

# 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>
<ul style="list-style-type: none"> <li>- The client delivered at 36 weeks (PROM).</li> <li>- Cephalohematoma</li> <li>- Morgan has gestational diabetes</li> </ul>	A preterm delivery means a likelihood that the newborn's organs will not be fully formed or developed. The mother's gestational diabetes will also hinder the health of the newborn.
<b>RELEVANT Data from Social History :</b>	<b>Clinical Significance:</b>

<ul style="list-style-type: none"> <li>- The client is a single mom; father is not involved</li> <li>- The client is attending college</li> <li>- The client lives with parents</li> </ul>	<p>The client is a single mom and receives no assistance from the baby's father who is not involved in the child's care. She also attends community college, which puts more stress and strain on her. Fortunately, the client receives support from her parents whom are supportive of the baby.</p>
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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 in a resting state and is exhibiting normal vital signs.

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 rescent 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:
<ul style="list-style-type: none"> <li>- Presence of cephalohematoma on the right posterior side of the head.</li> <li>- The newborn is difficult to wake up for feedings.</li> </ul>	<ul style="list-style-type: none"> <li>- A cephalohematoma is the pooling of blood in the vessels of the head.</li> <li>- The newborn is not getting enough nutrition if it refuses to get up to eat.</li> </ul>

## 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?

<b>RELEVANT Lab(s):</b>	<b>Clinical Significance:</b>	<b>TREND:</b> Improve/Worsening /Stable:
- Bilirubin of 6.4 mg/dl	A consistently high level of bilirubin can cause liver damage and brain damage which can follow.	Improving

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

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

Management of Care/Physiologic Adaptation

<b>Problem:</b>	<b>Pathophysiology in OWN Words:</b>
Hyperbilirubinemia	Hyperbilirubinemia is characterized by an excessive amount of bilirubin in the body. It is caused when erythrocytes break down at a high rate which leaves the body with excessive amounts of bilirubin as it is the product of the break down process of erythrocytes. The bilirubin cannot be excreted through urine or bile since it is fat soluble and so building of bilirubin occurs in the body increasing the serum concentration of bilirubin in the body.

### Collaborative Care: Medical Management

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

Medical Management:	Rationale:	Expected Outcome:
Obtain parental consent.	- The form states the parent's understanding and must be signed.	- The parents will sign the consent form.
Check body temp hourly.	- Checking the body temp hourly ensures that the newborn's temperature is within safe ranges.	- The newborn's temperature will remain within normal limits.
Place eye mask over Sarah's eyes.	- The mask will help protect Sarah's eyes.	- Sarah will not experience any eye discomfort.
Remove all clothing except for her diaper.	- Removing clothing will allow the light to reach the newborn's skin.	- The newborn's clothes will be taken off and skin will be exposed.
Place Sarah on the Bilirubin and under the bili lights.	- Accurate and strict I and O will make sure that the newborn is ingesting and drinking enough.	- The newborn's I&O will remain within normal limits.
Accurate and strict I and O	- Repeating the serum levels checks to see if the therapy is effective.	- The newborn's serum bilirubin level will be within normal limits.
Repeat serum bilirubin level in 6 hours after phototherapy is initiated.		

### Collaborative Care: Nursing

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

Nursing PRIORITY:	<ul style="list-style-type: none"> <li>- Provide education and teaching on breastfeeding</li> <li>- Monitor for improvements in bilirubin levels</li> </ul>	
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
<ul style="list-style-type: none"> <li>- Provide education and teaching on breastfeeding</li> <li>- Monitor for improvements in bilirubin levels</li> </ul>	<ul style="list-style-type: none"> <li>- Providing the mother education on how to properly breastfeed will help the mother provide breast milk to her infant, which will improve the condition.</li> <li>- Monitoring the newborn's bilirubin levels will check and see if the therapy is effective and looks at how the newborn is doing.</li> </ul>	<ul style="list-style-type: none"> <li>- The mother will state that she understands the teaching.</li> <li>- The newborn's bilirubin levels will remain within normal limits.</li> </ul>

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

Psychosocial Integrity [Basic Care and Comfort]		
Psychosocial <b>PRIORITIES</b> :	Encourage the mother to express her concerns and thoughts on the situation.	
<b>PRIORITY</b> Nursing Interventions:	<b>Rationale:</b>	<b>Expected Outcome:</b>
<p><b>CARE/COMFORT:</b></p> <ul style="list-style-type: none"> <li>- Encourage the mother to express her concerns and thoughts on the situation.</li> <li>- Provide the mother with water or blankets as indicated</li> <li>- Provide the mother with supportive resources to help her take care of her baby.</li> </ul> <p>Physical comfort measures</p>	<ul style="list-style-type: none"> <li>- It is important to acknowledge that the mother may be anxious, nervous, and scared for her baby’s health. She should be encouraged to voice her concerns and needs to help her feel better.</li> <li>- The mother may need things such as water or blankets so that she can feel comfortable.</li> <li>- The newborn’s mother is a single mother and may lack support to take care of her baby.</li> </ul>	<ul style="list-style-type: none"> <li>- The mother will voice her concerns and thoughts to the nurse.</li> <li>- The mother will voice her needs to the nurse as needed.</li> <li>- The mother will receive information on support groups or other supportive resources upon discharge.</li> </ul>
<p><b>EMOTIONAL</b> (How to develop a therapeutic relationship):</p> <ul style="list-style-type: none"> <li>- Encourage and let the mother know that she can express her emotions as needed.</li> <li>- Answer all questions that the mother may have.</li> <li>- Educate the mother on healthy ways to relax</li> </ul>	<ul style="list-style-type: none"> <li>- The mother may be concerned and in distress due to the condition of her newborn. It is important to let her know that she can express her feelings.</li> <li>- Answering the client’s questions and concerns will help decrease her anxiety and concerns.</li> <li>- Giving the mother healthy ways to cope with her situation will help her relax.</li> </ul>	<ul style="list-style-type: none"> <li>- The mother will express her feelings as needed.</li> <li>- The nurse will answer any questions that the mother may have.</li> <li>- The mother will be educated on different methods to relax.</li> </ul>
<p><b>SPIRITUAL:</b></p> <ul style="list-style-type: none"> <li>- Encourage the mother to talk about her concerns and meditate or pray if it helps her.</li> </ul>	<ul style="list-style-type: none"> <li>- Meditating or praying will help the client cope if she is one to do so.</li> <li>- The client will need to feel as though she is being listened to if she is going to feel better. The nurse must actively listen to the client when she speaks.</li> </ul>	<ul style="list-style-type: none"> <li>- The client will state and carry out her method of coping.</li> <li>- The nurse will listen to the</li> </ul>

<ul style="list-style-type: none"> <li>- Be present when the client needs to express her concerns.</li> <li>- Ask what can be done to help the client feel better</li> </ul>	<ul style="list-style-type: none"> <li>- The client may be in distress and seeing what she needs to feel better will help her cope.</li> </ul>	<p>client and ask questions when necessary.</p> <ul style="list-style-type: none"> <li>- The nurse will ask the client what she needs and tend to her needs.</li> </ul>
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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 client will need to be prepared with education on how to provide breastfeeding to her newborn. She will also be briefed on making a healthy feeding schedule. Monitoring her newborn's skin, sclera, and mucous membrane will also be taught to the mother so that she knows how to spot jaundice. The mother will also be educated on signs and symptoms of hypothermia, hypoglycemia, hypoxia, and change in mental status in order to know how to spot them.