APPENDIX A: ORAL FEEDING READINESS (OFR) TOOL*

Instructions:
A. Document: Patient randomized number; GA to be recorded in weeks and days; BW category recorded as EBLW, VLBW and LBW, and record date of evaluation.
B. Evaluation*:* Indicate whether this is the initial OFR evaluation, 1st Re-evaluation, or 2nd Re-evaluation.
C. Scoring*:* 0 = WNL, 1 = Disordered
D. Action: If during the initial evaluation, the score of 0 is received, proceed to Clinical Feeding and Swallowing Evaluation (CFSE). If the initial evaluation score is 1, re-evaluate the infant in 2-3 days. If infant receives a score of 0, proceed to CFSE. If not, proceed to 2nd re-evaluation in 2-3 days. If at that time the score is 0, continue with CFSE. If infant receives another score of 1 for 2nd re-evaluation, the final score given is 1 is given.

PT. #:	**GA: WK/ DAY**	**BW CATEGORY:**	**DATE:**
CIRCLE:	**INITIAL ASSESSMENT**	**1ST RE-EVALUATION**	**2ND RE-EVALUATION**
SCORE:			
ACTION:			

Instructions: Observe infant at rest (i.e., isolate/crib/bed, caregiver's arms) and during daily cares (e.g., diaper change, un-swaddling, auxiliary temperature measurement, pre-feeding routine).

		SCORE
A. BEHAVIORAL STATE AT REST AND DURING DAILY CARES		
	Stage 3 - Drowsy or semi-dozing	0
	Stage 4 - Quiet alert	0
	Stage 1 - Deep sleep	1
	Stage 2 - Light sleep	1
	Stage 5 - Active alert	1
	Stage 6 - Crying	1
Total Score		
B. PHYSIOLOGIC STABILITY AT REST AND DURING DAILY CARES		
	Stable vital signs (HR, RR, SpO2)	0
	Tachycardia	1
	Bradycardia	1
	Tachypnea (RR > 60)	1
	Bradypnea (RR < 30)	1
	Retractions	1
	Desaturations (>5-10 % difference from baseline measures)	1
	Color WNL	0
	Color changes (i.e., mottled, cyanotic, flushed, peri-oral duskiness, peri-orbital duskiness, paling)	1
	Adequate general postural tone	0
	Hypotonic	1
	Hypertonic	1
Total score		

C. NON-NUTRITIVE SUCKING (NNS) WITH PACIFIER/GLOVED FINGER		
1. VITAL SIGNS DURING NNS		
Heart Rate (HR)	WNL	0
	Tachycardia	1
	Bradycardia	1
	Other:	1
Respiratory Rate (RR)	WNL	0
	Tachypnea	1
	Bradypnea	1
	Apnea	1
	Other:	1
Oxygen Saturations (SpO2)	WNL	0
	Desaturations	1
2. SUCKING RATE		
	WNL (1-3 Sucks/Sec)	0
	Disordered (>4 Sucks/Sec)	1
3. LIP SEAL		
	Adequate Seal	0
	Poor/Inadequate Seal	1
4. SECRETION MANAGEMENT		
	WNL	0
	Drooling/Pooling	1
	Coughing	1
	Vocal Changes	1
Total Score		

PROCEED TO CLINICAL FEEDING AND SWALLOWING EVALUATION (CFSE) ONLY IF ALL CRITERIA LISTED BELOW IS MET:

1. NNS total score is 0 for each of the components A-C
2. Stable Cardiorespiratory status
3. Preterm infant $\geq$ 30 weeks GA
4. Off mechanical ventilation for at least 48 hours,
5. Tolerating full volume enteral feeds for at least 72 hours.

*Adapted from: Modified Brazelton Behavioral State Scale (1984); Synactive Model of Neonatal Behavioral Organization (Als,1986); Support of Oral Feeding for Fragile Infants (SOFFI) (Philbin & Ross, 2011); Cue-Based Oral Feeding Clinical Pathway (Kirk et al., 2007); Oral Feeding Skills of Preterm infants (OFS) (Lau & Smith, 2011); and the Early Feeding Skills (EFS) assessment tool (Thoyre, Shaker, & Pridham, 2005).

APPENDIX B: CLINICAL FEEDING AND SWALLOWING EVALUATION (CFSE)

Instructions:

A. Document: Patient randomized number; GA to be recorded in weeks and days; BW category recorded as EBLW, VLBW and LBW, and record date of evaluation.

B. Evaluation*:* Indicate whether this is the initial CFSE or Re-evaluation.

C. Scoring*:* Instructions provided under each section.

PT. #:	**GA: WK/ DAY**	**BW CATEGORY:**	**DATE:**
CIRCLE:	**INITIAL ASSESSMENT**	**RE-EVALUATION**	
SCORE:			

PROCEED TO NUTRITIVE SUCKING (NS) EVALUATION *ONLY* IF *ALL* CRITERIA LISTED BELOW ARE MET:

1. OFR (Supplementary Material A) is established
2. Stable Cardiorespiratory status (HR, RR, and SpO2 are WNL at baseline)
3. Off mechanical ventilation for at least 48 hours,
4. Tolerating full volume enteral feeds for at least 72 hours.

A. NUTRITIVE SUCKING (NS) EVAULATION:

1. TYPE OF MILK AND METHOD OF PRESENTATION

Instructions: Document below the bottle brand/type, nipple flow, type of milk (breast milk/formula), calories per ounce (Kcal/oz) and positioning during feeding. In addition, method of gavage feeding should be documented (i.e., Orogastric, Nasogastric, Nasoduodenal, Gastrostomy, Gastrojejunal, and Total Parenteral Nutrition)

BOTTLE TYPE	
NIPPLE FLOW	
EBM (+/- Fortification Kcal/Oz)	
FORMULA Kcal/Oz	
POSITIONING DURING FEEDING	
PARENTERAL NUTRITION OR GAVAGE FEEDING METHOD	

2. SUCKING PATTERN

Instructions: Document below Suck: Swallow: Breathe (SSwB) ratio at two intervals, in addition to sucking bursts, strength of suck, and overt signs and symptoms of swallowing impairments. Document any other deviation(s) observed. Score 0: Absent, 1: Present

		SCORE
SSwB Ratio (First 5 mins)	WNL (1-3:1:1)	0
	Dysrhythmic (>4:1:1)	1
SSwB Ratio (> 5 – 20 mins)	WNL (1-3:1:1)	0
	Dysrhythmic (>4:1:1)	1
Sucking Bursts	WNL (10-30 sucks and 3-10 sec pauses)	0
	Dysrhythmic with physiologic changes	1
Strength of Suck	Adequate	0
	Weak	1

3. PHYSIOLOGIC STABILITY AND BEHAVIORAL STATE

Instructions: Document physiologic and behavioral state changes. Record HR, RR and SpO2 before, during and after feeding at both time intervals. Document the range (eg., HR 140-170).

* State of Alertness: (Brazelton) Stages 1-6. Record stage observed.

****** Color changes should be documented as: WNL, mottled, cyanotic, flushed, peri-oral duskiness, peri-orbital duskiness, paling.

	Before Feeding	**During Feeding**	**After Feeding**
FIRST 5 MINS			
Heart Rate (HR)			
Respiratory Rate (RR)			
Oxygen Saturation levels (SpO2)			
State of Alertness*			
Color**			
AFTER 5 MINS (MAX 20 MINS)			
Heart Rate (HR)			
Respiratory Rate (RR)			
Oxygen Saturation levels (SpO2)			
State of Alertness*			
Color**			

4. SIGNS AND SYMPTOMS OF SWALLOWING IMPAIRMENTS

Instructions: Document any of the overt signs/symptoms of swallowing impairment during and after feeding. *** Cessation of oral feeding assessment criteria.

OVERT SIGNS/SYMPTOMS OF SWALLOWING IMPAIRMENT	**Before Feeding**	**During Feeding**	**After Feeding**
Coughing			
Choking			
Vocal changes			
Desaturations			
Tachypnea			
Bradypnea			
Apnea			
Tachycardia			
Bradycardia			
Gagging			
Emesis			
Total Score:			

***** CESSATION OF ORAL FEEDING TRIAL IF THERE ARE ANY SIGNIFICANT CHANGES IN VITAL SIGNS, OUTSIDE OF THE NORMAL RANGE OF VARIATION (>5-10% DIFFERENCE FROM BASELINE MEASURES) AND/OR IF PATIENT EXHIBITS OVERT SIGNS/SYMPTOMS OF SWALLOWING IMPAIRMENT.**

APPENDIX C: Proforma of data extracted for 2009, 2010, and 2013

INFORMATION	CODE	METHOD DATA WAS RECORDED
Date of Birth	DOB	Day, month, and year infant was born
Date of Admission	DOA	Day, month, and year infant was admitted to NICU
Gestational Age	GA	GA is defined as the period of time between conception and birth. Gestational age is the common term used during pregnancy to describe how far along the pregnancy is. It is measured in weeks, from the first day of the woman's last menstrual cycle to the current date and is frequently verified during routine prenatal ultrasonography at 12 and 21 weeks GA, respectively. If there was a discrepancy, a neonatal estimate of GA was determined by an examination of the preterm infant by the attending Neonatologist
GA Category	E.PREM V.PREM PREM	Extremely Preterm (<28 weeks gestation) Very Preterm (28-32 weeks gestation) Premature (33-36 weeks gestation)
Birth Weight	BW	Measured upon admission to the NICU to the nearest gram
Birth Weight Category	ELBW VLBW LBW AGA	ELBW (Extremely Low Birth Weight, <1000 g) VLBW (Very Low Birth Weight, 1000-1500g) LBW (Low Birth Weight, 1501-2500g) AGA (Appropriate for Gestational Age, 2501-4000g)
Gender	GEND	M for male and F for female
Mortality	MORT	Death was recorded as Yes or No and cause of death of an infant was documented
Primary Diagnosis	 RESP BPD NEURO CHD GEN S.ANOM GI IUGR SEPSIS JAUN AOP	Recorded on Admission and Discharge as follows: *Respiratory Disorders* included: Infant Respiratory Distress Syndrome (IRDS) or Hyaline Membrane Disease; Persistent Pulmonary Hypertension of the Newborn (PPHN); Transient Tachypnea of the Newborn (TTN); Meconium Aspiration Syndrome (MAS) Bronchopulmonary Dysplasia (BPD), *Neurological Disorders* included: Hypoxic-Ischemic Encephalopathy (HIE); Intraventricular Haemorrhage (IVH); Peri-ventricular Leukomalacia (PVL), *Congenital Heart Disease* included: Atrial Septal Defect (ASD); Ventral Septal Defect (VSD); Cardiac Arrest; Other Cardiac Defects, *Genetic Disorders* included syndromes and chromosomal anomalies, *Structural Abnormalities* included: Cleft Lip only; Cleft Palate only; Cleft Lip and Palate; Tracheoesophageal Fistula (TOF); Laryngo-tracheo-oesophageal Cleft, *Gastrointestinal Disorders* included: Congenital Short Bowel Syndrome (SBS); Necrotizing Enterocolitis (NEC); Oesophageal Atresia Intrauterine Growth Retardation (IUGR), Sepsis Neonatal Jaundice Anaemia of Prematurity
Length of Stay	LOS	Recorded as Date of Discharge – Date of Admission, in days