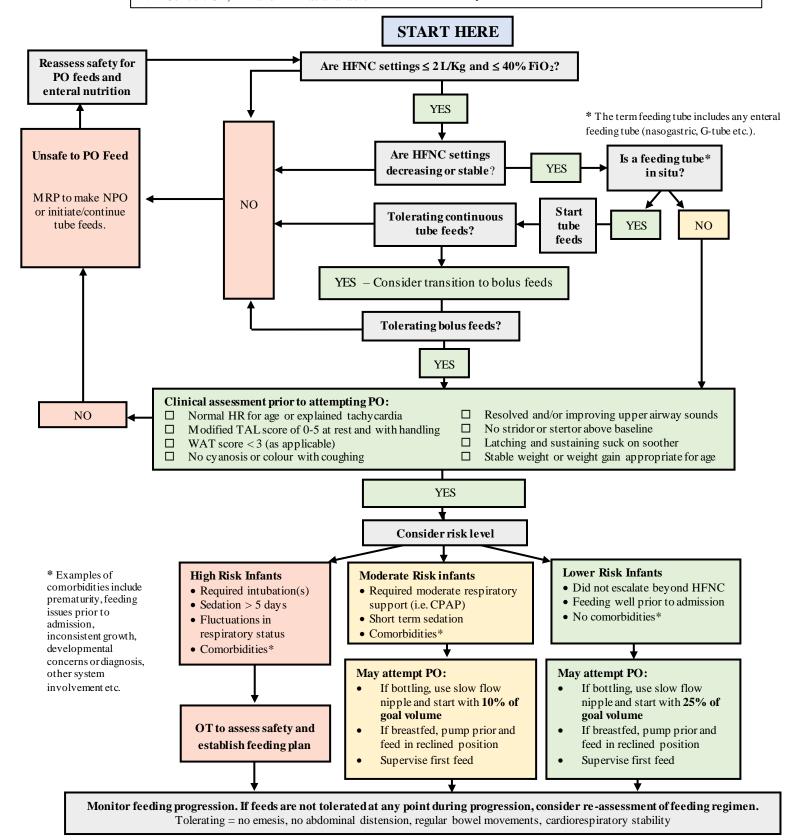


Multidisciplinary Evidence-Based Approach to Feeding and Enteral Nutrition for Patients 0-12 Months on High Flow Nasal Cannula (HFNC)

Prior to using framework consider:

- 1. How the patient was feeding prior to admission
- 2. Consult OT, RD and RRT as available
- 3. The target estimated energy requirements/feeding goal
- 4. Any contraindications to enteral nutrition



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Multidisciplinary Evidence-Based Approach to Feeding and Enteral Nutrition for Patients 0-12 Months on High Flow Nasal Cannula (HFNC)

Background: There is a growing body of recent evidence that supports safely oral feeding on HFNC; however, there continues to be a lack of clinical consensus on how and when to initiate feeding. ^{1,2,3,4} The literature does suggest that a slow introduction and progression of feeds with daily clinical assessments will help to reach feeding goals earlier. ^{1,2,6} In addition to respiratory status, there are many other cues that can determine readiness to orally feed including physiologic stability, regulation, and behaviour of the patient. ⁶ Clinically, we have identified a need to explore if, when, and how infants can safely initiate and progress their oral feeding when on HFNC. We have also observed the importance of ongoing clinical assessment and multidisciplinary communication of oral feeding and nutrition.

Purpose: In the context of increased clinical need and evolving evidence about feeding on HFNC, this framework was developed with the purpose to inform decision making surrounding feeding and nutrition for patients on HFNC at McMaster Children's Hospital. The use of a standardized, multidisciplinary feeding protocol can improve consistency in practice and enhance safety for infants. ^{1,3,5}

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Score	Respiratory rate (breaths/min)				
	Age less than6 months	Age 6 months and older	Wheezing/Crackles	O2 Saturation (room air)	Accessory Muscle Use
0	Less than or equal to 40	Less than or equal to 30	None	Greater than or equal to 95%	None (no chest in-drawing)
1	41-55	31-45	Expiration only	92-94%	+ Presence of mild intercostal in-drawing
2	56-70	46-60	Expiration and inspiration with stethoscope only	90-91%	++Moderate amount of intercostal in-drawing
3	Greater than or equal to 71	Greater than or equal to 61	Expiration and inspiration without stethoscope	Less than or equal to 89%	+++Moderate or marked intercostal in-drawing, with presence of head bobbing or tracheal tug
Mild			Moderate		Severe
0-5			6-10		11-12

Initiation of NGT feeds	Example: 5kg Infant	Tube fed prior to admission	
As a starting point, 0-12 months typically need $100 \frac{kcal}{kg} per day$	Daily energy needs: $5kg \ x \frac{100kcal}{kg} = 500 \text{ kcal per day}$	If G-tube, GJ-tube, J-tube or NGT fed prior to admission	
Breast milk and formula has $0.68 \frac{kcal}{ml}$ Start feeds at rate of 1 ml/kg/hour	Daily volume: 500 kcal per day 0.686cml formula or breast milk Goal rate:	Continuous feeding rate = prescribed home volume 24 hours	
Statt feeds at face of 1 fill/kg/flour	$\frac{\frac{735\frac{ml}{24 hours}}{24 hours}}{\frac{24 hours}{24 hours}} = 31 ml/hour$		

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