

Missouri Consensus Guide on Pregnancy and Diabetes

Missouri Department of Health and Senior Services

(See Supplemental Information Section (SIS) on page 7 of Missouri Consensus Guide at www.dhss.mo.gov/diabetes/Guidelines.html)

Component of Care	Care/Test	Frequency
Preconception Counseling	✦ Educate on effective contraception and need for pre-conception counseling and evaluation of glycemic control prior to planned pregnancies	✦ Teaching as needed prior to a confirmed pregnancy
Screening	✦ Complete a risk assessment for all women of childbearing age ✦ Complete a screening test based on the risk status of the woman: ➤ Pregnant women at high risk for developing Gestational Diabetes Mellitus (GDM) have one or more of the following risk factors: • Ethnic origin with a higher known prevalence of type 2 diabetes (American Indian or Alaska Native, African-American, Asian, Middle Eastern, Hispanic or Pacific Islander) • Glycosuria at the first prenatal visit • Diagnosis of polycystic ovary syndrome (or other signs of insulin resistance) • Family history of diabetes, especially in first degree relatives • Pre-pregnancy weight 110% of ideal body weight or significant weight gain in early adulthood – or Body Mass Index (BMI) over 30 • Age > 25 years old and BMI > 27 • Previous delivery of a baby greater than nine pounds (4.1 kg) • Personal history of abnormal glucose tolerance • Woman who was low birth weight (LBW) at birth • Previous history of GDM during past pregnancy • Sedentary lifestyle ➤ Pregnant women at average risk for developing GDM are those who are neither high nor low risk ➤ Pregnant women at low risk for developing GDM must meet <i>all</i> of the following criteria: • Age < 25 years • Normal pre-pregnancy weight defined as below 25 BMI • Member of an ethnic group with a low prevalence of diabetes • No known diabetes in first-degree relatives • No history of abnormal glucose tolerance • No history of poor obstetric outcome or birthing complications • Woman that was normal weight at birth and not a LBW baby ✦ Test using the two-step approach. Perform an initial screening by measuring the plasma or serum glucose concentration one hour after a 50-g glucose load. If an abnormal reading occurs, then perform a diagnostic 100-g Oral Glucose Tolerance Test (OGTT) on those exceeding the glucose threshold value on the glucose challenge. To ensure accuracy, better not to screen using a Fasting Plasma Glucose (FPG), random blood glucose or urinalysis.³⁷	✦ At first prenatal visit ✦ Test high-risk women as soon as feasible. If negative, screen again at 24-28 weeks ✦ Test average-risk women between 24 and 28 weeks ✦ Low-risk women do not require testing, but testing maybe requested at the discretion of the physician
Diagnosis	✦ Diagnose with a 100-g oral glucose load, meeting two or more of the plasma glucose levels	✦ Fasting: ≥95 mg/dl or 5.3 mmol/l 1-hr: ≥180 mg/dl or 10.0 mmol/l 2-hr: ≥155 mg/dl or 8.6 mmol/l 3-hr: ≥140 mg/dl or 7.8 mmol/l
Therapeutic Management	✦ Instruct to perform self monitoring of blood glucose and to bring glucose log to each prenatal care appointment ✦ Provide and/or refer for individual medical nutrition therapy (MNT) to achieve treatment goals, preferably provided by a registered dietitian/certified diabetes educator (CDE) familiar with the components of MNT ✦ Initiate insulin therapy or accepted hypoglycemic agents when MNT fails to maintain self-monitored glucose at any of the following levels: • Fasting: ≤95 mg/dl (5.3 mmol/l) • 1-hr postprandial: ≤140 mg/dl (7.8 mmol/l) • 2-hr postprandial: ≤120 mg/dl (6.7 mmol/l) ✦ See SIS for further information on insulin control, glycemic ranges and approved hypoglycemic agents during pregnancy ✦ Begin, continue and encourage a program of moderate exercise	✦ At diagnosis, instruct to check blood glucose up to nine times a day, especially one to two hours after meals ✦ At diagnosis, with follow-up as needed until initial goals are met ✦ At time glucose levels deteriorate. Instruct on appropriate daily insulin therapy. Insulin pumps are a possibility to maintain insulin compliance. ✦ Discuss at first and subsequent prenatal visits. Should participate in 30 minutes/day of moderate exercise on most, if not all, days of the week. The literature advises 150 minutes of moderate exercise per week.
Prenatal Surveillance & Education	✦ Schedule prenatal care appointments ✦ Ensure adequate energy intake that provides appropriate weight gain ✦ Detect maternal hypertensive disorders through blood pressure measurement and urine protein monitoring ✦ Maintain target blood pressure goal of 110-129/65-79 mmHg for the pregnant patient with diabetes and chronic hypertension	✦ Every four weeks up to 28 weeks; every two weeks up to 36 weeks, then weekly ✦ First and subsequent prenatal visits ✦ First and subsequent prenatal visits

Component of Care	Care/Test	Frequency
Prenatal Surveillance & Education continued	✦ Educate on the benefits of breastfeeding for mother and child, including the possibility of reducing obesity and the risk of developing diabetes. Refer to lactation consultant or registered dietician when available. ✦ Refer to social worker for needed resources (e.g., uninsured, history of illicit drug/alcohol use or other issues) ✦ Instruct to call to review self monitored blood glucose data with physician or appropriate health professional by phone if glucose data exceeds prescribed parameters ✦ Refer to a dentist for dental and periodontal exam ✦ Follow-up with treatment of gross caries, abscesses and periodontal infection. Coach to proficiency in oral hygiene practices which minimize bacterial load and transfer of oral pathogens to the infant. ✦ Monitor for deterioration of glucose tolerance, which occurs normally during pregnancy ✦ Instruct to assess fetal kick count, keep a log and bring log to each prenatal visit for review ✦ Perform non-stress test (NST) and biophysical profile (NST and amniotic fluid index) ✦ Assess fetal growth and amniotic fluid volume by ultrasonography (to assess for anticipated delivery management) ✦ Whenever feasible, a maternal fetal management consultation is recommended ✦ Refer to other team members based on medical co-morbidities, patient medical history and/or adequacy of glucose control: ophthalmologist, optometrist, cardiologist, endocrinologist, nephrologists, etc.	✦ First and subsequent prenatal visits ✦ First prenatal visit ✦ At diagnosis (should call one to two times per week) ✦ First trimester ✦ Every one to four months as periodontal health needs direct, particularly in the third trimester ✦ Daily at 28 weeks. Should obtain at least four fetal movements every hour. Assess after eating. Report immediately any reduction in the perception of fetal movements. ✦ After 32-34 weeks, perform weekly if diet is controlled, twice if medically regulated (oral agents or insulin) until end of pregnancy ✦ Conduct at 28, 32 and 36 weeks gestation ✦ As indicated ✦ Refer to a nephrologist if Creatinine > 120 micromol/L or GFR < 45 mL/min ✦ Current retinal and renal assessments advised if not done within the last year
Delivery Management	✦ Counsel on issues of possible cesarean delivery without labor when: ➢ At 39 weeks based on fetal weight ➢ At 38 weeks based on pre-existing medical condition (hypertension) ➢ Before 38 weeks when unusual medical condition exists	✦ Dependent upon fetal weight- if 4500-g is reached ✦ Elected cesarean delivery is reasonable when fetal weight is >5000- g; however, depending on the size of the maternal pelvis, cesarean delivery may be recommended when fetal weight is between 4,000-4,500-g
Postpartum Follow-up	✦ Encourage breastfeeding and assist to initiate breastfeeding as soon as possible after birth ✦ Monitor blood glucose levels fasting and before meals while in hospital to guide changes in therapy upon discharge, especially if on insulin. If fasting blood sugar >105 and/or blood sugar >130 two times, follow-up with OGTT. If diagnosed follow adult diabetes management guidelines. ✦ Educate lactating women on possible fluctuations in blood glucose relating to nursing session. A carbohydrate snack before or during breastfeeding may be required. ✦ Self-monitor fasting blood glucose after discharge. If fasting blood glucose >120 mg/dl, and/or postprandial blood glucose >160 mg/dl, evaluate for diabetes. ✦ Educate mother on lifestyle modifications aimed at reducing weight and increasing physical activity. Provide ongoing support by utilizing appropriate health professionals for follow-up visits when possible and offering fasting plasma glucose if not already diagnosed with GDM. ✦ Screen mother for diabetes and follow-up with subsequent screenings for the development of diabetes or pre-diabetes	✦ Prior to first feeding and continuing as needed to support and encourage continued breastfeeding ✦ Four times per day minimum during the first 24 hours with recommended testing before and one to two hours following meals and once more at bedtime ✦ Two hours after breakfast, once a day until first postpartum visit ✦ Six to twelve weeks postpartum ✦ At three to six months and yearly thereafter, or sooner if weight increases or symptoms develop
Preconception Counseling Following Pregnancy	✦ Educate on effective contraception and need for pre-conception counseling and evaluation before future pregnancies	✦ Six to twelve weeks postpartum and as indicated in future visits
Child Follow-up	✦ Encourage and support breastfeeding exclusively for six months to decrease risk of child becoming obese or developing diabetes ✦ Perform well child visits and immunizations ✦ Monitor child closely for the development of obesity and/or abnormalities of glucose tolerance	✦ Prior to first feeding, and continuing as needed to support and encourage continued breastfeeding ✦ According to established schedules ✦ <i>Obesity monitoring:</i> at well child visits ✦ <i>Glucose tolerance monitoring:</i> after 10 years of age based on risks