

Connecticut WIC Program: Consistent Breastfeeding Education Messages: Jaundice

Why is this important?

Jaundice is common in breastfed babies and conflicting information on how to treat jaundice leads to mothers supplementing with formula or discontinuing breastfeeding earlier than planned. It is important to note there are three types of jaundice that occur in newborns:

1. Physiological Jaundice: Before infants are born, they need high levels of red blood cells (RBC) in order to get oxygen from their mother's blood. Immediately after birth, when they begin breathing oxygen outside the womb, they no longer need their fetal hemoglobin. The excess RBCs are broken down and need to be eliminated from the body. Bilirubin is the by-product of this breakdown and is removed from the blood via the liver and excreted in stool. When bilirubin is not excreted it accumulates in the meconium and can build up and be re-absorbed into the body. The infant's liver is not able to process and excrete this bilirubin quickly enough so jaundice occurs. The bilirubin is responsible for the yellow pigment associated with jaundice. This typically appears on the second or third day of life. Approximately 60% of full term infants and 80% preterm < 37 weeks develop jaundice. Encourage continuous breastfeeding. Supplementing with expressed breast milk is an option if infant seems lethargic at breast.

2. Breast milk Jaundice: This type of jaundice appears in the second week of life and peaks around day 10 in an otherwise healthy, full term, breastfed infant. This is not to be confused with breastfeeding jaundice. This type of jaundice tends to be genetic and is assumed to occur because something in the mother's milk causes an increase in the reabsorption of bilirubin or may decrease the liver processing of bilirubin. Breast milk jaundice may persist at low levels for months. There are no detrimental effects associated with this long term jaundice. Breast milk jaundice has no history of causing kernicterus and should not discourage mothers from continuing to breastfeed exclusively. (Kernicterus is damage to the brain and CNS related to hyperbilirubinemia, also known as bilirubin encephalopathy. It can result in cerebral palsy, hearing loss, visual impairments, dental problems and rarely, mental retardation and death.) Approximately 1 in 200 infants develop breast milk jaundice.

3. Breastfeeding Jaundice: Adequate amounts of colostrum and then breast milk help increase infant's bowel movements, which excrete excess bilirubin. Breastfeeding jaundice occurs when an infant does not feed early enough or frequently enough after birth. Other risks include when the infant has an improper latch inhibiting effective removal from breast or when the infant is supplemented with other substitutes (dextrose water, plain water etc.) that interfere with nursing and therefore do not promote excretion of the meconium/excess bilirubin. Approximately 1 in 10 babies develop breastfeeding jaundice. Breastfeeding jaundice should not discourage mothers from continuing to breastfeed.

Infants born preterm typically have underdeveloped livers, which is a risk factor for jaundice. The 2011 the CDC developed the acronym JAUNDICE to help identify major risk factors for jaundice in full term newborns:

Jaundice within first 24 hours after birth

A sibling who was jaundiced as a neonate

Unrecognized hemolysis such as ABO blood type incompatibility or Rh incompatibility

Non-optimal sucking/nursing

Deficiency in glucose-6-phosphate dehydrogenase (*a genetic disorder-see below for description)

Infection

Cephalohematomas/bruising

East Asian or Mediterranean descent.

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*Glucose-6-phosphate dehydrogenase deficiency is a genetic disorder that occurs most often in males. This condition mainly affects RBC. In affected individuals, a defect in an enzyme called glucose-6-phosphate dehydrogenase causes RBC to break down prematurely (hemolysis). Most common medical problem associated is hemolytic anemia, which occurs when RBC are destroyed faster than the body can replace them. This deficiency leads to a mild to severe jaundice in newborns.

WIC's Goal:

To provide education and information to mothers to sustain breastfeeding when their infant has jaundice and protect/maintain milk supply if formula supplementation is necessary.

The following measures are recommended to keep serum bilirubin concentrations in the normal, safe range while maintaining exclusive breastfeeding:

1. Early initiation.
 - a. Initiate breastfeeding as early as possible, preferably in the first hour after birth.
2. Exclusive breastfeeding should be encouraged.
 - a. Feeding anything prior to the onset of breastfeeding delays the establishment of good breastfeeding practices by the infant and delays establishment of adequate milk production, increasing the risk of exaggerated hyperbilirubinemia
3. Supplementation with expressed breastmilk, banked human milk, or formula (in that order of preference) should be limited to infants with at least one of the following:
 - a. Clear indication of inadequate intake as defined by weight loss in excess of 10% after attempts to correct breastfeeding problems.
 - b. Failure in milk production or milk transfer after attempts to increase milk production and milk transfer.
 - c. Evidence of dehydration defined by significant alterations in serum electrolytes, especially hyponatremia, and/or clinical evidence of significant dehydration.
 - d. Breastfeeding infants should not be supplemented with water or glucose water.
4. Optimize breastfeeding management from the beginning.
 - a. Assure ideal position and latch from the outset by having a healthcare provider trained in breastfeeding management (nurse, lactation consultant, lactation educator, midwife, or physician) evaluate position and latch, providing recommendations as necessary.
 - b. Education on early feeding cues. Teach the mother to respond to the earliest cues of infant hunger. Infants should be put to the breast before the onset of crying. Crying is a late sign of hunger and often results in a poor start to the breastfeeding episode. Sleepy babies who are not exhibiting hunger cues must be woken to feed regularly. In certain instances (e.g., sleepy baby, premature infant, mother–baby separation) mothers may benefit from interventions such as early instructions in manual or pump stimulation of breasts to optimize milk supply and prevent delayed secretory activation of the breasts.
5. If the 35–37- week premature infant manifests poor breastfeeding behavior or inadequate weight gain, consideration should be given to providing small amounts of expressed breastmilk, donor milk, or supplemental formula after each breastfeeding until weight gain is established to avoid breastfeeding jaundice in these infants.

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Objectives:

After meeting with a Nutritionist, WIC IBCLC/CLC, Participants will:

1. Create a plan to continue breastfeeding by nursing frequently. Learn how to wake and feed a lethargic/sleepy baby.
2. Create a supplementation plan if necessary to allow moms to build and maintain milk supply through nursing often and expressing milk through hand expression or a pump if appropriate
3. Make a plan to talk with pediatrician about possible feeding or supplementation plan and goals.
4. Learn where to go for additional support and help within the community i.e.: local IBCLC

Affirmation:

- Many moms have concerns if their baby is getting enough; your breastmilk helps your baby.
- You are really working hard to make sure you are meeting your breastfeeding goal.
- This must be stressful for you. We are here to support you.
- I hear you that you are concerned about having to supplement; it doesn't have to be long term.

Key Educational Messages:

- Formula supplementation is temporary, if necessary.
- If supplementing, build and maintain breastmilk supply through hand expression or pumping
- You can return back to exclusive breastfeeding, even if formula supplementation is necessary for a short time.
- Reinforce looking at the baby for hunger cues, waking a sleeping baby after X # hours)
- Unless medically indicated, you don't need to stop breastfeeding.
- Ask for skin-to-skin contact (SSC) in hospital, early initiation with breastfeeding is key. Continue SSC when you go home.
- Check in with your pediatrician for bilirubin check and advice

Activities:

- Recognizing infants hunger cues
- Demonstration of hand expression or pumping

Books:

- The Center for Breastfeeding, The Healthy Children project: Lactation Counselor Training Course
- Pocket Guide for Lactation Management by Karin Cadwell and Cindy Turner-Maffei
- Breastfeeding by Amy Spangler, MN, RN, IBCLC 9th edition

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Websites:

- Medscape Neonatal Jaundice
 - <http://emedicine.medscape.com/article/974786-overview>
- CDC Jaundice Alert; What every parent needs to know
 - https://www.cdc.gov/ncbddd/jaundice/documents/kernicterus_fs.pdf (English and Spanish available for Families)
- AAP: Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation
 - <http://pediatrics.aappublications.org/content/114/1/297>
- Academy of BF Medicine Guidelines for Management of Jaundice in the Newborn Infant 35 or More Weeks of Gestation
 - <http://www.bfmed.org/Media/Files/Protocols/Protocol%2022%20Jaundice.pdf>
- Definition of glucose-6-phosphate-dehydrogenase-deficiency
 - <https://ghr.nlm.nih.gov/condition/glucose-6-phosphate-dehydrogenase-deficiency>

Handouts/Resources:

Secrets of Baby Behavior: hunger cues, sleep timeline, infant states and cues
CDC handout “Jaundice Alert” (second website listed)