

Newborn Critical Care Center (NCCC) Clinical Guidelines

Guidelines for Assessment of Heart Rate & ECG Monitoring in the Delivery Room

INTRODUCTION

Immediately after birth, assessment of the newborn's heart rate is used to evaluate the effectiveness of spontaneous respiratory effort and determine the need for subsequent interventions. During resuscitation, an increase in the newborn's heart rate is considered the **most sensitive** indicator of successful response to each intervention. Therefore, identifying a rapid, reliable and accurate method to measure the newborn's heart rate is critically important. Clinical assessment of the heart rate by auscultation or palpation may be inaccurate. Furthermore, compared to ECG monitoring, pulse oximetry tends to be slower in detecting a heart rate and inaccurate in the first few minutes after birth. ECG provides the most rapid and accurate measurement of the newborn's heart rate after birth and during resuscitation.

Phillips Intellivue X2 portable modules will be taken to all deliveries for which NCCC attendance has been requested.

USE OF ECG MONITORING DURING DELIVERY ROOM STABILIZATION

1. ECG leads should be placed immediately after delivery for all infants (including the ELBW infant) identified for direct admission to the NCCC
2. ECG leads should be applied to any infant who requires > 30 seconds of PPV
3. The use of ECG does not replace the need for pulse oximetry to evaluate the newborn's oxygenation

AFTER DELIVERY ROOM STABILIZATION

Once resuscitation is complete, the infant's disposition will be determined. If the infant is to be transferred to the NCCC, ECG monitoring will continue. If the infant is to remain in the Labor and Delivery suite, ECG monitoring will be discontinued and leads removed once the infant is breathing spontaneously and heart rate is > 100 bpm.

References:

1. Aziz K, Lee C, Henry C, Escobedo MB, Hoover AV, Kamath-Rayne, BD, Kapadia V, Magid DJ, Niermyer S, Szyld E, Weiner GM, Wykof MH, Yamada NK, Zaichkin JG. (2021). Part 5: Neonatal resuscitation 2020 American Heart Association (AHA) guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. *Pediatrics*. 147(supple 1): e2020038505E