



# PRACTICE BULLETIN SUMMARY

CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN—GYNECOLOGISTS

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(Replaces Practice Bulletin 101, February 2009,  
and Committee Opinion 297, August 2004)

For a comprehensive overview of ultrasound in pregnancy, the full-text version of this Practice Bulletin is available at <http://dx.doi.org/10.1097/AOG.0000000000001815>.



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Committee on Practice Bulletins—Obstetrics and American Institute of Ultrasound in Medicine. This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics and the American Institute of Ultrasound in Medicine in collaboration with Lynn L. Simpson, MD.

The information is designed to aid practitioners in making decisions about appropriate obstetric and gynecologic care. These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

## Ultrasound in Pregnancy

*Obstetric ultrasonography is an important and common part of obstetric care in the United States. The purpose of this document is to present information and evidence regarding the methodology of, indications for, benefits of, and risks associated with obstetric ultrasonography in specific clinical situations. Portions of this Practice Bulletin were developed from collaborative documents with the American College of Radiology and the American Institute of Ultrasound in Medicine (1, 2).*

## Clinical Management Questions

- ▶ *Should all patients be offered ultrasonography?*
- ▶ *What is the sensitivity of ultrasonography for detecting fetal anomalies?*
- ▶ *What is the role of nonmedical use of ultrasonography in pregnancy?*
- ▶ *What is the optimal gestational age at which to perform an obstetric ultrasound examination?*
- ▶ *How and when is ultrasonography used to adjust gestational age?*
- ▶ *How is amniotic fluid volume evaluated using ultrasonography?*
- ▶ *Can ultrasonography alone be used to modify the risk of fetal chromosome abnormalities in the first and second trimesters?*
- ▶ *How and when is ultrasonography used to assess for fetal anemia?*
- ▶ *How is ultrasonography used to detect disturbances in fetal growth?*
- ▶ *How should the fetus with intrauterine growth restriction be assessed?*
- ▶ *How should twin gestations be monitored with ultrasonography?*



# Summary of Conclusions and Recommendations

*The following conclusions are based on good and consistent evidence (Level A):*

- ▶ At various gestational ages, ultrasound examination is an accurate method of determining gestational age, fetal number, viability, and placental location, and it is recommended for all pregnant patients.
- ▶ Gestational age is most accurately determined in the first half of pregnancy.
- ▶ Measurement of nuchal translucency alone is less effective for first-trimester screening of the singleton pregnancy than is combined testing (nuchal translucency measurement and biochemical markers).
- ▶ In a center with trained personnel, Doppler measurement of peak systolic velocity in the fetal middle cerebral artery is an appropriate noninvasive means to monitor pregnancies at risk of fetal anemia.
- ▶ Umbilical artery Doppler velocimetry used in conjunction with standard fetal surveillance, such as nonstress tests, biophysical profiles, or both, is associated with improved outcomes in fetuses with fetal growth restriction.

*The following conclusions are based on limited or inconsistent evidence (Level B):*

- ▶ Nuchal translucency screening during the first trimester for trisomy 21 is feasible in twin or triplet gestation but has lower sensitivity than first-trimester integrated screening in singleton pregnancies.
- ▶ Assessment of chorionicity is most accurate early in pregnancy and, because of the increased rate of complications associated with monochorionicity, determination of chorionicity by the late first trimester or early second trimester is important for counseling and caring for women with multifetal pregnancies.
- ▶ An abnormal finding on second-trimester ultrasonography that identifies a major congenital anomaly significantly increases the risk of genetic abnormality and warrants further counseling, including the discussion of various prenatal testing strategies.
- ▶ When a growth disturbance is suspected clinically or there is a medical or obstetric condition that increases the risk of a growth disturbance, ultrasonography is the modality of choice to identify abnormal fetal growth.

- ▶ Objective measurement to detect amniotic fluid abnormalities has many advantages over subjective assessment, including reproducibility, easily communicated levels of fluid volume, and the ability to follow trends in amniotic fluid measurement. It is recommended that objective, rather than subjective, measurements of amniotic fluid volume be used, especially in the third trimester.

*The following conclusions and recommendations are based primarily on consensus and expert opinion (Level C):*

- ▶ In the absence of other specific indications, the optimal time for a single ultrasound examination is at 18–22 weeks of gestation.
- ▶ In the obese patient, expectations regarding visualization of fetal anatomy should be tempered.
- ▶ Subtle second-trimester ultrasound markers should be interpreted in the context of a background risk based on the patient's age, history, genetic screening, and serum screening results.
- ▶ The benefits and limitations of ultrasonography should be discussed with all patients.

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force. Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A—Recommendations are based on good and consistent scientific evidence.

Level B—Recommendations are based on limited or inconsistent scientific evidence.

Level C—Recommendations are based primarily on consensus and expert opinion.

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**The American College of Obstetricians and Gynecologists**  
409 12th Street, SW, PO Box 96920, Washington, DC 20090-6920

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