

INTRODUCTION TO THE ICAEL STANDARDS FOR FETAL ECHOCARDIOGRAPHY TESTING

The fetal echocardiogram is an important diagnostic imaging test, which is used to evaluate the fetal heart for the presence of structural or functional abnormalities. As with other aspects of medical care involving the fetus, it is inadequate to consider either the fetus or the mother as the sole patient. Rather, the maternal-fetal relationship must be carefully considered for the respective impact of both the mother and fetus on each other.

It has been difficult within the practice of medical care to define personnel with the appropriate training and expertise to address the issues involved both in the care of the maternal-fetal patient as well as the often complex issues faced by the fetus after birth when complex problems or anomalies are present. Therefore, the training and practice of fetal echocardiography often requires a team approach, encompassing the skills of both the obstetrical and pediatric aspects of medical care. Perinatologists and specialists in maternal-fetal medicine in many instances have become very skilled at imaging fetal structures, including the heart, but often lack the knowledge and experience of the care and long-term management of the infant after birth. Conversely, the pediatric cardiologist and echocardiographer have an understanding of the anatomy and physiology of congenital heart problems, but often lack formal training in the issues surrounding the care of the mother and imaging other fetal structures.

These Standards are being offered as an adjunctive accreditation to the Pediatric Transthoracic Echocardiography Laboratory Accreditation. Therefore, an intimate relationship with a pediatric cardiology laboratory will be needed for this accreditation. However, the Commission recognizes the unique nature of fetal echocardiography and has allowed flexibility for a variety of practice situations.

Alternative Personnel and Supervision Requirements for Fetal Echocardiography

STANDARD - Pediatric Medical Director

1.1 The pediatric Medical Director must be a licensed physician.

1.1.1 Pediatric Medical Director Required Training and Experience:

The pediatric Medical Director should meet the criteria set forth in the *ICAEL Standards for Pediatric Transthoracic Echocardiography Testing*, Part 1 Section 1.1. It is recognized that the Medical Director of the laboratory may or may not, depending upon the area of expertise, be directly involved in fetal echocardiography. The pediatric Medical Director who is involved in the performance of fetal echocardiography should meet criteria, as described below, for members of the medical staff. The pediatric Medical Director should be responsible for the administrative aspects and quality control issues of the laboratory function as they pertain to fetal echocardiography.

STANDARD - Technical Director

1.2 The Technical Director must be a qualified sonographer.

1.2.1 Technical Director Required Training and Experience:

- A) The Technical Director must have an appropriate credential in echocardiography from the American Registry of Diagnostic Medical Sonography (ARDMS) or Cardiovascular Credentialing International (CCI). Both the ARDMS credentials Registered Diagnostic Cardiac Sonographer (RDCS) and Registered Diagnostic Medical Sonographer (RDMS)(FE) are appropriate. A credential in pediatric echocardiography is preferred if the Technical Director will be performing pediatric echocardiograms.
- B) In a laboratory with no sonographers, the physician Technical Director must have either advanced or core echocardiography training as defined by Task Force 2: Pediatric Training Guidelines for Noninvasive Cardiac Imaging¹ or an appropriate sonographer credential from the ARDMS or CCI.

STANDARD - Fetal Medical Staff

1.3 All members of the medical staff must be legally licensed physicians.

A fetal echocardiography laboratory requires that the performing physicians are adequately trained and experienced to perform and interpret the study.

1.3.1 Fetal Echocardiography Medical Staff Required Training and Experience:

The fetal echocardiography medical staff members must meet the criteria set forth in the *ICAEL Standards for Pediatric Transthoracic Echocardiography Testing*, Part 1 Section 1.3. In addition, medical staff members who will be performing/interpreting fetal echocardiograms must meet one of the following criteria:

- A) Completion of a three month training program in fetal echocardiography that includes performance and interpretation of at least 50 examinations, including general fetal ultrasound studies under the direction of an expert in fetal ultrasound or fetal echocardiography.
- B) Two years of fetal echocardiography practice experience with interpretation of at least 100 fetal echocardiogram/Doppler examinations.

STANDARD - Fetal Technical Staff

1.4 All members of the technical staff must be qualified sonographers.

1.4.1 Fetal Technical Staff Required Training and Experience.

The fetal echocardiography technical staff members must meet the criteria set forth in the *ICAEL Standards for Pediatric Transthoracic Echocardiography Testing*, Part 1, Section 1.4. In addition, technical staff members who will be performing fetal echocardiograms must meet one of the following criteria:

- A) Completion of a three month training program in fetal echocardiography that includes performance of at least 50 examinations, including general fetal ultrasound studies under the direction of an expert in fetal ultrasound.
- B) Two years of fetal echocardiography practice experience with the performance of at least 100 fetal echocardiogram/Doppler examinations under the direction of an expert in fetal ultrasound or fetal echocardiography.

Bibliography:

1. **“ACC/AHA/AAP Recommendations for Training in Pediatric Cardiology, Task Force 2: Pediatric Training Guidelines for Noninvasive Cardiac Imaging endorsed by the American Society of Echocardiology and the Society of Pediatric Echocardiography.”** Silverman, Mark S. Sklansky and Paul M. Weinberg Gregory J. Ensing, Tal Geva, Thomas R. Kimball, David J. Sahn, Norman H. Stephen P. Sanders, Steven D. Colan, Timothy M. Cordes, Mary T. Donofrio; *J. Am. Coll. Cardiol.* 2005;46;1384-1388; originally published online Sep 22, 2005.