

IM5 (Pediatrics) Critical Thinking Worksheet**Patient Age:** 6 months**Patient Weight:** 7.18 kg

Student Name: Brooke Carroll	Unit: 3N Pt. Initials: GG	Date: 8/10/2021
<p>1. Disease Process & Brief Pathophysiology (Identify Key Concepts to Your Patient and Include Reference):</p> <p>Pediatric Acute Megakaryoblastic Leukemia is a subtype of acute myeloid leukemia characterized by abnormal megakaryocyte expressions of platelet-specific surface glycoproteins. It is a life-threatening leukemia in which malignant megakaryoblasts proliferate abnormally and injure various tissues (P). Megakaryoblasts are the most immature precursor cells in a platelet-forming lineage; they mature to promegakaryocytes and, ultimately, megakaryocytes which cells shed membrane-enclosed particles, i.e. platelets, into the circulation. Platelets are critical for the normal clotting of blood. While malignant megakaryoblasts usually are the predominant proliferating and tissue-damaging cells, their similarly malignant descendants, promegakaryocytes and megakaryocytes, are variable contributors to the malignancy. (Gruber, T. A., & Downing, J. R. (2015).</p>	<p>2. Factors for the Development of the Disease/Acute Illness:</p> <p>Down Syndrome Anemia (P) Congenital Neutropenia Bloom Syndrome Radiation Prenatal exposure to drugs/alcohol Myelodysplastic syndrome</p>	<p>3. Signs and Symptoms:</p> <p>Pallor (P) Fever (P) Dizziness Coagulation disorders (P) Dyspnea (p) Gingival hyperplasia Bruising easily Nausea (P) Vomitting (P) Enlarged liver/spleen Lethargy (P)</p>

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4. Diagnostic Tests Pertinent or Confirming of Diagnosis: Bone Marrow Aspiration (P) Liver Biopsy Bone scan (P) Echocardiogram (P) MRI (P) EEG (P) Cerebral Spinal Fluid Investigation (P) Blood Analysis (P)	5. Lab Values That May Be Affected: Leukocytes Neutrophils (P) Lymphocytes (P) CSF Total nucleated cells (P) Monocytes (P) RBC (P) WBC (P) Platelets (P) Reticulocyte Erythrocyte Thrombocyte	6. Current Treatment (Include Procedures): Chemotherapy per AAML 1031 (P) Allogenic Bone Marrow Transplantation
7. Pain & Discomfort Management: List 2 Developmentally Appropriate Non-Pharmacologic Interventions Related to Pain & Discomfort for This Patient. 1. Holding and rocking child to provide sense of security and comfort. 2. Pacifier for child to suck on to assist in providing comfort. *List All Pain/Discomfort Medication on the Medication Worksheet Click here to enter text.	8. Calculate the Maintenance Fluid Requirement (Show Your Work): $7.18 \text{ kg} \times 100 = 718$ $718 / 24 \text{ hrs} = 29.9 = 30 \text{ mls/hr}$ Actual Pt MIVF Rate: 22 mLs/hr Is There a Significant Discrepancy? No Why? Patient being given formula feedings every 3 hours, as well as pedialyte baby bottle to maintain hydration status.	9. Calculate the Minimum Acceptable Urine Output Requirement (Show Your Work): $1 \text{ ml} \times 7.18 \text{ kg} = 7.18 \text{ ml/hr}$ Actual Pt Urine Output: 210mls /24 hr =8.75 mls/hr total

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	<p>10. Growth & Development: List the Developmental Stage of Your Patient For Each Theorist Below and Document 2 OBSERVED Developmental Behaviors for Each Theorist. If Developmentally Delayed, Identify the Stage You Would Classify the Patient:</p> <p>Erickson Stage: Trust vs. Mistrust</p> <ol style="list-style-type: none"> 1. Patient calms when being held by mother after crying. 2. Patient is satisfied after being given a bottle by mother after crying when hungry. <p>Piaget Stage: Sensorimotor</p> <ol style="list-style-type: none"> 1. Increased affect is demonstrated when patient cries when hungry, and begins to become more alert and calms when hearing bottle being prepped. Patient anticipates bottle by opening mouth for nipple as it gets close to their face. 2. Baby demonstrates separation anxiety and cries when mom leaves baby's sight if they are awake, and calms once mom returns. 	
<p>11. Focused Nursing Diagnosis: Risk for Infection</p>	<p>15. Nursing Interventions related to the Nursing Diagnosis in #11:</p> <ol style="list-style-type: none"> 1. Wash hands thoroughly before having contact with the patient, and encourage any visitors to do the same. <p>Evidenced Based Practice: Clean hands help prevent infections. Many diseases are spread by not cleaning your hands, which is especially dangerous when you're getting chemotherapy treatment because your body may not be able to fight off infections like it used to. (Center for Disease Control & Infection (2020).</p>	<p>16. Patient/Caregiver Teaching:</p> <ol style="list-style-type: none"> 1. Educate caregivers on the importance of staying up to date on patient's immunizations to prevent contracting any illnesses. 2. Educate on importance of avoiding contact with individuals who are or have recently been sick to prevent possible illness exposure/infection. 3. Educate caregiver about appropriate methods for cleansing, disinfecting, and sterilizing baby toys, bottles, clothes, blankets, etc.
<p>12. Related to (r/t): Neutropenia as a result of chemotherapy</p>		

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<p>13. As evidenced by (aeb): N/A</p>	<p>2. Provide a dark and cool environment to assist in patient relaxation and sleep as much as possible.</p> <p>Evidenced Based Practice: Sleep and the circadian system are strong regulators of immunological processes. The basis of this influence is communication between the central nervous and immune system which is mediated by shared signals (neurotransmitters, hormones and cytokines) and direct innervations of the immune system by the autonomic nervous system. (Besedovsky, L., Lange, T., & Born, J. (2012).</p>	<p>17. Discharge Planning/Community Resources:</p> <p>1. Consult dietary to discuss a formula suitable for the patient's vitamin and protein needs to help maintain a stronger immune system.</p> <p>2. Consult case worker to assist family in receiving home health so caregiver is able to work to afford treatment for child.</p>
<p>14. Desired patient outcome: Patient will maintain a temperature of less than 100.4 by discharge.</p>	<p>3. Maintain Asepsis during intravenous therapy by washing hands, wearing gloves, and disinfecting items/ports, etc.</p> <p>Evidenced Based Practice: The Institute for Safe Medication Practices (ISMP) has published reports of infectious diseases caused by the improper use of syringes and multiple-dose vials. Failure to properly disinfect the injection port when accessing needle-free valves on IV sets. Result: The port is exposed to potential contaminants that can be pushed into the patient's IV line after the port has been accessed by tubing or a syringe. (Grissinger M. (2011).</p>	<p>3. Provide caregiver with list of local support groups for parent's of children battling cancer.</p>

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	<p>References</p> <p>The biology of pediatric acute megakaryoblastic leukemia. (2015, August 20). PubMed Central (PMC). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4551356/</p> <p>Capping Intravenous Tubing and Disinfecting Intravenous Ports Reduce Risks of Infection. (2011, February 1). PubMed Central (PMC). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3086084/</p> <p>Clinical Characteristics and Prognosis of 27 Patients with Childhood Acute Megakaryoblastic Leukemia. (2020). PubMed Central (PMC). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7309653/</p> <p>EdS Rn, M. B. A. J., Msn Rn, G. L. B., Fnap, M. M. P. R. C. F. B., Cne, R. M., & Zanotti, M. (2019). Nursing Diagnosis Handbook: An Evidence-Based Guide to Planning Care (12th ed.). Mosby.</p> <p>Harding, M. (2020). Lewis's Medical-Surgical Nursing - Binder Ready (11th ed.). Mosby.</p> <p>Leukaemia Care. (2021, July 19). Acute Megakaryoblastic Leukaemia (AMKL). https://www.leukaemiacare.org.uk/support-and-information/information-about-blood-</p>	

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	<p>cancer/blood-cancer-information/leukaemia/acute-megakaryoblastic-leukaemia-amkl/ Preventing Infections in Cancer Patients. (2020). Cdc.Gov. https://www.cdc.gov/cancer/dcpc/resources/features/preventinfections/index.htm</p> <p>Sleep and immune function. (2012). PubMed Central (PMC). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3256323/</p> <p>Swearingen, P. L., & Wright, J. (2018). All-in-One Nursing Care Planning Resource: Medical-Surgical, Pediatric, Maternity, and Psychiatric-Mental Health (5th ed.). Mosby.</p>	