Multi-disciplinary Cardiac Feeding Clinic

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Outline

- Establishing the clinic
- Identifying patients
- MDT Team
- Pathway and prioritisation
- Intervention
- Case example
- Strengths and limitations
- The Future







Why we started a Multi-disciplinary Cardiac Feeding Clinic?

- Cardiac population are at risk of feeding difficulties pre and post surgery ¹³
- No/limited input to support cardiac children presurgery
- Early and full 'rehab' associated with better outcomes ^{8,12}
- MDT working has strong evidence base 5,10,11,14
- Extension of inpatient therapy
- Variability of community outpatient follow up services (access to and specialist skills)⁶







Identifying those in need

- Complex congenital heart disease
- Complex surgery 1,2,3,7,9,15
- Prolonged ventilation ^{2,3,4,7,13}
- Syndromes/ co-morbidities ^{2,13,15}







Core Team

SLT: Aspiration/ Aversion/ Oromotor

Physio/OT: Developmental delay/ Prematurity/ Neurological signs

Dietitian: Growth/ Reflux/ Constipation/ Tube Dependence



Paediatric rehabilitation and therapies



Extended Team

Within Hospital:	Outside Hospital:
Family	Family
Medical Team (inc. Cardiologist, Gastro, ENT, Neuro)	GP/ Paediatrician
Psychology	Health Visitor
Play team	Community Nurses
CCN	CCN
	Dietitians
	Physiotherapists/ Occupational Therapists
	Speech and Language Therapist







Feeding Clinic Pathway





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Prioritisation

- Priority based on:
 - Heart status
 - Feeding and developmental need
 - Access to local services

Score	Level	Input
10+	High	Monthly
7-9	Medium	3 months
4-6	Low	6 months







Intervention

- Tube weaning
- Managing aspiration risk (pre and post surgery)
- Maintaining oral feeding/ oral feeding skills
- Ensuring adequate hydration, nutrition and growth
- Supporting development of feeding and other milestones
- Educating parents/ carers/ colleagues







Case example (AVSD)

Timing	Issue	Intervention
Outpatient 1 month old, pre-surgery	Faltering growth; small frequent bottle/breast feeds	NGT Small oral feeds
Inpatient 3.5 months old, post-surgery	No breast milk Coughing with bottles Not taking full volume orally	Thickener NGT
Outpatient 5 months old	Losing weight 1-2 hours to feed	High calorie milk Restart thickener Limit feed to 30mins
Outpatient 7 months old	Limited progress Head circumference	Purees
Outpatient 9 months old	Hypotonic in limbs	Physio exercises Supported sitting Spoon placement
Outpatient 11 months old	Increased volumes	NGT removed.
	Paediatric rehabilitation and therapies Roya	Brompton & Harefield

A lifetime of specialist care

Strengths of MDT feeding Clinic

- Early intervention
- Timely and consistent input
- Co-ordinated care
- Integrated aims
- Support for families (esp. during 'waiting for surgery' time)
- Support for local services
- Thorough MDT assessments







Limitations

- Comprehensive MDT appointments take time which means less patients are seen per clinic....increased waiting times
- Room availability
- No direct therapy reliance on parental buy in and compliance









- Run weekly
- Include local services for handover/ training
- Coincide clinic with doctor's appointment
- Audits









Questions???



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Reference List

1. Averin, K. *et al.* Postoperative assessment of laryngopharyngeal dysfunction in neonates after Norwood operation. *Ann Thorac Surg* **94**, 1257–1261 (2012).

2. Davies, R. R. *et al.* Laryngopharyngeal dysfunction independent of vocal fold palsy in infants after aortic arch interventions. *J Thorac Cardiovasc Surg* **148**, 617–24.e2 (2014).

3. Einarson, K. D. & Arthur, H. M. Predictors of oral feeding difficulty in cardiac surgical infants. *Pediatr Nurs* **29**, 315–319 (2003).

4. Jadcherla, S. R., Vijayapal, A. S. & Leuthner, S. Feeding abilities in neonates with congenital heart disease: a retrospective study. *J Perinatol* **29**, 112–118 (2009).

5. Jones A (2006) Multidisciplinary team working: collaboration and conflict. *Int J Ment Health Nurs* **15**: 19-28

6. Hartman Diane M. & Medoff-Cooper, Barbara. Transition to Home After Neonatal Surgery for Congenital Heart Disease. *The American Journal of Maternal/Child Nursing* **37**, 95-100 (2012)







Reference List

7. Kohr, L. M. *et al.* The incidence of dysphagia in pediatric patients after open heart procedures with transesophageal echocardiography. *Ann Thorac Surg* **76**, 1450–1456 (2003).

8. Liang Maa, Bingshang Yang, Lingdan Meng, Baohong Wang, Chunhui Zheng & Aihua Cao. Effect of early intervention on premature infants' general movements. *Brain & Development* **37**, 387-393 (2015).

9. Majnemer, A. *et al.* A new look at outcomes of infants with congenital heart disease. *Pediatr Neurol* **40**, 197–204 (2009).

10. McCallin A (2001) Interdisciplinary Practice –a matter of team work: integral literature review. *J Clin Nurs* **10:** 419-28

11. Ndoro S. Effective multidisciplinary working: the key to high quality care. *British Journal of Nursing* **23**, 724-7 (2014)







Reference List

12. Ricci MF, Alton GY, Ross DB, Dicken BJ, Moddemann DM, Robertson CM; Western Canadian Complex Pediatric Therapies Follow-up Group. Gastrostomy Tube Feeding after Neonatal Complex Cardiac Surgery Identifies the Need for Early Developmental Intervention. *The Journal of Pediatrics* **169**,160-5 (2016).

13. Sables-Baus, S., Kaufman, J., Cook, P. & da Cruz, E. M. Oral feeding outcomes in neonates with congenital cardiac disease undergoing cardiac surgery. *Cardiol Young* **22**, 42–48 (2012).

14. Thistlethwaite J, Moran M; for World Health Organization Study Group on Interprofessional Education and Collaborative Practice (2010) Learning outcomes for inter-professional education (IPE): Literature review and synthesis. *J Interprof Care* **24**: 503-13. doi: 10.3109/13561820.2010.483366 15. Yi, S. H. *et al.* Dysphagia in infants after open heart procedures. *Am J Phys Med Rehabil* **92**, 496–503 (2013).





