

Pediatric Heart Institute Feeding Algorithm-High Risk

High Risk (RACHS Score 4-6):

- Neonates with high kcal requirements and at high risk for feeding difficulties
 - Significant residual hemodynamic impairment
 - Prolonged ICU course; prolonged intubation
 - No prior feeding history; history of feeding intolerance
 - Preterm/IUGR
 - Genetic syndrome, vocal cord abnormality, cleft lip/palate
- Ex: HLHS s/p Norwood; s/p BT shunt; single ventricle physiology

Examples of high risk lesions (not all inclusive)

- Norwood / Stage I physiology
- BT shunt
- Neonatal Aortic Valvuloplasty
- ASO with intracardiac repair of VSD, Subpulmonary Stenosis
- Truncus arteriosus repair
- Interrupted Aortic Arch

• Once extubated, move to either high-risk or average- to low-risk pathway
 • Once on <5 L VT, pull tube to NG
 • First NG feed in the PCCU
 • Initiate NG feedings at 1/2 the NJ rate
 • Advance 1 mL/kg/hour q6 hours to goal
 • **For HR group, observe 12-24 hours of NG feeds in the PCCU prior to transfer**

Ready to feed?

- Good perfusion
- Stable respiratory status
- No evidence for NEC/ileus/obstruction
- ≤5 mcg/kg/min dopamine /0.02 of epi

No

- TPN if NPO expected >72hrs
- Start/continue Pepcid
- If pt is on high dose inotropes (>5 of DA), but not requiring boluses or escalation of inotropes for >12 hours, consider trophic feeds at 2 ml/hr

Intubated

Yes

- Place NJ (while intubated) with plan to transition to NG when respiratory stable.
- Start/continue Pepcid (for Intubated and High Risk groups)
- Measure abdominal girth

Extubated

- Initiate trophic feeds with EBM/Formula/DBM** at 1ml/kg/hr for 6 hrs
- After 6 hrs check for signs of feeding intolerance†
 -vomiting, retching, abdominal distension, falling Renal NIRS

• **Once stable from respiratory status (tolerating <=5L VT):**

- Place speech consult (See speech pathway)
- Pull tube NG
- Start NG feedings at 1/2 NJ rate and same caloric density
- Check for signs of intolerance†

- Advance feeds by 1ml/kg/hr every 6 hrs to goal of 6ml/kg/hr (144 ml/kg/day)
- Check for signs of intolerance every 6 hrs before advancement†

- Advance feeds by 1ml/kg/hr every 6 hrs to goal of 5-6ml/kg/hr (120-144 ml/kg/d) based on needs**
- Check every 6 hrs for signs of feeding intolerance†
- On VT/NCPAP—>continuous feeds only
- Once off VT/CPAP consider transition to bolus/continuous feeds

- Advance kcal q24hrs, as tolerated†
 20->24->27 kcal/oz (for HR);
 may leave LR on 20 or 24 kcal/oz
 - Continue adjusting volume based on growth and metabolic needs**

- If not yet at goal caloric density, advance q24hrs, as tolerated
 20->24->27 kcal/oz

- Once clinically able, transition to home PO/NG feeding regimen:
 -Day (45%): q3h at 9a, 12p, 3p, 6p OR
 -Day (40%): q4h at 10a, 2p, 6p
 -Night (55-60%): 10 hours (9p-7a)

• Taking >50% of bolus feeds PO?

No

- Continue PO/NG regimen

Yes

- Transition to PO/NG bolus feeds around the clock**
- Consider breastfeeding after discussion with medical team.

Single Ventriles/High Risk

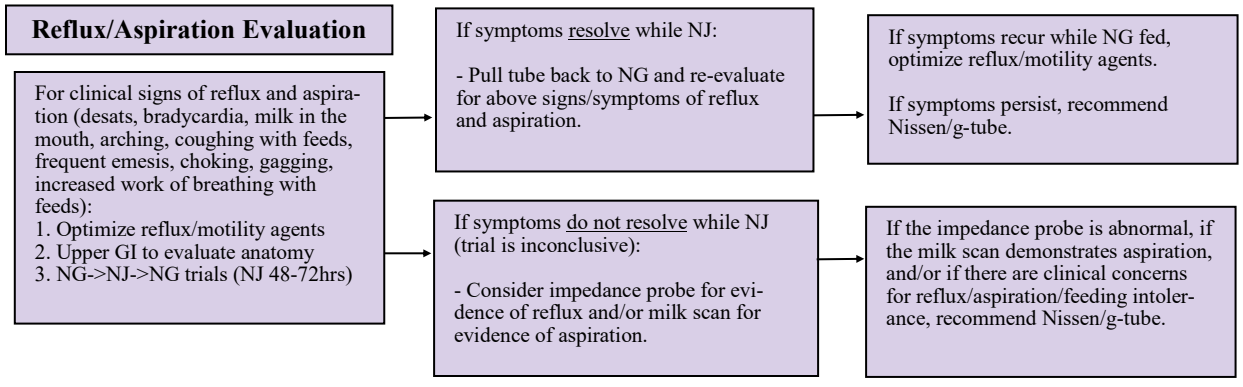
- Start feeds with EBM/DBM; fortify with hydrolyzed formula (Nutramigen). If on DBM, transition from DBM to Nutramigen per DBM guidelines

All Cardiology Patients

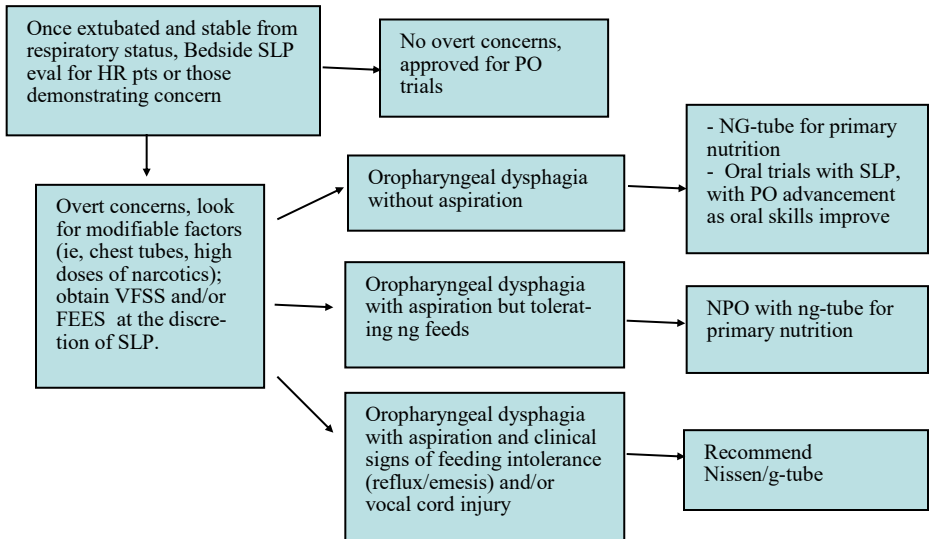
- Use NICU protocol: <36 weeks or <2.5 kg
- If clinically indicated or severely volume restricted, concentrate to 30 kcal/oz
- Q3h boluses for <3kg, <4 months
- Q4h boluses for >3 kg, >4 months

**See nutrition recs
 † Check for signs of feeding intolerance (abd distention, significant emesis, diarrhea, bloody stools) prior to each feeding advancement—
 abd assessment/measure abd girth

PCARDS Dietitian:
 Ryan Rafacz, RD, LDN: 831-4535
 PCICU Dietitian (Monday/Thursday):
 Jane Douglas, MS, RD, LDN: 835-8950



Oromotor/Speech Evaluation



Initiation of Feeds, s/p Nissen/G-tube

- Once stable, measure abdominal girth and initiate Pedialyte at 1 ml/kg/hr x 6 hrs
 - If tolerated, advance Pedialyte by 1 ml/kg/hr to 2 ml/kg/hr x 6hrs†
- If tolerated, initiate prior formula/EBM at 20 kcal/oz at 2ml/kg/hr (same rate as Pedialyte); run x 12 hrs†
 - If 2 ml/kg/hr of 20kcal/oz tolerated x12 hrs, continue advancing by 1 ml/kg/hr q6hrs to goal volume †
- Once at goal volume, advance calories to goal q12-24 hours (20->24->27 kcal/oz; 30 kcal/oz if needed)†
- If advancing q12hrs, order both caloric densities
- Condense feedings to 20 hours
- If well tolerated x 24 hours, trial bolus + continuous feedings
 - Condense bolus time, as tolerated, to goal of 30-60 minute boluses
 - If pt unable to tolerate bolus feeds run over 90 minutes or less (increased retching/gagging), revert back to 20 hours continuous

**ENT consult if concerns for vocal cord paralysis (hoarse cry, poor phonation, difficulty handling secretions, surgery with high-risk for vocal cord paralysis—aortic arch augmentation/Norwood/repair of aortic coarctation)

**Obtain upper GI before Nissen/g-tube

**Timing of VFSS: when at goal continuous ng tube feeds and moving to bolus feeds

Bloody Stools / NEC Pathway

