health J. 2015;19(11):2438-2452. doi:10.1007/s10995-015-1763-5

1 | Preconception Care

Care of the obese patient should focus on two priorities prior to conception: identification and management of comorbid conditions and aggressive weight loss management. Pregnancy outcomes improve with control of medical co-morbidities, but weight loss will also reduce the risk of obesity-related complications during a subsequent pregnancy.

Screen for co-existent metabolic syndrome/other co-morbid conditions:

- Diabetes
- Hypothyroid
- Lipid abnormalities
- Hypertension
- Nonalcoholic steatohepatitis (NASH) syndrome
- Heart Disease
- Obstructive Sleep Apnea

Weight loss strategies:

- Nutritional consultation
- Exercise
- Referral for bariatric surgery
    - BMI > 40
    - BMI > 35 with 2 co-morbid conditions
- Folic acid supplementation: 1 mg daily

2 | Antepartum Care

First Trimester:

1. Screen for comorbid conditions
    - HgbA1c/early gestational diabetes screening note: if HgbA1c is a) >=6.5%, DM is diagnosed; b) 5.7-6.4%, recommend screening/testing with 2 hr or 3 hr GTT prior to 20 weeks; or, c) <5.7%, then screen with 1 hr GTT at 24-28 weeks.[3]
    - Metabolic panel
    - TSH
    - Urine protein/creatinine ratio

[3] Needs reference

- Consider maternal EKG in patients with BMI >40 and in those with BMI > 30 and co-morbidities

2. Nutritional information/consultation
    - Recommended weight gain per Institute of Medicine is 11-20 pounds[4]
    - Folic acid supplementation: 1mg/daily
3. Discuss perinatal risks
    - Fetal anomalies: Obesity increases risk of fetal anomalies and decreases likelihood of detecting anomalies.[5]
    - Prenatal genetic screening: Obesity decreases median fetal fraction in maternal plasma cell-free DNA; consider delaying non-invasive prenatal screening/testing until 14 weeks in women >100kg and until 18 weeks in women >160kg.[6]
    - Gestational diabetes
    - Preeclampsia
    - Macrosomia
    - Cesarean section/wound complications
    - Stillbirth
4. Ultrasound for accurate dating
5. Suspected sleep apnea: Snoring, excessive daytime sleepiness, witnessed apneas, or unexplained hypoxia
    - Order sleep lab testing (label urgent request given risks for pregnancy loss, IUFD, IUGR, preeclampsia)[7, 8, 9]
    - Refer to a sleep specialist if needed
    - Positive STOP BANG questionnaire[10]
        - 3 or more "yes's" to the following questions: Snoring? Tiredness during the day? Observed apneas? Hypertension? BMI >35kg/m2? Age >50yo? Neck circumference >40cm?
6. Consider high-risk obstetrics (HROB) or maternal-fetal medicine (MFM) consult per institutional protocol or for BMI > 50
7. Low dose aspirin: 81 mg daily for BMI > 40 or for BMI > 30 with additional risk factor, initiated between 12-16 weeks of gestation, up to 28 weeks of gestation if delayed entry to prenatal care

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[4] American College of Obstetricians and Gynecologists. ACOG Committee opinion no. 548: weight gain during pregnancy. Obstet Gynecol. 2013;121(1):210-212. doi:http://10.1097/01.AOG.0000425668.87506.4c.
[5] Aagaard-Tillery KM, Flint Porter T, Malone FD, et al. Influence of maternal BMI on genetic sonography in the FaSTER trial. Prenat Diagn. 2010;30(1):14-22. doi:10.1002/pd.2399.
[6] Ashoor G, Syngelaki A, Poon LC, et al. Fetal fraction in maternal plasma cell-free DNA at 11-13 weeks gestation: relation to maternal and fetal characteristics. Ultrasound Obstet Gynecol 2013; 41(1):30.
[7] Louis J, Auckley D, Miladinovic B, et al. Perinatal outcomes associated with obstructive sleep apnea in obese pregnant women. Obstet Gynecol. 2012;120(5):1085-1092. doi:10.1097/AOG.0b013e31826eb9d8.
[8] Facco FL, Ouyang DW, Zee PC, Grobman WA. Development of a pregnancy-specific screening tool for sleep apnea. J Clin Sleep Med. 2012;8(4):389-394. doi:10.5664/jcsm.2030.
[9] Dominguez J, Street L, Louis J. Mgmt of Obstructive Sleep Apnea in Pregnancy. Obstet Gynecol Clin N Am; 45 (2018) 233-247.
[10] There is no data to support use of STOP BANG in pregnant women, in fact several studies have shown it does not work. Validated screening tools are forthcoming, but tools produced by Facco and colleagues are more promising than stop-bang. Facco et al 2014, and Louis et al 2018.

Second Trimester:

1. Monitor weight gain
2. Detailed anatomy ultrasound
    - Limitations should be addressed with patient
3. Maternal serum screening (msQUAD and msAFP)
    - If weight >270lbs increases false positive results incrementally with greater deviation above this cutoff.[11]
4. Consider OB Anesthesia consult per institutional protocol or for BMI > 50
5. 1 hr GTT (26-28 weeks if DM ruled out with initial screening)[12]

Third Trimester:

1. Consider serial growth ultrasound if pannus precludes accurate fundal height assessment
2. Consider weekly BPP or NST/AFI after 36 weeks
3. Consider referral to HROB/MFM for delivery planning based on Institutional protocol or with BMI > 50

3 | Delivery

Induction per institutional protocol:

- Timing and method per local preference
- Consider pneumatic compression devices for those with prolonged bed rest with induction

Cesarean delivery:

- In patients with BMI >60, there are instances where inability to perform emergent cesarean may preclude attempt at vaginal delivery and primary cesarean is recommended
- Work with anesthesia colleagues to develop a comprehensive post-op plan that includes respiratory monitoring if patient has OSA, or at high risk for OSA, particularly if opiate based analgesic techniques are used for post-op pain or if neuraxial morphine is administered
    - Consider multi-modal or regional anesthesia when feasible/appropriate
- Consider 3 grams cefazolin with cesarean delivery
- Consider Hibiclens® shower/wipe prior to cesarean
- Operative prep per local protocol

[11] Rose NC. Genetic screening and the obese gravida. Clin Obstet Gynecol 2016; 59(1):140-7.
[12] Denney JM, Quinn KH. Gestational Diabetes: Underpinning Principles, Surveillance, and Management. Obstet Gynecol Clin N Am; 45 (2018) 299-314.

- Pneumatic compression devices for all cesarean patients
- Consider a negative pressure wound dressing in high risk patients
    - BMI > 40, chorioamnionitis in labor, prolonged labor, preeclampsia with significant edema
- Occupational/physical therapy consult post-delivery if difficulties with wound care and or daily living are anticipated

Consider low molecular weight heparin prophylaxis in highest risk patients (BMI > 50, chorioamnionitis in labor, prolonged labor, preeclampsia).[13, 14]

- Initiate at 12-24 hours post delivery
    - 40 mg BID BMI 40-60
    - 60 mg BID BMI >60

4 | Postpartum

See the Pregnancy Medical Home Care Pathway on Postpartum Care and the Transition to Well Woman Care for detailed guidance about timing of postpartum care and the content of the comprehensive postpartum visit.

Incisional check at 5-7 days with external wound vacuum removal, if utilized.

Comprehensive postpartum visit:

- Depression screen at comprehensive postpartum visit
- Review contraceptive options: IUD or implant are preferred methods
- Encourage breastfeeding
- Nutritional counseling
- Exercise

Ensure transition to primary care provider.

Consider bariatric surgery referral if:

- BMI > 40
- BMI > 35 with 2 co-morbid conditions

[13] Dolin CD, Kominiarek MA. Pregnancy in Women with Obesity. Obstet Gynecol Clin N Am; 45 (2018) 217-232.
[14] Overcash RT, Somers AT, LaCoursiere DY. Enoxaparin dosing after cesarean delivery in morbidly obese women. Obstet Gynecol. 2015;125(6):1371-1376. doi:10.1097/AOG.0000000000000873.

Appendix A: Management of Pregnancy in Patients with a History of Bariatric Surgery

Preconception:

1. 80% of patients undergoing bariatric surgery are women of reproductive age
2. NIH bariatric surgery indications
    - >100 lb excess weight
    - BMI >40 kg/m2 without obesity-associated co-morbidities (DM, CV disease, sleep apnea)
    - BMI 35-39.9 kg/m2 with 1 or more associated medical problems
    - Previous weight loss attempts

Table 1: Pregnancy Outcomes After Bariatric Surgery

Benefits	Absolute risk	Relative risk
Macrosomia (>4000 g) (4)	1.1 vs 0.6%	OR .4 (0.2-0.8)
HTN disorder (4)	7.8 vs 2.2%	0.4 (0.3-0.6)
DM (total) (4)	5.7 vs 2.2%	0.6 (0.4-0.9)
Gestational DM (6)		0.4 (0.3-0.8)
Perineal laceration (5)	23.0 vs 12.5%	0.4 (0.3-0.8)
Risks		
Cesarean section (6)		1.34 (1.1-1.7)
Small for gestational age (6)		2.7 (2.0-2.7)
Preterm birth (6)		1.4 (1.01 – 2.03)
PPROM (1)		1.9 (1.3-2)
NO CHANGE		
Miscarriage (7)	21.6 vs 26.0%	
Congenital anomaly (8)	4.1 vs 3.4%	

3. Three primary bariatric approaches
    - Gastric lap band (restrictive)
        - Less effective long term
        - 50% complication rate
    - Vertical sleeve gastrectomy (restrictive)
    - Roux-en Y (restrictive and malabsorptive)
4. Future pregnancy
    - Recommend reviewing risks and benefit of pregnancy outcomes after bariatric surgery (see table)

- No difference in pregnancy outcomes between malabsorptive and restrictive procedures[15]
- Recommend delaying pregnancy 18-24 months post-surgery

5. Contraceptive counseling
    - Recommend contraceptive counseling prior to bariatric surgery
        - Adolescents are the fastest growing group undergoing bariatric surgery and are twice as likely to become pregnant compared to general adolescent population
    - Oral contraceptive pill absorption decreased in Roux en Y; consider non-oral contraceptives

Initial Prenatal Visit and First Trimester:

1. Recommend maternal fetal medicine consultation; consider transfer of care
2. Consider proton pump inhibitor given increased risk of ulcers and reflux
3. Consider 81 mg aspirin daily for preeclampsia prevention
4. Nutritional considerations
    - Review Institute of Medicine weight gain goals based on pre-gravid BMI
    - Recommend nutrition consultation
    - Recommend protein 60-80 g/day
    - Recommend prenatal PNV (with 400 mcg folic acid) and MVI containing vitamin B1 1.2 mg, vitamin K 90 mcg, biotin 30 mcg, zinc 8 mg, folate 400 mcg, iron 18 mg
    - Ensure vitamin A supplementation > 5000 international units (IU)/day
        - Vitamins with beta-carotene, the pre-form vitamin A, which is not teratogenic, are preferred
        - Retinyl acetate and retinyl palmitate in doses of > 5000 IU/day may be teratogenic
    - After malabsorptive surgery (Roux en Y)
        - Vitamin B12 500-1000 mcg oral or sublingual daily
        - Calcium citrate 1200-2000 mg with Vitamin D 400-800 IU daily
    - After restrictive surgery (Lap band)
        - No consensus regarding nutritional supplementation
        - Consider early consultation with bariatric surgeon to adjust band for nausea/vomiting in first trimester
5. Labs
    - CBC
    - Ferritin
    - Iron
    - Vitamin B12
    - RBC folate (not serum folate which reflects recent oral intake)
    - Vitamin D

[15] 1 Sheiner E, Balaban E, Dreiher J, Levi I, Levy A. Pregnancy outcome in patients following different types of bariatric surgeries. Obesity surgery. 2009 Sep;19(9):1286-92.

- Calcium
- Oral intake absorption of medications may be decreased
    - If therapeutic drug levels are critical, test drug levels

Second Trimester:

1. DM screening
    - DM screening
        - 50% cannot tolerate glucola due to dumping syndrome (abdominal cramping, bloating, nausea, vomiting from fluid shifts post hyperosmolar fluid intake causing small bowel distension)
        - If able to drink a 12 oz soda, likely able to tolerate one hour 50 g glucose tolerance test
    - Alternative DM screening
        - Fasting and post-breakfast glucose checks x 1 week between 24-28 weeks
        - IV glucose tolerance test[16]
        - HgA1C > 6.5%: test screens for type 2 diabetes but NOT gestational diabetes mellitus
2. Labs
    - CBC
    - Ferritin
    - Iron
    - Vitamin D
    - Drug levels as needed
    - Diabetes screen at 24-28 wks +/- early screen based on BMI

Third Trimester:

1. Most women remain obese after surgery and may require labor induction, more oxytocin and have longer labor than non-obese women[17]
2. History of bariatric surgery is not an indication for cesarean delivery
3. Consider pre-labor consultation with bariatric surgeon if extensive abdominal surgery
4. Use caution with NSAIDs to avoid gastric ulceration.
5. Contraceptive counseling particularly if desiring OCPs and s/p Roux-en-Y as absorption may be compromised
6. If breastfeeding, encourage calcium citrate supplementation 1500 mg, vitamin D 400-800 IU & vitamin B12 500-1500 mcg daily
7. Drug levels as needed

[16] Posner NA, Silverstone FA, Breuer J, Heller M. Simplifying the intravenous glucose tolerance test. The Journal of reproductive medicine. 1982 Oct;27(10):633-8
[17] Sheiner E, Balaban E, Dreiher J, Levi I, Levy A. Pregnancy outcome in patients following different types of bariatric surgeries. Obesity surgery. 2009 Sep;19(9):1286-92

Postpartum:

1. Use caution with NSAIDs to avoid gastric ulceration.
2. Contraceptive counseling particularly if desiring OCPs and s/p Roux-en-Y as absorption may be compromised
3. Recommend lactation consult if breastfeeding
4. If breastfeeding, encourage calcium citrate supplementation 1500 mg, vitamin D 400-800 IU & vitamin B12 500-1500 mcg daily

Special Considerations:

1. Avoid extended release medication preparations; oral solutions and rapid releasing preparations are preferred.
2. Recommend high suspicion for gastro-intestinal complications in pregnant women with significant abdominal symptoms
    - Consider surgery consultation if patient presents with abdominal pain, nausea, vomiting or other abdominal symptoms

Additional References

Eid GM, Cottam DR, Velcu LM, et al. Effective treatment of polycystic ovarian syndrome with Roux-en-Y gastric bypass. Surgery for obesity and related diseases: official journal of the American Society for Bariatric Surgery. 2005 Mar-Apr;1(2):77-80.

Teitelman M, Grotegut CA, Williams NN, Lewis JD. The impact of bariatric surgery on menstrual patterns. Obesity surgery. 2006 Nov;16(11):1457-63.

Weintraub AY, Levy A, Levi I, Mazor M, Wiznitzer A, Sheiner E. Effect of bariatric surgery on pregnancy outcome. Int J Gynaecol Obstet. 2008 Dec;103(3):246-51.

Belogolovkin V, Salihu HM, Weldeselasse H, et al. Impact of prior bariatric surgery on maternal and fetal outcomes among obese and non-obese mothers. Archives of gynecology and obstetrics. 2012 May;285(5):1211-8.

Marceau P, Kaufman D, Biron S, et al. Outcome of pregnancies after biliopancreatic diversion. Obesity surgery. 2004 Mar;14(3):318-24.

Josefsson A, Bladh M, Wirehn AB, Sydsjo G. Risk for congenital malformations in offspring of women who have undergone bariatric surgery. A national cohort. BJOG: an international journal of obstetrics and gynaecology. 2013 Nov;120(12):1477-82.

ACOG practice bulletin no. 105: bariatric surgery and pregnancy. Obstet Gynecol. 2009 Jun;113(6):1405-13.

Appendix B: Provider Resources

American Congress of Obstetrics and Gynecology (ACOG)

- ACOG Committee Opinion No. 600, June 2014: Ethical Issues in the Care of Obese Patients
- This opinion highlights some of the potential challenges facing obese patients including stigma, economic hardship and food insecurity
- ACOG Committee Opinion No. 423, January 2009: Motivational Interviewing: A Tool for Change
- This opinion defines key terms, goals and strategies for motivational interviewing and includes coding information for billing about time spent motivational interviewing

US Department of Agriculture: Interactive Dietary Reference Intake

- This calculator generates macronutrient, vitamin and mineral recommendations for women and infants depending on pregnancy status, trimester and lactation status

US Preventative Services Task Force (USPSTF)

- The USPSTF recommends screening all adults for obesity and referring patients with a BMI greater than 30 for intensive, multicomponent behavioral interventions concluding that there is a Grade B body of evidence to support this screening. Their recommendation discusses current evidence and interventions.

Centers for Disease Control and Prevention (CDC)

- The CDC publishes an adult BMI calculator and adolescent BMI calculator, highlighting the challenges of using BMI in teenage populations
- The CDC also provides a growth chart for adolescent girls

Appendix C: Patient Education Materials

American Congress of Obstetrics and Gynecology (ACOG) FAQ on Obesity and Pregnancy

A list of questions and answers addressing topics such as body mass index, ideal weight gain during pregnancy by BMI, concerns about mode of delivery and weight loss before, during and after pregnancy.

- Exercise during pregnancy: includes symptoms that indicate exercise may be a problem
  - Also available in Spanish
- Exercise after delivery: reviews activity types and goals in the postpartum period
  - A similar document in Spanish includes realistic drawings of exercises targeting core strength as well as a description of Kegel exercises
- Nutrition during pregnancy: Reviews macronutrient and vitamin recommended daily targets during pregnancy
  - A similar document in Spanish includes additional information such as daily dietary targets by food group and examples of nutrient containing foods with relevant portion sizes
- Obesity and pregnancy: Covers BMI, risks associated with obesity during pregnancy and delivery, weight loss concerns, surgical options for weight loss
  - Also available in Spanish

US Department of Agriculture: MyPlate

- The USDA MyPlate has a special section for Moms and Moms-to-Be which outlines nutritional needs of pregnant and breastfeeding women
- The USDA MyPlate daily checklist can be customized by patients based on their activity level
  - The checklist helps patients keep track of their daily intact and can be accessed on mobile phones

National Institute of Diabetes and Digestive and Kidney Diseases

- Fit for Two: Discusses healthy eating and physical activity during and after pregnancy. It includes a tip sheet that discusses nutrition and food safety concerns for pregnant populations such as avoiding mercury and undercooked meats.
  - Also available in Spanish

US Food and Drug Administration (FDA)

- Food Facts: Explains how to read a nutritional label
  - Also available in Spanish

March of Dimes

The March of Dimes provides information for patients regarding risks associated with obesity during pregnancy and delivery as well as several educational videos including.

- Exercise during pregnancy: features a provider reviewing the benefits of exercise during pregnancy, conditions when exercise is unsafe, and which physical activities should be avoided during pregnancy
- Exercise after giving birth: features a provider discussing weight loss and management of mood as well as long term health benefits
- Weight gain and pregnancy: features a provider explaining BMI, gestational weight goals by BMI and the effects of weight on babies including premature birth and labor difficulties and healthy eating strategies
- Pregnancy: Overweight and Obese Woman: features a provider discussing risks associated with pregnancy such as birth defects and prematurity as well as the importance of avoiding restricting calories to lose weight during pregnancy

Appendix D: Perinatal Facility and Equipment Considerations

Patient comfort and safety:

- Large size chairs
- Large size wheelchairs
- Doorways and hallways that can accommodate larger beds
- Additional staff to safely move patients
- Larger beds and stretchers
- Large size blood pressure cuffs
- Large size sequential compression devices (SCDs)
- Alternative fetal heart rate monitoring equipment such as maternal abdominal fetal electrocardiogram rather than Doppler ultrasound

Operating room:

- Motorized lifts in operating room
- Operating table with greater weight accommodation (standard tables accommodate 450 pounds) or table extenders
- Steps for surgeons and surgical assistants
- Protection for patient pressure areas to avoid neural and pressure injuries
- Appropriately sized secure belts
- Appropriately sized gel pads to prevent movement on operating table
- Long operating instruments
- Self-retaining retractors
- Long gloves

Anesthesia:

- Fiberoptic equipment for intubation
- Wedge for positioning patient during intubation
- Long spinal needles and IV cannulas

Ultrasound:

- Ultrasonographers trained in techniques to improve accuracy in obese patients: vaginal approaches, maternal umbilicus acoustic window, tissue harmonic imaging

References:

- American Congress of Obstetricians and Gynecologists. Practice bulletin. ACOG. 2014;123(5):1118-1132.
- Ghaffari N, Srinivas SK, Durnwald CP. The multidisciplinary approach to the care of the obese parturient. Am J Obstet Gynecol. 2015;213(3):318-325. doi:10.1016/j.ajog.2015.03.001.

Appendix E: NC DMA Bariatric Surgical Policy Summary

North Carolina Division of Medical Assistance: Medicaid and Health Choice Clinical Coverage Policy 1A-15, Surgery for Clinically Severe or Morbid Obesity, Amended Date: October 1, 2015.

Beneficiaries 18 years of age or older are eligible for bariatric surgical procedures if they meet the following criteria and have no restrictions due to their eligibility category.

Bariatric surgical procedures are covered when the following requirements are met and documented in the health record (details on required documentation for the health record can be found in DMA policy 1A-15) for the 12 calendar months prior to the request for surgery:

- Diagnosis of **clinically severe (BMI 35-39.9 with co-morbid conditions) or morbid obesity (BMI >/= 40)** with at least one of the DMA-specified conditions (see policy)
    - Weight gained during pregnancy cannot be used to meet pre-surgical requirements for this policy
- The health record documentation substantiates that the beneficiary has been **unsuccessful with treatment of obesity** for the previous 12 calendar months, as documented in monthly encounter notes, and that there is no correctable cause for obesity, such as an endocrine disorder.
- Evaluation by a **registered dietician or nutritionist** within the previous 6 months
- Evaluation by a **licensed psychologist, psychiatrist or clinical social worker** within the previous 6 months
- Submission of a **prior approval request** by the surgeon and all of the health records that meet DMA requirements, including an initial, face-to-face assessment and a complete H&P when all pre-surgical requirements are met, documenting weight, height, BMI and current medications.
- The bariatric surgical procedure is **one of the following procedures:**
    - Gastric bypass with roux limb 150 cm or less (roux-en-Y)
    - Adjustable gastric banding, for beneficiaries with a BMI < 50 (procedure considered on a case-by-case basis for beneficiaries with a BMI >/= 50 when information is provided as to the medical necessity)
    - Biliopancreatic diversion with or without duodenal switch, for beneficiaries with a BMI greater than or equal to 50 kg/m2, to be considered on an individual basis with appropriate documentation of the indications for this procedure under current standards of care
    - Gastric bypass, with small intestine reconstruction to limit absorption, with roux limb greater than 150 cm (long-limb roux-en-Y) for a beneficiary with a BMI greater than or equal to 55 kg/m2, to be considered on an individual basis
    - Laparoscopic sleeve gastrectomy (LSG) as a stand-alone procedure

A primary bariatric surgical procedure is covered by NC Medicaid or NCHC for a documented perioperative or late complication meeting the below conditions:

- Weight loss of 20% or more below the ideal body weight
- Esophagitis unresponsive to nonsurgical treatment
- Hemorrhage or hematoma complicating a procedure
- Excessive bilious vomiting following gastrointestinal surgery
- Complications of the intestinal anastomosis and bypass
- Stomal dilation, confirmed by endoscopy
- Slippage of adjustable gastric band that cannot be corrected with manipulation or adjustments
- Stricture
- Obstruction
- Erosion
- Staple-line failure
- Non-absorption

A primary bariatric surgical procedure is covered by NC Medicaid or NCHC for a procedure that has failed when pouch dilation is confirmed by upper gastrointestinal examination or endoscopy, producing weight gain of 20% or more, provided that:

- The primary procedure was successful in inducing weight loss prior to the pouch dilation, **and**
- The beneficiary has been compliant with a prescribed nutrition and exercise program following the procedure
- Esophagitis unresponsive to nonsurgical treatment
- Hemorrhage or hematoma complicating a procedure

NC Medicaid does not cover bariatric surgery during pregnancy. NC Medicaid and NCHC require prior approval for bariatric surgery. If the provider or procedure changes, the approval does not transfer and a new approval request must be submitted. One bariatric surgical procedure is allowed per beneficiary per lifetime. If a beneficiary had a bariatric surgical procedure other than as a Medicaid beneficiary, then they are eligible to receive one bariatric surgical procedure provided that the prior approval requirements are met.

The following conditions are contraindications to a bariatric surgical procedure, and approval cannot be granted until there is health record documentation that the conditions are resolved:

- Untreated major depression or psychosis
- Binge-eating disorders
- Current drug and or alcohol abuse