N433 Care Plan # 1

Lakeview College of Nursing

Darby McNeil

Demographics (3 points)

Date of Admission 6/14/20	**Patient Initials** BL	**Age (in years & months)** 5 years	**Gender** Female
Code Status Full Code	**Weight (in kg)** 16 kg	**BMI** 11.9	**Allergies/Sensitivities (include reactions)** NKA

Medical History (5 Points)

Past Medical History:

Illnesses: Sickle cell disease

Hospitalizations: Age 3-fever, age 4- vaso-occlusive episode

Past Surgical History: None

Immunizations: Up-to date on all immunizations

Birth History: NA

Complications (if any): None

Assistive Devices: None

Living Situation: Lives with mother

Admission Assessment

Chief Complaint (2 points): Right lower leg pain

Other Co-Existing Conditions (if any): Sickle cell disease

Pertinent Events during this admission/hospitalization (1 points): Patient became hypovolemic, provider put in orders for IV bolus normal saline 250 mL.

History of present Illness (10 points): Five-year-old female was brought to the ED by her mother after complaining of right lower leg pain over the last 2 days. The patient rates her pain

as a 5 on the FACES scale, and the pain seems to be constant, but the patient is unable to describe the pain's characteristics. The patient has a history of sickle cell disease and has had pain crises that are usually handled by administering acetaminophen and ibuprofen. At this time, no measures are decreasing the patient's pain. Patient reports that walking worsens the pain. Patient received oral pain medications at 0600 in the ED and is on IV fluids at 52 mL/hr. She now rates her pain as a 3 on the FACES scale.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Sickle cell anemia

Secondary Diagnosis (if applicable): Hypovolemia

Pathophysiology of the Disease, APA format (20 points):

Sickle cell anemia affects a person’s red blood cells to change into a crescent-like shape due to abnormal hemoglobin, called Hgb S(Capriotti, 2016). This abnormality of hemoglobin occurs due to a genetic mutation that replaces a valine with a glutamic acid within one of the beta polypeptide chains of the hemoglobin. When a patient with sickle cell anemia experiences levels of high stress or hypoxia, the red blood cells are distorted and cannot deliver oxygen as efficiently as before. The red blood cells become more fragile, leading to an increase in the break down in these cells. The crescent-like shape of the red blood cells can also lead to occlusions as they are not able to pass through the blood vessels as easily, leading to a risk for tissue hypoxia and vaso-occlusive crises(Capriotti, 2016). A vaso-occlusive episode defines the episode of ischemia that occurs when there is blockage of blood flow to an area of tissue(Capriotti, 2016).

Expected findings associated with Sickle Cell Anemia include a family history of SCA, pain, shortness of breath, fatigue, pallor, jaundice, hands and feet fool to the touch, dizziness, and headache(Holman, 2019). Vaso-occlusive episodes are characterized by severe pain, swollen joints, hands, and feet, abdominal pain, hematuria, obstructive jaundice, and visual disturbances(Holman, 2019). This patient shows signs of both sickle cell anemia and vaso-occlusive episodes such as a family history of SCA, pain, pallor, and severe pain in her lower right leg.

To diagnosis Sickle Cell Anemia, a CBC is ordered to assess for anemia, and a peripheral blood smear can be done to look for sickle-shaped cells(Capriotti, 2016). The patient has a hematocrit level of 29% and a hemoglobin level of 9.8 g/dL. Low hematocrit and hemoglobin are signs of anemia and fit the patient's diagnosis of Sickle Cell Anemia.

Standard treatment for SCA is a combination of oxygen therapy, hydration, and pain medications(Capriotti, 2016). The patient currently has orders for 2 L of oxygen via nasal cannula to increase her oxygen levels and is on continuous IV fluids of D5 ½ NS at 52 mL/hr. The patient also has orders for a codeine elixir, acetaminophen elixir, ibuprofen elixir, and morphine sulfate to help manage pain. She continued to show signs of hypovolemia, so the provider ordered a one-time IV bolus of 250 mL normal saline.

Pathophysiology References (2) (APA):

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology Introductory Concepts and Clinical Perspectives.* Philadelphia, PA: F. A. Davis.

Holman, H. C., Williams, D., Johnson, J., Sommer, S., Wheless, L., Wilford, K., & McMichael, M. G. (2019). *Rn nursing care of children: review module*. Assessment Technologies Institute.

Active Orders (2 points)

Order(s)	Comments/Results/Completion
Activity:	None
Diet/Nutrition:	• Encourage PO fluids→ patient drank 2 cups of juice during shift
Frequent Assessments:	• Vital signs every 4 hours • Continuous pulse oximetry
Labs/Diagnostic Tests:	• CBC and BMP completed daily
Treatments:	• IV fluids: D5 ½ NS at 52 mL /hr • Codeine elixir 8 mg PO every 4 hours-administered at 0600 • Acetaminophen elixir 240 mg PO every 6 hours-administered at 0600 • Ibuprofen elixir 160 mg PO at 0900 and then every 6 hours • Docusate sodium 100 mg IV • Morphine sulfate 2 mg IV once-administered at 0800
Other: Call orders	Temp >38.0 HR <80, >130 RR <18, >30 BP sys <88, >120; dias <46, >76 SpO2 <95% on room air
New Order(s) for Clinical Day	
Order(s)	**Comments/Results/Completion**
Fluid bolus of normal saline 250 mL over 30-60 minutes	Order was completed at 0800

Laboratory Data (15 points)

CBC Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range (specific to the age of the child)	Admission or Prior Value	Today's Value	Reason for Abnormal Value
RBC	4.2-5.4 x 10^9/L	NA	5.1	NA
Hgb	13.5-17.5 g/dL	NA	9.8	Hemolysis of red blood cells occur due to sickle cell, resulting in a low Hgb(Capriotti, 2016).
Hct	40-45%	NA	29%	Hematocrit is decreased in relation to an increased break down of RBCs caused by sickle cell anemia(Capriotti, 2016).
Platelets	150-400 x 10^9/L	NA	330	NA
WBC	4-11 x 10^9/L	NA	10.8	NA
Neutrophils	1.6-7.8 x 10^2/L	NA	NA	NA
Lymphocytes	1.6-5.3 x 10^9/L	NA	NA	NA
Monocytes	0.30-0.90 x 10^9/L	NA	NA	NA
Eosinophils	0-0.50 x 10^9/L	NA	NA	NA
Basophils	0-0.1 x 10^9/L	NA	NA	NA
Bands	0-6	NA	NA	NA

Chemistry Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission or Prior Value	Today's Value	Reason For Abnormal
Na-	133-143 mEq/L	NA	139	NA
K+	3.6-4.6 mEq/L	NA	4	NA

Cl-	101-111 mEq/L	NA	108	NA
Glucose	65-140 mg/ dL	NA	84	NA
BUN	8-23 mg/dL	NA	10.8	NA
Creatinine	0.8-1.4 mg/ dL	NA	0.4	Creatinine is low due to a decrease in blood flow to the kidneys related to sickle cell anemia(St. Jude, 2020).
Albumin	3.5-5.2 gm/ dL	NA	NA	NA
Total Protein	6-8 g/dL	NA	NA	NA
Calcium	8.5-10.9 mg/dL	NA	NA	NA
Bilirubin	0.0-1.2 mg/ dL	NA	NA	NA
Alk Phos	34-104	NA	NA	NA
AST	13-39	NA	NA	NA
ALT	7-52	NA	NA	NA
Amylase	25-160 U/L	NA	NA	NA
Lipase	0-160 U/L	NA	NA	NA

Other Tests Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Admission or Prior Value	Today's Value	Reason for Abnormal
ESR	0-10 mm	NA	NA	NA
CRP	<3 mg/L	NA	NA	NA
Hgb A1c	<6.4	NA	NA	NA
TSH	0.45-5.33	NA	NA	NA

Urinalysis Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Admission or Prior Value	Today's Value	Reason for Abnormal
Color & Clarity	Yellow, clear	NA	NA	NA
pH	4.5-8	NA	NA	NA
Specific Gravity	1.005-1.034	NA	NA	NA
Glucose	Normal	NA	NA	NA
Protein	Negative	NA	NA	NA
Ketones	Negative	NA	NA	NA
WBC	<5	NA	NA	NA
RBC	0-3	NA	NA	NA
Leukoesterase	Negative	NA	NA	NA

Cultures Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Admission or Prior Value	Today's Value	Explanation of Findings
Urine Culture	Negative	NA	NA	NA
Blood Culture	Negative	NA	NA	NA
Sputum Culture	Negative	NA	NA	NA
Stool Culture	Negative	NA	NA	NA
Respiratory ID Panel	Negative	NA	NA	NA

Lab Correlations Reference (APA):

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology Introductory Concepts and Clinical Perspectives.* Philadelphia, PA: F. A. Davis.

Mayo Clinic. (2020). *Complete Blood Count (CBC) with Differential, Blood*. https://www.mayocliniclabs.com/test-catalog/Clinical+and+Interpretive/9109.

St. Jude. (2020). *Sickle cell kidney disease*. https://www.stjude.org/treatment/patient-resources/caregiver-resources/patient-family-education-sheets/hematology/sickle-cell-kidney-disease.html.

Diagnostic Imaging

All Other Diagnostic Tests (5 points): None

Diagnostic Test Correlation (5 points): None

Diagnostic Test Reference (APA):

Current Medications (8 points)
****Complete ***ALL*** of your patient's medications****

Brand/Generic	Codeine elixir	Tylenol/ acetaminophen elixir	Advil ibuprofen elixir	Colace/ docusate sodium	Duramorph/ morphine Sulfate
Dose	8 mg	240 mg	160 mg	100 mg	2 mg
Frequency	Q4h	Q6h	0900 then q6h	Once daily	Once
Route	PO	PO	PO	PO	IV
Classification	Opioid analgesic	Nonopioid analgesic	Analgesic	Stool softener	Analgesic
Mechanism of Action	Binds with receptors in the spinal cord, preventing release of pain	Blocks prostaglandin production by inhibiting cyclooxygenase	Inhibits prostaglandins, resulting in reduced inflammatory	Softens stool by decreasing surface tension	Binds to and activates opioid receptors in the brain and spinal cord. This

	neurotransmitters	, interfering with pain impulse generation	symptoms and relief of pain	between the oil and water in feces	produces analgesia and euphoria
Reason Client Taking	Reduce pain	Reduce pain	Reduce pain	Treat constipation	Relieve severe pain
Concentration Available	NA	160 mg/5 mL	NA	NA	0.5 mg/mL
Safe Dose Range Calculation	NA	NA	10 mg/kg/dose	NA	0.15 mg/kg/dose
Maximum 24-hour Dose	NA	1,200 mg	NA	NA	NA
Contraindications (2)	Under the age of 12, significant respiratory depression	Severe hepatic impairment, hypersensitivity to acetaminophen	Angioedema, asthma	Fecal impaction, intestinal obstruction	Asthma, hypersensitivity to montelukast
Side Effects/Adverse Reactions (2)	Drowsiness, euphoria	Abdominal pain, fatigue	Dizziness, fluid retention	Dizziness, palpitations	Amnesia, delirium
Nursing Considerations (3)	Use with caution when administering to a child, evaluate for decreased pain, monitor respiratory depth, effort, and rate	Monitor renal function, be aware of other medications that contain acetaminophen when calculating daily doses	Risk of heart failure increases, use with caution if pt has history of excessive bleeding, use cautiously it pt has hypertension	Long term use can cause dependence, monitor for electrolyte imbalances, assess for laxative abuse syndrome	Use with caution if pt has hypoxia, monitor for signs of respiratory depression, use with caution if pt is at risk for carbon dioxide retention
Client Teaching needs (2)	Take with food to decrease nausea, Teach patient to stand up slowly to prevent orthostatic hypotension	Should only be used for short term relief, Stop treatment and contact provider if rash appears	Should be taken with a full glass of water, take with food to avoid GI upset	Do not use with abdominal pain, nausea, or vomiting, take with a full glass of water or milk	Do not change dosage, change positions slowly to prevent orthostatic hypotension

Medication Reference (APA):

JONES & BARTLETT LEARNING. (2019). *2020 Nurse's Drug Handbook*.

Assessment

Physical Exam (18 points)

GENERAL (1 point): **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	A&O x 4 Patient shows signs of distress related to pain Overall appearance is appropriate for age
INTEGUMENTARY (2 points): **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score: 20** **Drains present: Y☐ N ☒** **Type:**	Skin slightly pale, cool throughout with normal elasticity. Right lower leg is warm to the touch. No rashes, bruises, wounds, or drains present
HEENT (1 point): **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:** **Thyroid:**	Head normocephalic, ears intact. Extraocular movements intact. PEERLA. Thyroid midline. Dentition appropriate for age. .
CARDIOVASCULAR (2 points): **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒** **Location of Edema:**	ECG shows normal sinus rhythm. S1 and S2 heard, no noted murmurs. No noted edema. Capillary refill <2 seconds. Peripheral pulses present bilaterally.
RESPIRATORY (2 points): **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	Breath sounds clear and equal in all lobes bilaterally.
GASTROINTESTINAL (2 points): **Diet at home:**	Normal diet at home and hospital. Mother reports she has been eating and drinking regularly.

Current diet: **Height (in cm): 116** **Auscultation Bowel sounds:** **Last BM: Unknown** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	Bowel sounds heard in all 4 quadrants. No noted pain or masses found upon palpation. No distention, incisions, scars, drains, or wounds.
GENITOURINARY (2 Points): **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☐ N ☒** **Type:** **Size:**	No catheter in place. Patient did not urinate during shift.
MUSCULOSKELETAL (2 points): **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☐ N ☒** **Fall Risk: Y ☒ N☐** **Fall Score: 30** **Activity/Mobility Status:** **Independent (up ad lib) ☒** **Needs assistance with equipment ☐** **Needs support to stand and walk☐**	Active ROM in all extremities. Weakness in right leg related to pain. No supportive devices used. Strength equal bilaterally. Low fall risk.
NEUROLOGICAL (2 points): **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no -** **Legs ☐ Arms ☒ Both ☐** **Orientation:**	Client is A&O x 4 Strength equal bilaterally in upper extremities Weakness in right lower leg Mental status and speech is appropriate for age

Mental Status: **Speech:** **Sensory:** **LOC:**	
PSYCHOSOCIAL/CULTURAL (2 points): **Coping method(s) of caregiver(s):** **Social needs (transportation, food, medication assistance, home equipment/care):** **Personal/Family Data (Think about home environment, family structure, and available family support):**	Patients mother shows proper knowledge on disease process and management. Mother is main support person. Patient should be educated on ways to prevent triggers. Mother should be educated on importance of medication compliance.

Vital Signs, 1 set (2.5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0707	134	110/75	24	**99 F**	**99**

Normal Vital Sign Ranges (2.5 points)
****Need to be specific to the age of the child****

Pulse Rate	60-110/min
Blood Pressure	91 to 122/54 to 83 mm Hg
Respiratory Rate	21-25/min
Temperature	37.0 C or 98.6 F
Oxygen Saturation	>95%

Normal Vital Sign Range Reference (APA):

Holman, H. C., Williams, D., Johnson, J., Sommer, S., Wheless, L., Wilford, K., & McMichael, M. G. (2019). *Rn nursing care of children: review module*. Assessment Technologies Institute.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0700	FACES	Right lower leg	3	NA	2 mg Morphine sulfate IV
Evaluation of pain status *after* intervention	Faces	NA	0	NA	NA
Precipitating factors: Pain in leg related to possible vaso-occlusive crisis **Physiological/behavioral signs:** Wincing, sweating,					

Intake and Output (1 points)

Intake (in mL)	Output (in mL)
834 mL	None

Developmental Assessment (6 points)
Be sure to highlight the achievements of any milestone if noted in your child. Be sure to highlight any use of diversional activity if utilized during clinical. There should be a minimum of 3 descriptors under each heading

Age Appropriate Growth & Development Milestones

1. Child can stand on one foot for longer than 10 seconds
2. Child can climb stairs with no assistance
3. Child can use utensils without assistance

Age Appropriate Diversional Activities

1. Toys such as blocks, puzzles, and play-doh
2. Reading a book to the child
3. Distracting the child by asking them a question related to something they are interested in

Psychosocial Development:

Which of Erikson's stages does this child fit? Initiative vs. guilt

What behaviors would you expect? Makes up games, wants to please parents, takes frustration out on siblings, feels guilt after doing something wrong, develops sexual identity

What did you observe? Behaved well, followed directions, cooperated with staff

Cognitive Development:

Which stage does this child fit, using Piaget as a reference? Preoperational substage: Intuitive phase

What behaviors would you expect? Able to classify and relate objects, knows if something is right or wrong, curious about facts, begins to question parents' values, knows acceptable cultural rules

What did you observe? Child questioned nurse while doing vital signs, wanting to know what would happen, child was able to identify where her pain was located

Vocalization/Vocabulary:

Development expected for child's age and any concerns? Child should be developing structure when speaking. Communication is concrete, not abstract

Any concerns regarding growth and development? None

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis and listed in order of priority

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	**Rational** • Explain why the nursing diagnosis was chosen	**Intervention (2 per dx)**	**Evaluation** • How did the patient/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Impaired gas exchange RT	Sickle cell anemia results in	**1.** Patient is on 2L of	Patient is tolerating oxygen administration

decreased oxygen-carrying capacity of the blood AEB low O2 levels	a change of shape in red blood cells, decreasing their oxygen carrying capacity.	continuous oxygen via nasal cannula **2.** Teach deep breathing exercises	and O2 is about 95% Patient demonstrates deep breathing and practices throughout the shift.
2. Ineffective tissue perfusion RT sickle cell anemia AEB cool extremities	Red blood cells cannot carry as much oxygen due to sickle cell anemia, resulting in peripheral tissue not receiving enough oxygen	**1.** Patient is in bed, with feet elevated **2.**Monitor peripheral pulses	Circulation seems improved to the lower extremities Pulses are found bilaterally in the lower extremities
3. Acute pain RT vaso-occlusive episode AEB pain in right lower leg	Patient has experienced severe pain in right lower leg, most likely caused by a vaso-occlusive episode	**1.** Administer morphine sulfate IV 250 mL **2** Patient is bed bound to prevent pain	Patient reported a decrease in pain after administration of morphine sulfate Patient reports that while laying down the pain is less.
4. Risk for activity intolerance RT right leg pain AEB complaint of pain when ambulating	Patient reports that the pain is worse when ambulating, leading to a decrease in activity	**1.** Perform active range of motion with the patient **2.** Patient is encouraged to ambulate 30 mins after administration of pain medication	Patient tolerates active range of motion and participates willingly Patient is eager to ambulate once pain medications lower her pain.

Other References (APA):

Concept Map (20 Points):

N433 Care Plan

N433 Care Plan

Subjective Data

Right lower leg pain

Pain rated 5 on FACES scale

Patient is unable to describe the characteristics of the pain

Nursing Diagnosis/Outcomes

Impaired gas exchange RT decreased oxygen-carrying capacity of the blood AEB low O2 Patient is tolerating oxygen administration and O2 is about 95%, Patient demonstrates deep breathing and practices throughout the shift.
Ineffective tissue perfusion RT sickle cell anemia AEB cool extremities Circulation seems improved to the lower extremities, Pulses are found bilaterally in the lower extremities
Acute pain RT vaso-occlusive episode AEB pain in right lower leg Patient reported a decrease in pain after administration of morphine sulfate, Patient reports that while laying down the pain is less.
Risk for activity intolerance RT right leg pain AEB complaint of pain when ambulating Patient tolerates active range of motion and participates willingly, Patient is eager to ambulate once pain medications lower her pain.

Objective Data

Pulse 134
Temp 99
Pale Skin
Hct 29%
Hgb 9.8
Creatinine 0.4

Patient Information

5-year-old African American female with a diagnosis of Sickle Cell Disease, admitted for pain in her right lower leg. Patient has history of vaso-occlusive crisis and pain crisis that can usually be managed from home with analgesics

Nursing Interventions

Teach deep breathing exercises
Patient is on 2L of continuous oxygen via nasal cannula
Patient is in bed, with feet elevated
Monitor peripheral pulses
Administer morphine sulfate IV 250 mL
Patient is bed bound to prevent pain
Perform active range of motion with the patient
Patient is encouraged to ambulate 30 mins after administration of pain medication