

Children's Mercy Kansas City

**SHARE @ Children's Mercy**

---

Posters

---

12-2016

## **A Quality Improvement Project for the Evaluation and Management of Possible Necrotizing Enterocolitis in Single Ventricle Patients**

Laura Miller-Smith

Jennifer Flint

Lisa Laddish

Follow this and additional works at: <https://scholarlyexchange.childrensmercy.org/posters>



Part of the [Cardiology Commons](#), [Critical Care Commons](#), and the [Pediatrics Commons](#)

---

Laura Miller-Smith MD<sup>1</sup>, Jennifer Flint MD<sup>1</sup>, Lisa Laddish DNP, RN, APRN<sup>2</sup>  
<sup>1</sup>Pediatric Intensive Care Unit, <sup>2</sup>Ward Family Heart Center,  
**Children's Mercy Hospital, Kansas City, Mo.**

## Background

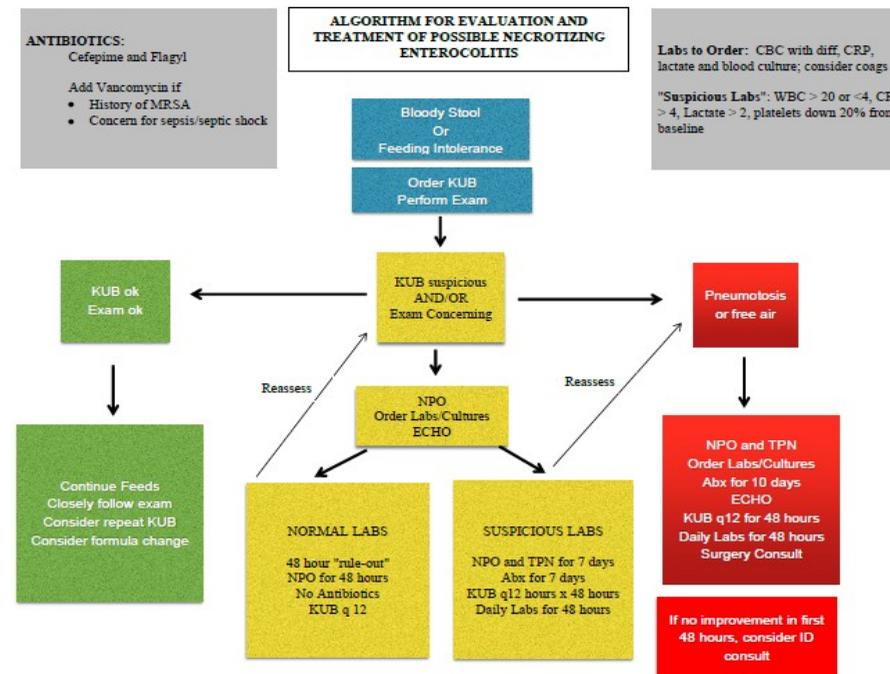
Infants with single ventricle (SV) physiology are at high risk for inter-stage complications, including necrotizing enterocolitis (NEC). The underlying pathophysiology and age at presentation differs from NEC literature described in premature infants, making NEC in SV patients challenging to diagnose and treat. We perceive significant variability in the approach to possible NEC in SV patients at our institution.

## Aims

- To identify variability & standardize the approach to management of NEC
- To create a management algorithm for diagnosing and treating NEC

## Methods

After review of current practice and review of medical literature, an algorithm to guide medical decision making specific to SV patients was developed. Modified Bell's Staging Criteria was considered, clinical and lab data was evaluated, and current choice/duration of antimicrobial therapy was examined.



## Results

- 72 patients who underwent palliation for SV physiology July 2012 – August 2016 were included.
- 10 patients met Bell's Criteria for NEC, Ib or higher
- Mean NPO 10.6 days
- Mean duration of antimicrobial 7.6 days
- 11 patients did not meet criteria but were NPO >24 hours for bloody stools (2 received antimicrobials)
- 9 out of 12 received a nephrotoxic antibiotic
- Lab tests and frequency of KUBs varied

## Conclusion

- Variability in approach to possible NEC has potential to impact long term outcome
- QI project identified hospital variability & designed algorithm more specific to the physiology of the SV population in effort to standardize care
- Minimizing variability will help identify specific areas of intervention to improve patient outcomes
- We have developed a management algorithm that is currently in use in our institution
- **We hope to use the findings from this project to further investigate diagnostic criteria and treatment guidelines to take the place of Bell's Staging Criteria for infants with CHD and to standardize radiographic imaging for suspected NEC**