

# Hyperbilirubinemia SKINNY Reasoning

Sarah Daniels, newborn infant

Primary Concept		
Elimination		
Interrelated Concepts (In order of emphasis)		
Clinical Judgment Patient Education		
NCLEX Client Need Categories	Percentage of Items from Each Category/ /Subcategory	Covered in Case Study
Safe and Effective Care Environment		
• Management of Care	17-23%	X
• Safe and Infection Control	9-15%	X
Health Promotion and Maintenance	6-12%	X
Psychosocial Integrity	6-12%	X
Physiological Integrity		
• Basic Care and Comfort	6-12%	x
• Pharmacological and Parenteral Therapies	12-18%	X
• Reduction of Risk Potential	9-15%	X
Physiological Adaptation	11-17%	X

# Part 1: Recognizing RELEVANT Clinical Data

## History of Present Problem:

Sarah Daniels was born six hours ago by vaginal delivery after 22 hours of labor at 36 weeks gestation because of premature rupture of membranes. She weighed 9 lbs 0 ounces. (4090 g). Her Apgar was 8 at one minute and 9 at 5 minutes. Her newborn assessment revealed a cephalohematoma on the right-posterior aspect of her head. All other assessment data is within normal limits. Sarah has breastfed once since birth for seven minutes. She is noted to be sleepy when at the breast and not an aggressive feeder, consistent with her gestational age. She has voided once since birth, but has not yet stooled.

Sarah's mom Morgan was a diet-controlled gestational diabetic. Morgan's prenatal labs are as follows: Blood type is O +, GBS is negative, Hepatitis B is negative. Her prenatal course was unremarkable other than the premature rupture of membranes.

Sarah's blood type is A+. Blood sugars were obtained per protocol starting at two hours after birth and have been consistently > 50 mg/dL. Her hematocrit was tested per protocol of a baby of a diabetic mother born before 37 weeks and was 48% four hours after birth. Twelve hours after birth, her transcutaneous bilirubin level is 6.1 mg/dL.

## Personal/Social History:

<b>Current VS:</b>	<b>NIPS Pain Assessment:</b>
T: 98.3 F/36.8 C (axillary)	Facial Expression: Relaxed
P: 138 (regular)	Cry: No cry
R: 54 (regular)	Breathing Pattern: Relaxed
	Legs: Relaxed
	State of Arousal: Sleeping
	NIPS Score: 0

Morgan Daniels is a 22-year-old single mom who attends a local community college. The father of the baby is not involved. Morgan lives with her parents, who are supportive and available.

What data from the histories are RELEVANT and must be interpreted as clinically significant by the nurse?  
Reduction o Risk Potential

<b>RELEVANT Data from Present Problem:</b>	<b>Clinical Significance:</b>
The delivery occurred at 36 weeks gestation, premature rupture of the membranes (PROM), vaginal delivery, cephalohematoma, voided once, no stool yet. Mother has gestational diabetes.	Since the infant Sarah was born prematurely, her organs may not be fully formed.
<b>RELEVANT Data from Social History:</b>	<b>Clinical Significance:</b>

Mother is a single mom, father is not involved, and the mother lives with her parents.	Although the father is not present, the mother has two supportive and available parents to help her.
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## Patient Care Begins:

What VS data are RELEVANT and must be interpreted as clinically significant by the nurse?

Reduction o Risk Potential/Health Promotion and Maintenance

RELEVANT VS Data:	Clinical Significance:
N/A	The newborn is at rest and all vitals are within normal limits.

Current Assessment:

GENERAL APPEARANCE:	Calm, body flexed, no grimacing, appears to be resting comfortably
RESP:	Breath sounds clear, nonlabored respiratory effort. No grunting, retraction or nasal flaring noted
CARDIAC:	Heart sounds regular with no abnormal beats, S1 S2, brisk cap refill, no edema. Moderate systolic murmur resented over a ex.
NEURO:	Sleeping • difficult to wake for feedings does not stay awake at breast. All reflexes intact
INTEG:	Facial jaundice noted, skin color pink with acrocyanosis. Cephalohematoma to right-posterior aspect of head. Swelling does not cross sutures lines.

RELEVANT Assessment Data:	Clinical Significance:
Cephalohematoma on the right-posterior of the head	A cephalohematoma is an accumulation of blood that occurs when vessels are damaged during delivery. Usually around the size of a golf ball, and not normally dangerous.
Difficult to wake for feedings	Difficult waking for feedings may imply that the newborn is not receiving adequate nutrition.

## Lab Results:

	Current:	Hi h/Low/WNL?
Bilirubin m dL)	6.4	HIGH
H b 15-24 dL	18	WNL
Hct 45-65%)	60	WNL
Glucose 40-60m dL)	55	WNL

What lab results are RELEVANT and must be interpreted as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening /Stable:
Bilirubin 6.4	Consistent, high bilirubin levels may indicate liver damage, which can progress to brain damage.	Improving

## Part 11: Put it All Together to THINK Like a Nurse!

1. After interpreting relevant clinical data, what is the primary problem?

Management to Care/Physiologic Adaptation

Problem:	Pathophysiology in OWN Words:
Preterm newborn experiencing dehydration and hyperbilirubinemia	The infant is having trouble breastfeeding, which is most likely causing dehydration and an excess of bilirubin. Preterm infants are more likely to experience dehydration and excess bilirubin related to premature organs. It is difficult for preterm newborns to feed because latching on and sucking is harder for preterm babies.

### Collaborative Care: Medical Management

2. State the rationale and expected outcomes of the medical plan of care. (Pharm. and Parenteral Therapies)

Medical Management:	Rationale:	Expected Outcome:
Obtain parental consent.	The parent must sign a consent form as proof of the parent's understanding.	Parental consent obtained.
Check body temp hourly.	Assessing the body temperature hourly is beneficial to keep the infant within a normal and safe range.	Body temperature assessed hourly, and all temperatures are within normal range.
Place eye mask over Sarah's eyes.	A mask is necessary to protect the infant's eyes from the UV lights of the Bilibed.	Mask placed over Sarah's eyes during bili light therapy.
Remove all clothing except for her diaper.	Undressing the infant will ensure that the bili lights are getting through to the skin properly.	All clothing removed while on the Bilibed with bili lights to promote the most efficient phototherapy.
Place Sarah on the Bilibed and under the bili lights.	The bilirubin lights help to treat the jaundice by oxidizing the excess of bilirubin.	Sarah is placed on the Bilibed for phototherapy.
Accurate and strict I and O	I and O is important to assess the infant's hydration status as the newborn was already dehydrated.	Accurate and strict I and O is recorded.
Repeat serum bilirubin level in 6 hours after phototherapy is initiated.	Taking another serum level 6 hours later will trend to see if phototherapy is successful.	Serum bilirubin level is taken six hours after phototherapy and is within normal range.

## Collaborative Care: Nursing

### 3. What nursing priorities will guide our plan of care? (Management of Care)

Nursing PRIORITY:		
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
<p>1. Assist the mother with breastfeeding, with or without a pump. Have the mother use the teach-back method and observe her during feedings. Support and encourage the mother. Support formula feedings if necessary.</p> <p>2. Draw serum levels and send to the lab.</p>	<p>1. Jaundice may occur in infants who experience difficult with breastfeeding. Proper and adequate teaching, cooperation, and comprehension from the mother and even the mother's two parents are vital.</p> <p>2. Bilirubin levels are a direct way to confirm if phototherapy is successful or not.</p>	<p>1. The mother will discharge home with an adequate understanding of proper breastfeeding techniques and why breastfeeding properly is necessary for the infant's health.</p> <p>2. Bilirubin levels will be within normal limits after phototherapy.</p>

4. What psychosocial/holistic care **PRIORITIES** need to be addressed for this patient?

Psychosocial Integrity [Basic Care and Comfort]		
Psychosocial <b>PRIORITIES</b> :		
<b>PRIORITY Nursing Interventions:</b>	<b>Rationale:</b>	<b>Expected Outcome:</b>
<p><b>PHYSICAL CARE/COMFORT:</b></p> <p>Make sure that the infant and mother have immediate and consistent skin-to-skin.</p> <p>Ensure that the infant is warm enough with proper clothing and blankets.</p>	<p>Skin-to-skin not only helps the infant recover soundly but also the mother.</p> <p>Ensuring that the infant is warm can help prevent any temperature or further issues.</p>	<p>Skin-to-skin contact is provided immediately and constantly.</p> <p>Infant is kept warm at all times.</p>
<p><b>EMOTIONAL (How to develop a therapeutic relationship):</b></p> <p>Support and always encourage the mother, but especially when providing education about newborn care and proper breastfeeding.</p> <p>Address any concerns or issues the mother has.</p>	<p>Supporting and encouraging the mother is emotionally beneficial for not only the mother but the infant. It is difficult to focus when emotionally imbalanced. Having an emotionally stable mother will enhance education and the proper care of the infant especially when at home after discharge.</p> <p>Addressing any concerns helps with reassuring, supporting, and educating the mother properly in order to best care for her infant.</p>	<p>Mother is supported and encouraged at all times.</p> <p>All concerns and issues are addressed.</p>
<p><b>SPIRITUAL:</b></p> <p>If the mother supports a specific faith provide the patient with resources, prayer time, or a chaplain to promote spiritual health.</p>	<p>Spiritual health is just as important as emotional and physical health and needs to be provided by the nurse. Giving the patient privacy to practice their faith or to contact a chaplain is one way to greatly encourage positive spiritual health. Health issues with infants are intimidating and scary, so it is important to help with spiritual health.</p>	<p>The patient's spiritual health is stable and well cared for during the hospital stay. Any available resources are used to the patient's benefit.</p>

5. What educational/discharge priorities need to be addressed to promote health and wellness for this patient and/or family? (Health Promotion and Maintenance)

The patient and family will need education about the signs and symptoms of jaundice, malnutrition, and dehydration in the infant. Having handouts about jaundice, malnutrition, and dehydration would be important prior to discharge. Breastfeeding is an important education point that needs completion before the patient and family leave the hospital.