

Ticket to Enter:

A mother just delivered a healthy, full-term infant. The mother is concerned because her first child required phototherapy for jaundice. As the nurse, what education would you provide for the mother?

Despite having just delivered a healthy, full-term infant, it is important to explain any risk factors that may predispose the newborn to developing jaundice as well as providing information on any questions the mother may have.

Hyperbilirubinemia is an elevation of serum (liquid that remains after blood has clotted) bilirubin levels resulting in jaundice. Jaundice normally appears on the head, especially the sclera and mucous membranes (near the eyes and in the mouth), and then progresses down the thorax (chest), abdomen, and extremities (arms and legs).

Jaundice can be physiologic or pathologic. Physiologic jaundice is considered benign (not harmful), resulting from normal newborn physiology of increased bilirubin production due to the shortened lifespan and breakdown of fetal red blood cells and liver immaturity. The newborn who has physiological jaundice exhibits an increase in unconjugated bilirubin levels 72 to 120 hours after birth, with a rapid decline 5 to 10 days after birth. On the other hand, pathologic jaundice is a result of an underlying disease. Pathologic jaundice appears before 24 hours of age or is persistent after day 14. In the term newborn, increased bilirubin levels may be associated with anemia (lack of red blood cells) and hepatosplenomegaly (swelling of liver and spleen). Pathologic jaundice is usually caused by a blood group incompatibility or an infection but can be the result of red blood cell disorders.

Risk factors associated with jaundice include increased red blood cell production or breakdown; Rh or ABO (blood group) incompatibility; decreased liver function; maternal ingestion of diazepam, salicylates, or sulfonamides close to birth; maternal diabetes; oxytocin during labor; neonatal hyperthyroidism (excess thyroid-stimulating hormone (TSH)); ecchymosis (bruising) or hemangioma (bright red birthmark); cephalohematomas (pooling of blood under scalp); and/or prematurity. If a newborn has jaundice it is expected to see yellowish tint to skin, sclera, and mucous membranes.

To verify jaundice, the nurse will press the newborn's skin on the cheek or abdomen lightly with one finger. Then, after the nurse releases pressure, he or she will observe the newborn's skin color for yellowish tint as the skin is blanched.

If the newborn requires phototherapy, the nurse should educate the mother on the process/procedure. During phototherapy, the nurse will maintain an eye mask over the newborn's eyes for protection; keep the newborn undressed (if male newborn, cover genitalia to prevent possible testicular damage from heat and light waves); avoid applying lotions or ointments to the skin because they absorb heat and can cause burns; remove the newborn from phototherapy

every 4 hours and unmask the newborn's eyes checking for inflammation or injury; reposition the newborn every 2 hours to expose all of the body surfaces to the phototherapy lights and prevent pressure sores; and check the lamp energy with a photometer.

It is also important to educate on the possible effects of phototherapy and what each one may mean for the infant. For example, bronze discoloration and maculopapular skin rash (rash with flat and raised parts) are not serious complications. However, the infant may develop areas of pressure, dehydration (as evidenced by poor skin turgor (recoil), dry mucous membranes, decreased urinary output), and/or an elevated temperature. The newborn's bilirubin should start to decrease within 4 to 6 hours after starting treatment. It is important to hold and interact with the newborn when phototherapy lights are off. The mom should also know that the newborn's stool may contain some bile that will be loose and green. Additionally, the mom should continue breastfeeding (if choosing to do so), and feed the newborn early and frequently (every 3 to 4 hours) as this will promote bilirubin excretion in the stools.

The nurse and other members involved in the newborn's care will assess bilirubin, hemoglobin, hematocrit, and electrolytes (dehydration from phototherapy) levels to monitor progress of treatment.

It is important to remember to adhere to the newborn's plan of care. Infants who have low to moderate risk of hyperbilirubinemia should receive follow up care within two days. Infants at higher risk should be seen within 24 hours.