

To NG or G?: Institutional variation of feeding tube selection at Neonatal discharge after Stage I Norwood/Hybrid Palliation

Sara Crawford; Amy Ricketts; Lori Erickson

Children's Mercy

Background

- Varying discharge feeding regimens and clinical practices for infants who undergo a Norwood/Hybrid palliation.
- We aimed to understand the frequency and types of supplemental feedings (NG/NJ, G/GJ, all feeds PO) and their associated outcomes for infants discharging from the hospital after a Norwood intervention.

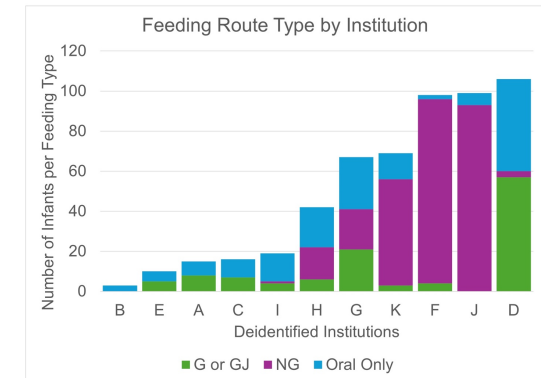
Methods

- Retrospective secondary review of a multi-site home monitoring cardiac repository, CHAMP Cardiac repository from 2013-2025.
- Univariate patient level factors were compared for discharge route of neonatal feedings.
- CHAMP Institutions were assessed for frequency of feeding route types.
- Multivariable generalized linear mixed models were developed using cardiac institution as the random effect to account for center-level clustering of feeding support route.



Table 1. Patient Level Factors	G or G Tube (n=115)	NG Tube (n=278)	Oral Only (n=151)	p value
Norwood- Hybrid	13.9% (16)	6.1% (17)	22.5% (34)	<.001
Norwood - BTT/Central shunt	27.8% (32)	23% (64)	32.5% (49)	.103
Norwood with RV-PA conduit	58.3% (67)	70.9% (197)	45% (68)	<.001
Gestational age (weeks)	37.9 ± 2.4	38.3 ± 1.2	38.2 ± 1.4	.041
Major Genetic Syndrome	19.1% (22)	11.9% (33)	6% (9)	.004
Major Non-Cardiac anomaly	18.3% (21)	7.2% (20)	4.0% (6)	<.001
Cardiac Surgery requiring bypass	85.2% (98)	93.5% (259)	77.7% (115)	<.001
Time to full feedings (days)	18.9 ± 17.4	13.1 ± 9.6	11.6 ± 7.4	<.001
Total medications at discharge	5.6 ± 1.7	4.7 ± 1.3	4.5 ± 1.4	<.001
Interstage Outcomes				
Neonatal hospitalization Length of stay (days)	78.9 ± 45.8	39.8 ± 21.1	39.6 ± 20.1	<.001
Early Unplanned readmission (less than 30 days)	48.7% (56)	61.5% (171)	52.3% (79)	0.034
Interstage Length (days)	125 ± 80.5	109 ± 68.6	131.9 ± 66	0.004
All Interstage readmission (days)	15.1 ± 23.5	21 ± 41.5	12.5 ± 21.7	.032
Home monitoring data totals	69.4 ± 79.3	53 ± 46.9	75.4 ± 62.4	<.001
Parent entered intake data	36.9 ± 53.2	22.3 ± 37.7	44.4 ± 51	<.001
Parent entered weight data	8.6 ± 6.8	9.4 ± 4.8	8.8 ± 5.1	.271
Interstage Bi-ventricular repair	4.3% (5)	5.4% (15)	13.2% (20)	.005
Interstage Mortality	2.6% (3)	4% (11)	2.6% (4)	.688

Results



- Table 1 Patient level factors in multivariate model and Clinical outcomes of n=544 infants
- Significant variations in institutional practices in discharging feeding route ($p < .001$).
- Median odds ratio (MOR) for NG 25.8 vs. G/GJ 1.4 based on institution.

Conclusion

- Feeding modality was influenced by patient complexity and institutional practices.
- Subsequent healthcare utilization, including early and unplanned readmissions differed by feeding route.
- Further assessment of clinical and administrative outcomes is needed to understand local decision-making for feeding types and best practices.