

# AIUM Practice Parameter for the Performance of Detailed Second- and Third-Trimester Diagnostic Obstetric Ultrasound Examinations

## Introduction

The clinical aspects of this practice parameter were developed collaboratively among the American Institute of Ultrasound in Medicine (AIUM) and other organizations whose members use ultrasound for performing detailed second- and third-trimester diagnostic obstetric ultrasound examinations (see “Acknowledgments”). Recommendations for personnel requirements, the written request for the examination, documentation, quality control, and safety may vary among the organizations and may be addressed by each separately.

The detailed obstetric ultrasound examination (*Current Procedural Terminology* [CPT] code 76811) is not intended to be the routine ultrasound examination performed for all pregnancies. Rather, it is an indication-driven examination performed for a known or suspected fetal anatomic abnormality, known fetal growth disorder, genetic abnormality, or increased risk for a fetal anatomic or genetic abnormality or placenta accreta spectrum (PAS). Performance and interpretation of a detailed fetal anatomic scan require advanced skills and knowledge and the ability to effectively communicate the findings to the patient and her referring physician. Thus, the performance of the detailed obstetric examination should be rare outside referral practices with special expertise in the identification and diagnosis of fetal anomalies and placental implantation disorders. Only 1 such medically indicated study per pregnancy per practice is appropriate. If 1 or more required structures are not adequately demonstrated during the 76811 examination, the patient may be brought back for a focused assessment (CPT code 76816). A second detailed obstetric examination should not be performed unless there are extenuating circumstances.

## Indications

Indications for a detailed fetal anatomic examination include, but are not limited to, the following conditions:

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1. Previous fetus or child with a congenital, genetic, or chromosomal abnormality<sup>1,2</sup>;
2. Known or suspected fetal anomaly or known or suspected fetal growth restriction in the current pregnancy<sup>2,3</sup>;
3. Fetus at increased risk for a congenital anomaly, such as the following:
  - a. Maternal pregestational diabetes or gestational diabetes diagnosed before 24 weeks' gestation<sup>4-8</sup>;
  - b. Pregnancy conceived via assisted reproductive technology<sup>9</sup>;
  - c. Maternal body mass index of 30 kg/m<sup>2</sup> or higher<sup>10-13</sup>;
  - d. Multiple gestations<sup>10,14</sup>;
  - e. Abnormal maternal serum analytes<sup>15</sup>;
  - f. Teratogen exposure<sup>16</sup>;
  - g. First-trimester nuchal translucency measurement of 3.0 mm or greater<sup>17</sup>;
4. Fetus at increased risk for a genetic or chromosomal abnormality, such as the following:
  - a. Parental carrier of a chromosomal or genetic abnormality<sup>1,2</sup>;
  - b. Maternal age of 35 years or older at delivery<sup>1,2</sup>;
  - c. Positive screening test results for aneuploidy<sup>1,2</sup>;
  - d. Aneuploidy marker noted on an ultrasound examination<sup>1,10</sup>;
  - e. First-trimester nuchal translucency measurement of 3.0 mm or greater<sup>17-19</sup>;
5. Other conditions affecting the fetus, including the following:
  - a. Congenital infections<sup>3,16,20,21</sup>;
  - b. Maternal drug use<sup>16</sup>;
  - c. Alloimmunization<sup>22,23</sup>;
  - d. Oligohydramnios<sup>10</sup>;
  - e. Polyhydramnios<sup>10,24</sup>; and
6. Suspected placenta PAS or risk factors for PAS such as placenta previa in the third trimester or a placenta overlying a prior cesarean scar site.<sup>10,25,26</sup>

## Qualifications and Responsibilities of Personnel

See [www.aium.org](http://www.aium.org) for AIUM Official Statements, including Standards and Guidelines for the Accreditation of Ultrasound Practices and relevant Training Guidelines. If the physician does not personally perform the examination, he or she must provide general supervision, as defined by

the Centers for Medicare and Medicaid Services Code of Federal Regulations 410.32: "General supervision means the procedure is furnished under the physician's overall direction and control, but the physician's presence is not required during the performance of the procedure. Under general supervision, the training of nonphysician personnel who actually perform the diagnostic procedure and the maintenance of the necessary equipment and supplies are the continuing responsibility of the physician." If a sonographer performs the ultrasound examination, that individual should be credentialed in accordance with the AIUM accreditation policies.

## Written Request for the Examination

The written or electronic request for an ultrasound examination should provide sufficient information to allow for the appropriate performance and interpretation of the examination.

The request for the examination must originate from a physician or other appropriately licensed health care provider or under the provider's direction. The accompanying clinical information should be provided by a physician or appropriate health care provider familiar with the patient's clinical situation and should be consistent with relevant legal and local health care facility requirements.

## Specifications of the Examination

A detailed comprehensive obstetric ultrasound examination (76811) includes all of the components of a standard fetal ultrasound examination (CPT code 76805). The additional specific examination content beyond that included in the standard examination is determined by both the indication for the examination and the ultrasound findings identified during the examination and is guided by the specialized knowledge and training of the responsible physician. The specific elements of a given detailed obstetric ultrasound examination may be individualized based on these considerations. Therefore, a prescriptive approach to providing universally required detailed examination content is neither taken nor congruent with the nature of this indication-driven examination. The table provides a list of elements that may be included in a detailed examination. Based on the previously noted considerations, not all of these elements

**Table** Components of CPT Code 76811 (Standard and Detailed Examinations)

Component	Standard	Detailed*
Head and neck	Lateral cerebral ventricles Choroid plexus Midline falx Cavum septi pellucidi Cerebellum Cisterna magna	3rd ventricle <sup>27</sup> 4th ventricle <sup>27</sup> Lateral ventricular wall integrity, contour, ependymal lining <sup>27</sup> Cerebellar lobes, vermis, and cisterna magna <sup>28</sup> Corpus callosum <sup>29</sup> Integrity and shape of cranial vault <sup>30</sup> Brain parenchyma <sup>31</sup> Neck <sup>32,33</sup> Profile <sup>34–36</sup> Nasal bone (15–22 wk) <sup>37–40</sup> Coronal face (nose/lips/lens) <sup>34</sup> Palate, maxilla, mandible, and tongue <sup>41,42</sup> Ear position and size Orbits
Face	Upper lip	Situs Aortic arch Superior and inferior venae cavae <sup>43</sup> Ductal arch Interventricular septum 3-vessel view <sup>44</sup> 3-vessel and trachea view <sup>44</sup> Lungs <sup>45,46</sup> Integrity of diaphragm <sup>47</sup> Ribs <sup>48,49</sup>
Chest Heart	Cardiac activity 4-chamber view Left ventricular outflow tract Right ventricular outflow tract 3-vessel view (if technically feasible) <sup>44</sup> 3-vessel and trachea view (if technically feasible) <sup>44</sup>	Small and large bowel <sup>50–52</sup> Adrenal glands <sup>53</sup> Gallbladder <sup>54,55</sup> Liver <sup>56</sup> Renal arteries <sup>57</sup> Spleen Integrity of abdominal wall <sup>58</sup> Integrity of spine and overlying soft tissue <sup>59,60</sup> Shape, curvature, conus medullaris <sup>61,62</sup>
Thorax		
Abdomen	Stomach (presence, size, and situs) Kidneys Urinary bladder Cord insertion site into fetal abdomen Umbilical cord vessel number	
Spine	Cervical Thoracic Lumbar Sacral spine	
Extremities	Legs Arms Hands Feet	Number, architecture, and position <sup>61–65</sup> Digits of hands and feet: number and position <sup>65–68</sup> External genitalia <sup>69</sup>
Genitalia	In multiple gestations When medically indicated	
Placenta	Location Relationship to internal os Appearance Placental cord insertion	Masses <sup>70,71</sup> Accessory/succenturiate lobe with location of connecting vascular supply to primary placenta and internal cervical os <sup>72,73</sup> Implantation site with evaluation for abnormal adherence <sup>25</sup>
Standard evaluation	Fetal number Presentation Qualitative or semiquantitative estimate of amniotic fluid	

(Continues)

**Table** Continued

Component	Standard	Detailed*
Maternal anatomy	Cervix (transvaginal when indicated) Uterus Adnexa	
Biometry	Biparietal diameter Head circumference Femur length Abdominal circumference Fetal weight estimate	Cerebellum <sup>74</sup> Inner and outer orbital diameters <sup>75</sup> Nuchal fold thickness (16–20 wk) <sup>37–39</sup> Humerus <sup>37–39</sup> Ulna/radius Tibia/fibula

\*As noted in the text of this Practice Parameter, all of these elements may not be indicated in every detailed obstetric ultrasound examination. Likewise, obtaining additional elements not listed in the table may be warranted.

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## Documentation

Adequate documentation is essential for high-quality patient care. Ultrasound images that contain diagnostic information and/or direct patient treatment (both normal and abnormal) should be recorded in accordance with the AIUM Practice Parameter for Documentation of an Ultrasound Examination.

## Equipment Specifications

These studies should be conducted with real-time scanners, using a transabdominal and/or transvaginal approach. Real-time ultrasound is necessary to confirm the presence of fetal life through observation of cardiac activity and active fetal movement. The choice of transducer frequency is a trade-off between beam penetration and resolution. A transducer of an appropriate frequency should be used. With modern equipment, 3-MHz and higher abdominal transducers allow sufficient penetration in most patients while providing adequate resolution. Color and/or pulsed Doppler ultrasound may be used as warranted, based on the indication for and findings identified during the detailed examination. If additional billing charges would be incurred by using these additional modalities, specific orders from the referring clinician for their use may be needed.

## ALARA Principle

The potential benefits and risks of each examination should be considered. The ALARA (as low as reasonably achievable) principle should be observed when adjusting controls that affect the acoustic output and by considering transducer dwell times. Further details on ALARA may be found in the AIUM publication *Medical Ultrasound Safety*, Third Edition.<sup>76</sup>

## Fetal Safety

Diagnostic ultrasound studies of the fetus are generally considered safe during pregnancy (Conclusions Regarding Epidemiology for Obstetric Ultrasound).

This procedure should be performed only when there is a valid medical indication (Prudent Use in Pregnancy), and the lowest possible ultrasonic exposure setting should be used to gain the necessary diagnostic information under the ALARA principle.

The output display standard, an on-screen real-time display of acoustic output, should be visible and monitored for the thermal index (TI) and mechanical index. The dwell time should be kept to a minimum.

A TI for soft tissue (TIs) should be used at or before 10 weeks' gestation, and a TI for bone (TIb) should be used at or after 10 weeks' gestation when bone ossification is evident (Recommended Maximum Scanning Times for Displayed Thermal Index (TI) Values).

In keeping with the ALARA principle, M-mode imaging should be used instead of spectral Doppler imaging to document the embryonic/fetal heart rate (Statement on Measurement of Fetal Heart Rate).

Doppler ultrasound may be used to answer specific clinical questions. Spectral pulsed Doppler ultrasound is associated with higher energy output and should be used judiciously as part of an evaluation for anomalies.

The promotion, selling, or leasing of ultrasound equipment for making “keepsake fetal videos” is considered by the US Food and Drug Administration to be an unapproved use of a medical device. Use of a diagnostic ultrasound system for keepsake fetal imaging, without a physician’s order, may be in violation of state laws or regulations.

### Quality Control and Improvement, Safety, Infection Control, and Patient Education

Policies and procedures related to quality control, patient education, infection control, and safety, including equipment performance monitoring, should be developed and implemented in accordance with the AIUM’s Standards and Guidelines for the Accreditation of Ultrasound Practices.

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