

BACKGROUND

- There is hesitancy to orally feed neonates with congenital heart disease in the pre-operative phase.
- Preoperative oral feeding in neonates with CHD is associated with oral feeding at discharge and freedom from gastrostomy.

SMART AIM

- We aim to increase the rate of meaningful oral feeding in pre-op neonates from baseline of 44% to 70% via process simplification and data transparency over a time-period of 2 years.

METHODS

- Prospective QI study 2022-2026 1st quarter.
- Inclusion: ≥ 2 pre-operative days after admission, ≥ 35 weeks gestation, surgery ≤ 30 days.
- Meaningful pre-operative oral feeding = ≥ 10 mL/kg in a 24-hour period.
- Balancing measures: rate of pre-operative NEC.
- Surveyed Heart Center practitioners to determine barriers and comfort level with oral feeding relative to common lesions/patient type.
- Interventions: 1) 24-hour access to milk bank for NICU staff, 2) sharing survey results, and 3) monthly data sharing on project progress.

RESULTS

Table 1: Average responses regarding comfort with oral feeding by lesion

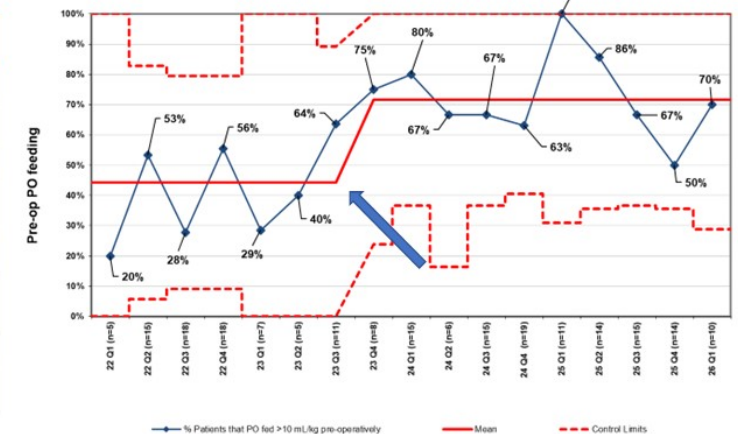
Lesion	Cardiology (n = 20)	NICU (n = 11)	CICU (n = 8)
Coarctation	1.6	1.7	1.3
HLHS	1.8	1.8	1.3
Pulmonary atresia, VSD	1.1	1.4	1.3
Transposition	1.3	1.5	1.1
Tricuspid atresia with PS	1.1	1.4	1.3
Pulmonary atresia, intact septum	1.2	1.6	1.4
Truncus arteriosus	1.8	1.6	1.1
Tetralogy of Fallot	1.1	1.3	1.0

Scale 1-5: 1 – very comfortable, 2 – somewhat comfortable, 3 – neutral, 4 – somewhat uncomfortable, 5 – very uncomfortable.

Table 2: Demographic and feeding data, pre- and post-implementation. Continuous variables median [quartile range]

Variable	Baseline (n = 79)	Post-Implement (n = 131)	p-value
Birthweight (kg)	3.2 $\pm$ 0.6	3.2 $\pm$ 0.5	0.9
Pre-op days	6 [4, 10]	8 [6, 12]	0.3
PGE	81.0%	79%	0.8
Lesion			
Single ventricle	25.3%	33.3%	0.4
TGA	10.0%	21.1%	0.1
Coarctation	11.4%	12.2%	0.7
Feeding			
PO > 10 mL/kg	44%	72%	< 0.001
PO > 20 mL/kg	20%	58%	< 0.001
Max intake(mL/kg)	29 [18, 58]	57 [23, 111]	< 0.001
NEC rate	0%	0%	1.0

Figure 1: Run-chart demonstrating rate of pre-operative feeding



Arrow indicates time of implementation

CONCLUSIONS

- A simplified approach included continuous access to donor breast milk, finding common ground among all practitioners for perception of safe oral feeding, and regular data-sharing.
- This led to a significant increase in rate of pre-operative oral feeding and intake volume.
- With increased pre-operative oral feeding, there was not an increase in rate of pre-operative NEC.
- Next steps: evaluate the effect of meaningful pre-operative feeding on rate of gastrostomy-tube feeding at discharge to overall population and by lesion.