



The Medical **Bulletin**

In Diabetes

One-Step or Two-Step Test for Diagnosing Gestational.

Diabetes?

Robert L. Barbieri, MD The one-step test results in higher utilization of healthcare resources but similar pregnancy outcomes. NEJM

The U.S. Preventive Services Task Force (USPSTF) recommends that pregnant women be screened for gestational diabetes mellitus (GDM) after 24 weeks of pregnancy, which is when placental hormone-induced insulin resistance peaks.

1. The basis for the USPSTF recommendation is that, compared with no treatment, treating women who have GDM with dietary modifications, glucose monitoring, and insulin (when target glucose concentration is not met) lowers risk for preeclampsia and newborn shoulder dystocia, which can lead to a serious form of birth trauma.
2. The main harm associated with screening for GDM is additional prenatal visits. However, the USPSTF does not recommend a specific approach to screening. Two approaches are used widely for GDM screening. In the one-step approach (recommended by the International Association of the Diabetes and Pregnancy Study Groups
3. A fasting patient undergoes a 2- hour, 75-g oral glucose tolerance test. The result is “abnormal” if any one glucose result (the fasting, 1-hour, or 2-hour result) is above a specified threshold. In the two-step approach (recommended by the American College of Obstetricians and Gynecologists), nonfasting patients ingest a 50-g oral glucose load, followed by a 1-hour glucose measurement. If the 1-hour glucose level is ≥ 200 mg/dL, a diagnosis of GDM is made and no further testing is needed. If the 1-hour glucose is between 130 mg/dL and 200 mg/dL the patient undergoes a fasting 3-hour glucose tolerance test, and GDM is diagnosed if two or more hourly glucose measurements are above specified thresholds. In two recent randomized trials, researchers have evaluated the performance of these two testing protocols. However, no significant differences were noted between groups in the incidence of any of the primary adverse outcomes, including large-for-gestational-age infants, gestational hypertension or preeclampsia, primary cesarean delivery, and a composite measure of adverse perinatal outcomes.

In another study, 921 pregnant women were assigned randomly to the one-step and two-step approaches.

4. The one-step approach resulted in significantly more women being diagnosed with GDM than did the two-step approach (14.4% vs. 4.5%). Women who were screened using the



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one-step approach were more likely to receive diabetes medication, usually insulin, than were women screened with the two-step approach (9.3% vs. 2.4%). More women screened with the one-step approach had fetal testing, including fetal nonstress testing. No significant differences were found in clinically important pregnancy outcomes between the two groups, including the percent of large- or small-for-gestational-age fetuses, newborn admissions to intensive care, cesarean delivery rates, anal sphincter injuries at vaginal birth, postpartum hemorrhages, or hypertensive disorders of pregnancy.

Wrap-Up

These two studies demonstrate that using the one-step approach compared with the two-step approach results in a large increase in the percent of pregnant women who receive diagnoses of GDM, which results in additional treatment (including initiation of insulin therapy), with no significant improvement in pregnancy outcomes for mother or newborn. In practice, IT IS BETTER TO USE use the two-step approach to diagnose GDM.

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