

## BACKGROUND AND SIGNIFICANCE

Training physicians providing overnight coverage on a busy pediatric acute care unit face many challenges especially when caring for complex patients on the Cardiology service. Notably, admission orders for pediatric patients with complex congenital heart disease such as those with single ventricle physiology must align with the standard of care for these conditions. As novice providers, resident physicians may experience some uncertainty when writing admission orders for these complex patients increasing the risk of medical error and a delay in patient care. Additionally, when orders are initiated during an overnight shift they often fall outside of the standard of care for treatment.

## PURPOSE OF PROJECT

The purpose of this quality improvement project is to establish a standard admission order set for congenital cardiology patients with single ventricle physiology. The ultimate goal is to improve patient care by preventing medical errors and delay in care. We also hope this will improve nursing and physician communication and to minimize the number of calls to cross covering training physicians overnight.

## SAMPLE DESCRIPTION

We started with a generic pediatric admission order set that was incomplete. After careful consideration and collaboration the group was able to determine necessary orders for admission for this specific sub set of cardiology patients. We were also able to sub divide it even further to include standards of care for each stage of surgical palliation.

## METHODS

A collaborative interdisciplinary approach has been utilized to create a standard admission order set for pediatric patients with single ventricle physiology that are admitted to our inpatient pediatric unit. This includes the insights from attending pediatric cardiologists, training resident and fellow physicians, pediatric nursing staff and information technology (IT) specialists. The order set includes standard labs, imaging, monitoring, medications, diet, vital sign parameters based on surgical stage, and consults (case management, nutrition, PT, OT, SLP, Child Life, and surgical). It will be easily accessible on search of our electronic medical record (EMR) system.

## CONCLUSIONS, DISCUSSION, FUTURE DIRECTIONS

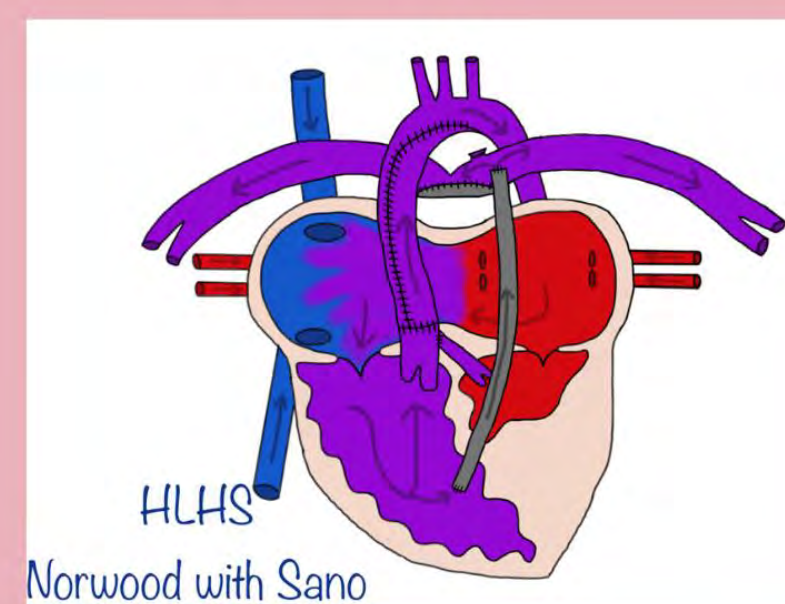
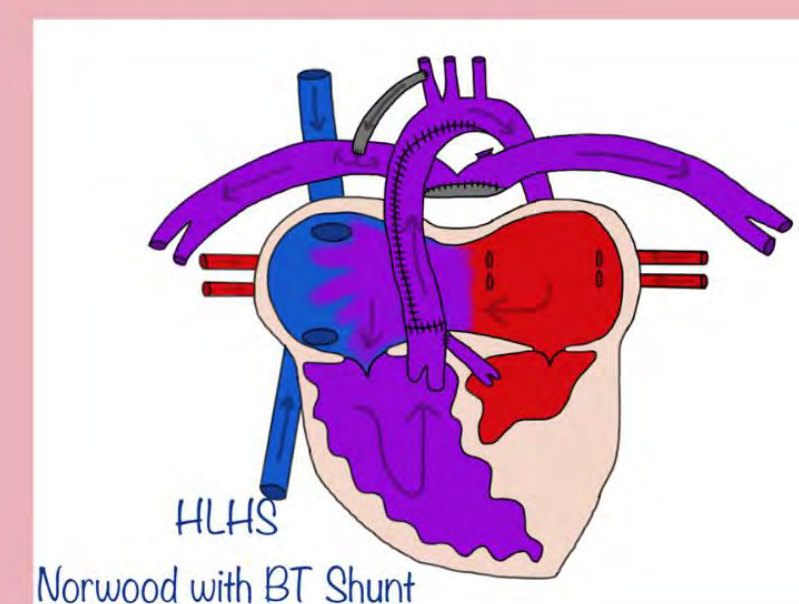
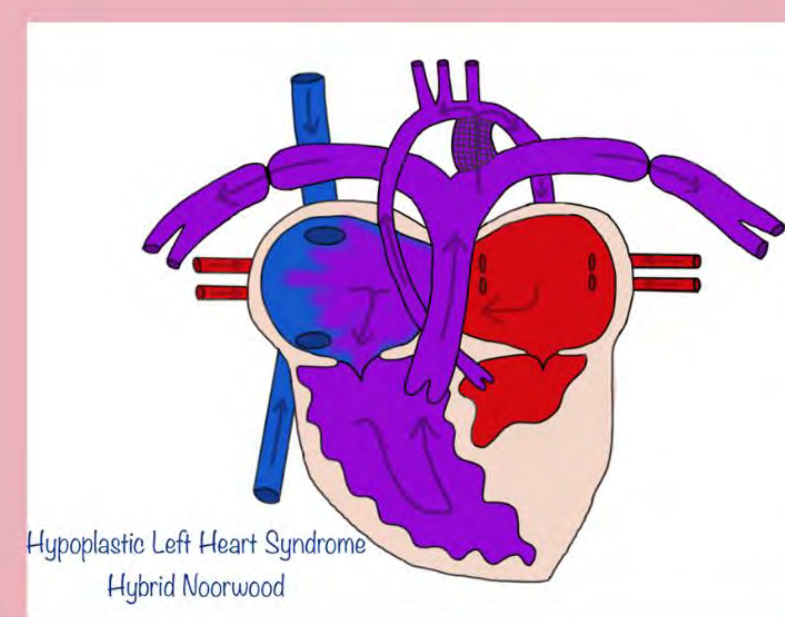
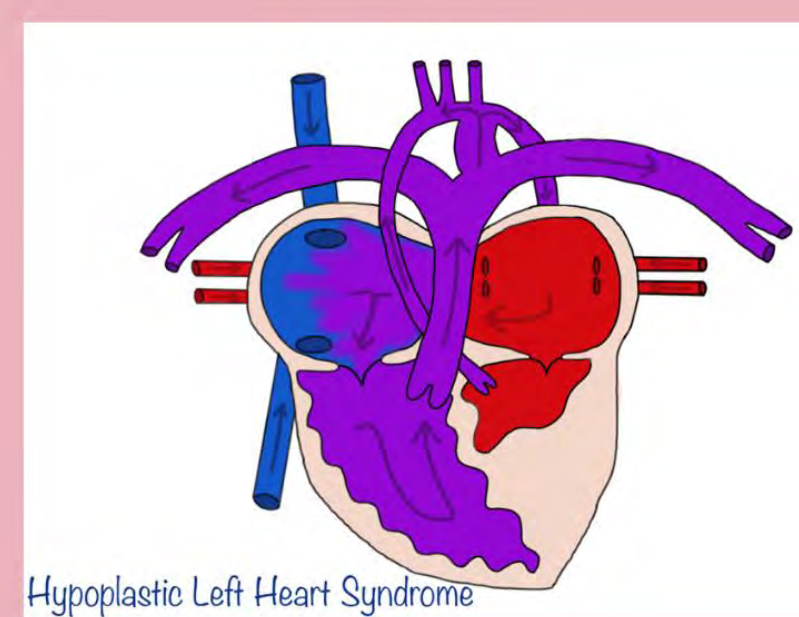
By creating this single ventricle specific cardiology order set, our goals are to improve overall patient care, efficiency for the medial team and improved communication between nursing staff and medical providers. This order set will help to maintain the standard of care for this highly complex and often fragile patient population. In the future, our goal is to create a variety of order sets tailored specifically for other cardiac pathologies such as arrhythmias and cardiomyopathies. Anatomical diagrams that are placed at the head of each patient's bed are also being utilized to assist in reminding staff of their underlying cardiac anatomy and where they are in the staged surgical palliative process.

## SINGLE VENTRICLE TREATMENT JOURNEY PATHWAY

### TREATMENT JOURNEY OF A HYPOPLASTIC HEART

#### Norwood

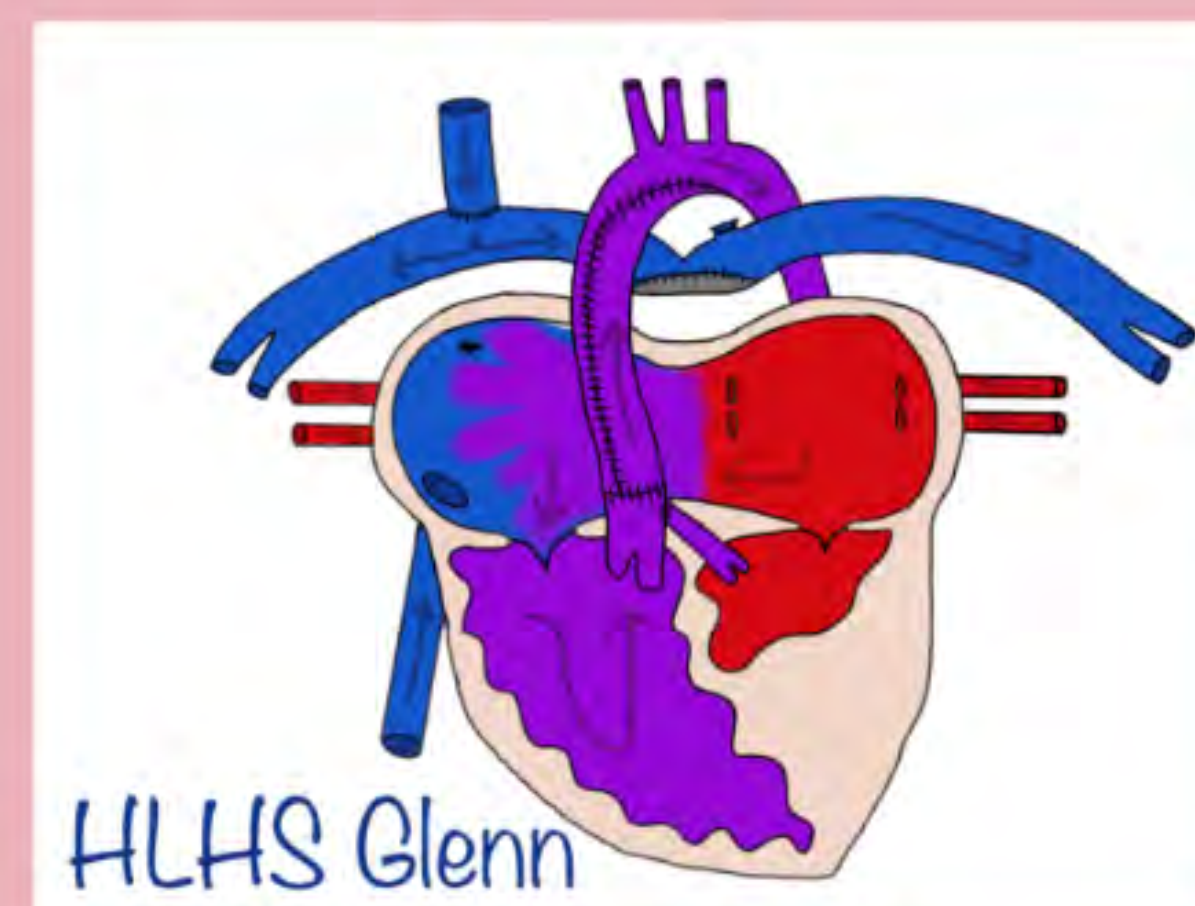
- 1st stage in surgery that converts the right ventricle into the main chamber responsible for pumping blood to both the lungs and body. A shunt is used to supply blood to the lungs.
- Generally happens within the first week of life
- Acceptable oxygen saturation between 75-85%



### TREATMENT JOURNEY OF A HYPOPLASTIC HEART

#### Glenn

- The 2nd stage where the shunt is disconnected and the right pulmonary artery (brings blood to right lung) is attached directly to the superior vena cava (brings blood to the heart from the upper body). Now the child's oxygen poor blood from the upper body bypasses the heart and goes directly to the lungs.
- Generally happens 6 months after the Norwood
- Acceptable oxygen saturation be greater than 75%



### TREATMENT JOURNEY OF A HYPOPLASTIC HEART

#### Fontan

- The 3rd and final stage connects the inferior vena cava (brings blood from the lower body to the heart) to the pulmonary artery (brings blood to the lungs). Now all the oxygen poor blood goes directly to the lungs without being pumped through the heart.
- Generally happens 18 to 36 months after the Glenn
- Acceptable oxygen saturation >90% for non-fenestrated & >80% for fenestrated

