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AWHONN POSITION STATEMENT

Fetal Heart Monitoring

An official position statement of the Association of Women's Health, Obstetric and Neonatal Nurses

Approved by the AWHONN Board of Directors, 1988; revised 1992; reaffirmed 1994; revised and re-titled 2000; revised and re-titled November 2008. Revised and approved June 2015.

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Position

The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) asserts that the availability of registered nurses (RNs) and other health care professionals who are skilled in fetal heart monitoring (FHM) techniques, including auscultation and electronic fetal monitoring (EFM), is essential to maternal and fetal well-being during antepartum care, labor, and birth. Fetal heart monitoring requires advanced assessment and clinical judgment skills and should not be delegated to unlicensed assistive personnel or others who do not possess the appropriate licensure, education, and skills validation. A woman's preferences and clinical presentation should guide selection of FHM techniques with consideration given to use of the least invasive methods. In general, the least invasive method of monitoring is preferred in order to promote physiologic labor and birth. Labor is dynamic; therefore, consideration of maternal preferences and identification of risk factors should occur upon admission to the birth setting and should be ongoing throughout labor.

Background

The intent of intrapartum fetal surveillance is to assess uterine activity, fetal well-being, and the fetal heart rate (FHR) response to labor in order to make appropriate, physiologically based clinical decisions (Lyndon & Ali, 2015). Fetal heart monitoring includes initial and ongoing assessments of the woman and fetus; utilization of monitoring techniques such as intermittent FHR auscultation; palpation of uterine contractions; application of fetal monitoring components; ongoing monitoring and interpretation of FHM data; and provision of clinical interventions as needed. Regardless of the setting in which it is used, each aspect of FHM should be performed by a licensed, experienced, health care professional consistent with the scope of practice as defined by appropriate state regulations. These health care professionals include RNs, certified nurse-midwives (CNMs), certified midwives (CMs), other advanced practice nurses such as nurse practitioners and clinical nurse specialists, physicians, and physician assistants.

The Role of the Nurse

Health care facilities should ensure RN staffing levels meet the changing needs and acuity of the laboring woman and her fetus throughout the intrapartum period. Electronic fetal heart monitoring is not a substitute for appropriate professional nursing care and support of women in labor. Perinatal nurses are most often the primary health care professionals responsible for FHM. AWHONN's *Guidelines for Professional Registered Nurse Staffing for Perinatal Units* (2010) outlines specific staffing recommendations for administering FHM. These guidelines, other relevant recommendations from professional associations and organizations, and state and federal regulations should be incorporated into FHM policies and procedures and unit operations.

Registered nurses and other health care professionals should use the standardized, descriptive terms of the National Institute of Child Health and Human Development (NICHD) to communicate and document FHR characteristics (e.g., baseline rate, variability, decelerations, and accelerations) (Macones, Hankins, Spong, Hauth, & Moore, 2008). Effective communication and collaboration among health care professionals is central to providing quality care and optimizing patient outcomes. Policies, procedures, protocols, and practice guidelines that promote collegiality among health care professionals should be used in every facility.

It is within the scope of practice of the nurse to implement customary interventions in response to FHM data and clinical assessment. Interprofessional policies should support the RN in making decisions regarding fetal monitoring practice, intervening independently when appropriate to maternal and/or fetal condition, and identifying appropriate mechanisms to use if there is a difference of opinion regarding the interpretation of fetal monitoring data or the woman's plan of care. These policies, used to safeguard the best interests of the woman, her fetus, and all members of the health care team, should also clearly describe the facility's chain of resolution (also referred to as chain of command) and adhere to state regulations.

Table 1: Recommendations for Assessment and Documentation of Fetal Status during Labor

	When Using Intermittent Auscultation[a,b]				
	Latent phase (<4 cm)	Latent phase (4-5 cm)	Active phase (≥6cm)	Second stage (passive fetal descent)	Second stage (active pushing)
Low-risk without oxytocin	At least hourly	Every 15–30 minutes	Every 15–30 minutes	Every 15 minutes	Every 5–15 minutes

Note. [a]Frequency of assessment should always take into consideration maternal-fetal condition and at times will need to occur more often based on maternal-fetal clinical needs, for example a temporary or on-going change in maternal or fetal status.
[b]Summary documentation is acceptable and individual hospital policy should be followed.

Frequency of Fetal Assessment during Labor

The following professional associations have suggested protocols for the frequency of assessment of the FHR by auscultation and EFM to determine fetal status during labor: AWHONN, American Academy of Pediatrics (AAP), American College of Obstetricians and Gynecologists (ACOG) (AAP & ACOG, 2012), National Institute for Health and Care Excellence (NICE) (2014), and the Society of Obstetricians and Gynaecologists of Canada (SOGC) (Liston, Sawchuck, Young, Society of Obstetricians and Gynaecologists of Canada, & British Columbia Perinatal Health Program, 2007). The suggested frequencies are generally based on protocols reported in research clinical trials in which investigators compared perinatal outcomes associated with FHR auscultation and EFM (Haverkamp et al., 1979; Haverkamp, Thompson, McFee, & Cetrulo 1976; Kelso et al., 1978; Luthy et al., 1987; McDonald, Grant, Sheridan-Pereira, Boylan, & Chalmers, 1985; Neldam et al., 1986; Renou, Chang, Anderson, & Wood, 1976; Vintzileos et al., 1993). The range of frequency of assessment using auscultation in these studies varied from every 15-30 minutes during the first stage of labor to every 5-15 minutes during the second stage of labor. In most studies, a 1:1 nurse to patient ratio was used for auscultation protocols. These classic studies included low risk and/or high risk patient populations. Specific dilatation parameters for stages of labor generally were not defined in these studies, with the exception of Haverkamp et al. (1976) and Neldam et al. (1986) who used 5 centimeters or greater as the definition of active labor.

To date, there have been no clinical trials in which investigators have examined fetal surveillance methods and frequency during the latent phase of labor. Therefore, during this phase, health care providers should use best clinical judgment when deciding the method and frequency of fetal surveillance. Suggested frequencies for surveillance during the latent phase of labor are provided in Tables 1 and 2.

During the last decade, more evidence has emerged about normal labor progress and the influence of assessment of labor progress based on cervical status on route of birth. Previously held views about normal labor have been questioned, specifically the number of centimeters of cervical dilation that constitutes the beginning of active labor. Based on the cumulative body of evidence about normal labor progress, 6 centimeters rather than 4 centimeters dilation should be considered the beginning of the active phase of the first stage of labor. Using this and other criteria to define normal progression of labor and establish active labor has the potential to minimize risk of primary, and therefore subsequent, cesarean birth in healthy low risk women (ACOG & Society for Maternal-Fetal Medicine [SMFM], 2014; Spong, Berghella, Wenstrom, Mercer, & Saade, 2012).

Recently, the importance of these new data and associated implications for clinical practice have been highlighted (ACOG & SMFM, 2014; Spong et al., 2012). AWHONN supports the new recommendations, including the use of 6 centimeters dilation to define the beginning of the active phase of the first stage of labor, and has clarified suggestions for fetal assessment during labor in this context (see Tables 1 and 2). In the absence of new data on frequency of fetal assessment associated with cervical dilation, AWHONN continues to recommend increasing the frequency of fetal assessment at 4 centimeters dilation. Because variation exists in the original research protocols used to compare intermittent auscultation with continuous EFM, clinicians should make decisions about the method and frequency of fetal assessment based

Table 2: Recommendations for Assessment of Fetal Status during Labor

When Using Electronic Fetal Monitoring[a,b]

	Latent phase (<4 cm)	Latent phase (4-5 cm)	Active phase (≥6cm)	Second stage (passive fetal descent)	Second stage (active pushing)
Low-risk without oxytocin	At least hourly	Every 30 minutes	Every 30 minutes	Every 15 minutes	Every 15 minutes
With oxytocin or risk factors	Every 15 minutes with oxytocin; every 30 minutes without	Every 15 minutes	Every 15 minutes	Every 15 minutes	Every 5 minutes

Note. [a]Frequency of assessment should always take into consideration maternal-fetal condition and at times will need to occur more often based on maternal-fetal clinical needs, for example a temporary or on-going change in maternal or fetal status.
[b]Summary documentation is acceptable and individual hospital policy should be followed.

on evaluation of factors, including the woman's preferences and response to labor, the phase and stage of labor, assessment of maternal-fetal condition and risk factors, and facility rules and procedures.

Documentation

Clinical information about the mother and fetus should be documented throughout the course of labor. The nature of documentation, including style, format, and frequency interval, should be clearly delineated in each institution. Documentation should occur concurrent with assessment when using intermittent auscultation, as there is no other record of FHM data in this situation. Documentation does not necessarily need to occur at the same intervals as assessment when using continuous EFM because FHM data are recorded in the tracing. For example, while evaluation of the FHR may be occurring every 15 minutes with EFM, a summary note including findings of fetal status may be documented in the medical record less frequently. However, it is important that the documentation reflects the frequency of assessment and the interpretation of FHM findings. During induction or augmentation of labor with oxytocin, the FHR should be evaluated and documented before each dose increase and following each dose decrease. Summary documentation of fetal status approximately every 30 minutes that indicates continuous nursing bedside attendance and evaluation is sufficient when a woman is in the active pushing phase of the second stage of labor (Simpson, 2014).

AWHONN supports use of summary documentation at intervals established by the individual facility and described within policies, procedures, and guidelines. This documentation policy should be based on state guidelines as well as those of professional associations and regulatory and certifying bodies. Each institution should also determine policies and procedures regarding maintenance, storage, archiving, and retrieval of all forms of FHM records and the parameters of maintaining the EFM tracing as part of the medical record when used.

AWHONN supports development of interprofessional institutional policies, procedures, and protocols that outline responsibility for ongoing FHM documentation. Documentation should contain streamlined, factual, and objective information and should include but should not be limited to the following:

- A systematic admission assessment of the woman and fetus;
- Ongoing assessments of the woman and fetus including FHR and uterine activity data;
- Interventions provided and evaluation of responses;
- Communication with the woman and her family or primary support person;
- Communication with providers; and
- Communication within the chain of resolution.

After documentation of characteristics of the FHR tracing such as baseline rate, variability, and presence or absence of accelerations and decelerations, some clinicians elect to include further interpretation by noting the FHR category: normal (category I), indeterminate (category II), or abnormal (category III). Documentation of FHR

category is generally considered optional, however, clinicians should follow institutional policies for documentation of fetal status during labor.

Fetal Heart Monitoring Education

Ongoing education and periodic competence validation for RNs and other health care professionals who engage in FHM are recommended. Ideally, attendance at such programs will be interprofessional. To prepare clinicians for use of auscultation and EFM and the evaluation of uterine activity, AWHONN urges that each facility establishes and/or ensures the availability of educational programs for guided clinical experience, skills validation, and ongoing competence assessment. AWHONN supports education that includes the physiologic basis for interpretation of FHM data, implications for labor support, and interprofessional communication strategies.

Research Recommendations

AWHONN supports research focused on enhancing the body of knowledge and best practices regarding fetal assessment. Specifically, AWHONN supports research concerning the following:

- Efficacy of FHM that includes standardized definitions and FHM terminology;
- Efficacy of interventions used in response to fetal monitoring findings;
- Effect of uterine activity on fetal oxygenation;
- Efficacy of EFM related to neonatal outcomes;
- Effect of EFM on a woman's labor experience and outcomes;
- Effect of staffing on optimal patient outcomes related to fetal assessment and intervention;
- Identification of optimal information technology applications; and
- Comparison of patient outcomes and quality indicators when using auscultation and palpation versus EFM.

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