

## NICU Disease Process Map

D.O.B. <u>8-3-23</u>	APGAR at birth: <u>7/9</u>
Gestational Age <u>39<sup>1</sup>WK</u>	Adjusted Gestational Age <u>44<sup>6</sup>WK</u>
Birthweight <u>7</u> lbs. <u>10.2</u> oz./ <u>3465</u> grams	
Current weight _____ lbs. _____ oz./ _____ grams	

Disease Name: Methemoglobinemia (MetHb)

What is happening in the body?

A genetic mutation turns hemoglobin into methemoglobin. Methemoglobin holds onto oxygen as it circulates and does not release it causing deoxygenated cells and tissues.



What am I going to see during my assessment?

- Cyanosis (especially around nail beds, tongue, lips, fingertips)
- Pallor
- Lethargy/fatigue/weakness
- CNS depression
- Tachycardia
- Metabolic acidosis
- Seizures
- SOB
- N/V/D



What tests and labs will be ordered?

- MetHb evaluation
- CyB5R enzyme activity
- Genotyping
- Hemoglobin Electrophoresis



What trends and findings are expected?

- Decreased CyB5R enzyme activity
- Increased levels of MetHb



What medications and nursing interventions/treatments will you anticipate?

- Methylene Blue (antidote)
- Vitamins C & B2
- IV Hydration
- Supplemental oxygen
- Ascorbic acid



How will you know your patient is improving?

- Decreased appearance of cyanosis
- Pink/red skin instead of pallor
- Increased oxygen saturation
- Increased cyB5R enzyme activity



What are risk factors for the diagnosis?

- Recessive genetic mutations in cyB5R enzyme
- Autosomal dominant mutations in genes that code hemoglobins M.



What are the long-term complications?

- Increased risk of developmental delay
- Increased risk of heart failure
- Increased risk of heart rhythm disorders



What patient teaching for management and/or prevention can the nurse do?

- Parents should seek medical attention if baby becomes cyanotic
- Do not feed babies under 6 months nitrate rich foods (spinach, beets, carrots) and test private wells for nitrates in water.