

# Hyper bilirubinemia SKINNY Reasoning

## Courtney Thomas

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

SKINNY Reasoning

# 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 stoolled.

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:

Current VS:	NIPS Pain Assessment:
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 of Risk  
Potential

RELEVANT Data from Present Problem:	Clinical Significance:
<p><b>Premature rupture of membranes at 36 weeks.</b></p> <p><b>Sarah's bilirubin level at 12 hours old is 6.1 mg/dL which is high.</b></p> <p><b>Morgan has a O+ blood type.</b></p>	<p><b>This is significant due to possible complications that can come along with a baby being born premature. Sarah was born at 9 pounds and had good Apgar scores at 1 and 5 minutes. She presents with a cephalohematoma. Her bilirubin level was high 12 hours after birth placing her into the high intermediate risk zone. With the mother's blood type being O+, this could lead to possible hyper bilirubinemia if Sarah has a different blood type.</b></p>

RELEVANT Data from Social History:	Clinical Significance:
<p><b>Morgan is a young, single mother who attends college.</b></p> <p><b>Father is not involved.</b></p> <p><b>Morgan lives with her parents.</b></p>	<p><b>Morgan being a young, single mother can be stressful. She is also taking classes at the community college which can add to that stress. Not only is she not in charge of raising this baby, she has to focus on her schooling as well. The father is not involved which places more stress on Morgan to do it all on her own. Living with her parents could be helpful. They are supportive which means they are willing to help Morgan when she needs it. It is important to know that she has a good support system.</b></p>

## 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:
<b>Sarah's vital signs are all within normal range.</b>	<b>Sarah appears to be doing well at the time.</b>
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:
<p><b>Difficulty waking to feed.</b></p> <p><b>Facial jaundice</b></p> <p><b>Cephalohematoma</b></p>	<p><b>There are some small concerns in the assessment data. Sarah appears to be difficult to wake up to feed. Feeding is important for all newborns but especially important for those with jaundice. The more often the eat, the quicker their bilirubin level will go down. Her cephalohematoma is not a huge concern but should be watched. Most of the time they will go down on their own but Morgan should keep an eye on it.</b></p>

## Lab Results:

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

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

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening /Stable:
<b>Bilirubin of 6.4</b>	<b>A bilirubin level of 6.4 puts Sarah in the high intermediate risk zone. She should be receiving feedings more frequently and monitored closely to see if there are changes.</b>	<b>Worsening compared to the number provided at 12 hours old.</b>

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

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

Management Care/Physiologic Adaptation

Problem:	Pathophysiology in OWN Words:
<b>Hyper bilirubinemia</b>	<b>Hyper bilirubinemia is when there is too much bilirubin in the baby's blood. Jaundice results from an imbalance rate of bilirubin production and elimination. Premature babies are at a high risk of jaundice due to their livers not being fully mature.</b>

## 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:
<p>Obtain parental consent.</p> <p>Check body temp hourly.</p> <p>Place eye mask over Sarah's eyes.</p> <p>Remove all clothing except for her diaper.</p> <p>Place Sarah on the Bilibed and under the bili lights.</p> <p>Accurate and strict I and O</p> <p>Repeat serum bilirubin level in 6 hours after phototherapy is initiated.</p>	<p><b>We must obtain parental consent for any kind of treatment on the babies.</b></p> <p><b>Monitoring the body temperature is important because the bili lights are warm which can increase the baby's body temperature.</b></p> <p><b>Placing an eye mask over Sarah's eyes is important to ensure she does not end up with eye damage.</b></p> <p><b>You should remove all clothing except diaper so that the lights can work on their whole body. This will also keep them from getting too warm under the lights.</b></p> <p><b>We want to place Sarah under the lights to help with her hyper bilirubinemia.</b></p> <p><b>Monitoring I&amp;O will ensure that Sarah is not showing signs of dehydration.</b></p> <p><b>This is to monitor Sarah's levels to ensure she is improving during her time in the Bilibed.</b></p>	<p><b>Morgan will sign the consent for Sarah to be treated.</b></p> <p><b>Sarah's body temperature will not rise to a dangerous temp.</b></p> <p><b>Sarah will not have any issues with her eyes.</b></p> <p><b>Sarah's body will receive the proper amount of light to help reduce her bilirubin level.</b></p> <p><b>Placing her under the lights will begin the process of decreasing her bilirubin level.</b></p> <p><b>Her intake and output will show no signs of dehydration. Knowing that Sarah is having wet/poopy diapers can indicate that she is processing the bilirubin.</b></p> <p><b>Her bilirubin levels will go down due to the therapy.</b></p>

## 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><b>Initiate early and frequent feedings.</b></p> <p><b>Keep the infant warm and dry.</b></p> <p><b>Measure the quantity of photo energy of the fluorescent bulbs.</b></p> <p><b>Cleanse the infant's eyes using sterile water when patches are removed.</b></p>	<p><b>The more often the baby feeds, the faster the bilirubin levels will go down.</b></p> <p><b>Cold stress can increase the level of bilirubin.</b></p> <p><b>This is to ensure that the lights are placed in the proper position.</b></p> <p><b>This is to prevent bacteria growth.</b></p>	<p><b>Sarah will feed every 2-3 hours.</b></p> <p><b>Sarah will remain warm and dry throughout her time there.</b></p> <p><b>The bulbs will remain at the proper position and</b></p>

<b>Reposition the baby every 2 hours.</b>	<b>This allows for equal exposure to all surfaces of their skin.</b>	<b>intensity.</b> <b>Sarah will not show signs of infection in her eyes.</b> <b>All surfaces of Sarah's skin will receive equal amount of exposure.</b>
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What psychosocial/holistic care PRIORITIES need to be addressed for this patient?

Psychosocial Integrity [Basic Care and Comfort]		
Psychosocial PRIORITIES:		
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
<p><b>CARE/COMFORT: Make frequent assessments of the patient. Offer to assist with breastfeeding, assist in bathing once the mother is able to do so, assess if the mother has any additional needs.</b></p> <p>Physical comfort measures:  <b>Assist in repositioning the mother in bed, administer medication as directed.</b></p>	<p>The patient had a relatively long labor. She is probably both physically and emotionally exhausted. She has no experience with breastfeeding. Showering after birth can help the mother to relax.</p> <p><b>Physical: The mother may be sore from laboring and may need assistance making position changes. Providing medication can help to assist with any pain the mother may be having.</b></p>	<p>The patient will be relaxed after showering. She will demonstrate an understanding of proper understanding of how to breastfeed.</p> <p>Pain medication will alleviate any pain the patient may be having. The patient will be repositioned frequently to help with comfort.</p>
<p>EMOTIONAL (How to develop a therapeutic relationship):  <b>Speak to the mother and listen to what she has to say.</b></p>	<p>The mother is a young, single mother who may have not been able to express her feelings about her pregnancy. The new mother may also be feeling emotional about the child's cephalohematoma and its appearance.</p>	<p>The nurse would use therapeutic communication and listen as the mother speaks.</p>
<p>SPIRITUAL:  <b>Assess whether or not the patient has a religion that they associate with.</b></p>	<p>The patient is a single mother with no support from the father. She may use her religion to help her get through stressful situations.</p>	<p>The patient will state whether or not she practices a certain religion. If so, the hospital chaplain could be called in to speak with the mother.</p>

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

- **Monitor your baby for signs that their jaundice is returning or getting worse.**
  - **This can be seen by watching your baby's eyes and body.**
- **Breastfeed your baby often, approximately every 2-3 hours.**

- **Frequent feeding helps because the more they eat, the more stools they will produce. Bilirubin is eliminated from the body through stools.**
- **Contact your provider if your baby is showing any signs of discomfort including:**
  - **No interest in feeding**
  - **Pale skin**
  - **Pale or greyish stools**
  - **Jaundice not improving**
  - **Fever**
  - **Excessive crying**
  - **Vomiting**
  - **Less than 6 wet or soiled diapers in a 24-hour period**