LOMA LINDA UNIVERSITY

CHILDREN'S HOSPITAL

Tiny Baby Program
NICU Didactics
2018

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Agenda for the Day - Didactic

January 2018

8:00 – 8:10	Welcome		Pre-test reminder (OWL)
8:10 – 8:30	Maternal Consult	Banerji	
8:30 – 9:20	Neuroprotection	Phillips	Powerpoint
9:20 – 9:50	Delivery Room	Phillips, Banerji, Hopper	Checklist (copy in packet)
9:50 – 10:00	Break		
10:00 – 10:30	Respiratory	Banerji, Hopper	Powerpoint Discussion
10:30 – 10:50	Fluid/Nutrition Growth	Phillips	Powerpoint
10:50 – 11:10	PDA	Hopper	Powerpoint
11:10 – 11:30	Sepsis/NEC	Banerji	Powerpoint
11:30 – 11:50	IVH/ROP	Hopper	Powerpoint
11:50 – 12:00	Break		
12:00 – 12:05	Discharge Planning	Phillips	Powerpoint
12:05 – 12:25	SIBR	Banerji	Powerpoint Discussion
12:25 – 12:40	aEEG/NIRS: How it works	Hopper	Discussion
12:40 – 1:00	Q&A Session/Post-test (In Class)		Discussion Post-test (copy in packet)
1:00 – 2:00	Lunch		
2:00 – 2:45	Daily Checklist	Sandy Mitchell	Packet
2:45 – 3:00	Guidelines	Jean Newbold	Packet
3:00 – 3:10	Break		
3:10 – 3:55	Respiratory Care ☺	Bob Wallace	
3:55 – 4:40	Ventilation modes	Mike Tiras	
4:40 – 5:00	Q&A Session/Closing/ Post-evaluations		Discussion Post-evaluations (copy in packet)

Learner Objectives

Checklists and Guidelines

1. The learner will be able to state two evidence based rationales for using standardized checklists and guidelines to improve the outcomes of tiny babies.
2. 2. The learner will be able to state two reasons why the use of guidelines and checklists increase staff and patient/family satisfaction.

Two-person Care

1. The learner will be able to state two evidence based neuroprotective rationales for using two-person care for repositioning the tiny baby.
2. The learner will be to give two examples of how providing two-person care conservers energy in the tiny baby.

Midline Positioning

1. The learner will be able to state one evidence based rationale for practicing midline positioning for the tiny baby for the first 72 hours of life.
2. The learner will be able to state the three midline positions used in the care of the tiny baby.

Cord Blood Specimen Collection

1. The learner will be able to state where to find the cord blood collection technique sheet.
2. The learner will be able to state one evidence based rationale for the collection of cord blood specimens in the delivery room.

Notes

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Tiny Baby (< 1,000 Gr) Pre-Delivery Nursing Checklist

- ❍ Room temp set at between 77^0F-79^0F, lights dimmed until eyes are protected, noise level controlled to keep SONICU green or yellow (RN)
- ❍ Prepare isolette: one blanket covering the mattress, one large blue chux covering blanket, appropriate size bunting (extra small or small), neowrap, hat, pulse ox probe and sponge tape to cover, ECG leads, temp probe with small heart cover, diaper (<800 grams and 1.6kg), bulb syringe. (RN)
- ❍ Weigh bunting, neo wrap (if needed) and hat (note weigh on hat and bunting with Sharpie where it can be easily read)
- ❍ Isolette moved into bed space #1, plugged in, and warming to 36.8^0C (RN)
- ❍ Distilled water receptacle filled and humidity set to 85%. (RN)
- ❍ Resuscitation equipment and supplies ready and working properly (Suction set to 60mmHg, 5 and 8 Fr sterile suction catheters, bulb syringe open, Neopuff, oxygen, mask, laryngoscope, ETT (2.5 and 3.0) (RN, RCP)
- ❍ Thermometer at bedside (RN)
- ❍ Umbilical line tray prepared (MD/NP, RN))
- ❍ Ask practitioner for signed and held orders to be available (MD/NP, RN)
- ❍ Remind OB to perform delayed cord clamping/milking and to clamp the cord leaving enough cord for cord blood samples. (MD/NP, RN)
- ❍ Remind OB staff to plug in, place and pre-warm the bed and mattress that willed be used for baby during delayed cord clamping.
- ❍ Call pharmacy for starter TPN, A-line fluid, and prepare other meds and surfactant (RN, RCP)
- ❍ Ask if support person is available and willing to be present (MD/NP, RN)
- ❍ Team briefing once all team members present (MD/NP, RN, RCP, support person)
- ❍ Provide instructions/guidelines for support person and a chair if needed (RN, support person)

Tiny Baby Delivery and Golden Hour Checklist

Delivery Time____________ DOB ___________

Leader _________________________________

MDs/NNPs: _____________________________

RNs: __________________________________

RCPs: _________________________________

Family member: _________________________

Place patient label here

Mins		Time Completed	Reason for Variance	Q.I.
0	❍ Place baby in preheated Neowrap, keep midline with head/body level on mother on Life Start table ❍ Have OB perform 60 seconds of delayed cord clamping or cord milking per protocol			Delayed cord clamping Y/N _____ Secs
1	❍ Provide gentle stimulation and welcome baby ❍ Place Neowrapped baby in bunting, keeping midline and level, limbs flexed, moving slowly and talking softly ❍ Start resuscitation per NRP guidelines ❍ Start Neopuff CPAP 5 or PPV 18-22/5 depending on RR, HR and chest rise (Attempt to avoid intubation for a minimum of 3 mins of life with effective ventilation/CPAP delivery. Consider increasing pressure and i-time before intubation) ❍ Place ECG leads on chest first, then place pulse ox on right wrist			Cord milking Y/N
2	❍ Place warmed hat (cover eyes to protect from light), then adjust room lights to normal			
3	❍ Take vitals including temperature, place temp probe, and switch isolette to baby mode			Initial Temp____ ^{0}C
5	❍ Place gavage tube once HR and saturations stable			
5-10	❍ Obtain cord blood labs (type and screen, blood culture, CBC w/ diff, procalcitonin) ❍ Set up and apply respiratory support device (BCPAP, NIMV, VG/AC) ❍ Finish preparation and start placement of umbilical lines ❍ Assess respiratory status and administer surfactant as needed (all intubated infants should receive surfactant after chest x-ray)			Labs drawn from cord Y/N CPAP _______ NIPPV ______ Vent _______ Surfactant Y/N
10-15	❍ Obtain measurements (Wt, Length, HC) if infant stable ❍ Prime Starter TPN and A-line fluids ❍ Notify unit secretary and TL1 of admission			
15-50	❍ Once umbilical lines are placed, obtain remaining labs, blood glucose, and blood gas ❍ Place PIV (only if umbilical lines unsuccessful) ❍ Call secretary to page for x-ray tech, obtain chest and abdominal 2V X-ray (chest x-ray must be done prior to surfactant administration) ❍ Begin infusion of starter TPN and A-line fluids ❍ Give vitamin K and erythromycin as ordered ❍ Give caffeine loading dose ❍ Give antibiotics if indicated			UVC successful Y/N UAC successful Y/N UVC completed: _____ UAC completed: _____ 1st Glucose: ____ Time: TPN started: _____ Caffeine given: ____ Abx given: _______
50-60	❍ Close isolette and check that humidity is turned on starting at 85% ❍ Transfer to TBU in same isolette as used for resuscitation ❍ Send admission labs			
Post Golden Hour	❍ Obtain temperature ❍ Elevate HOB ❍ Remove Neowrap once 85% humidity is reached and baby's temperature is stable ❍ Debrief with all delivery team members			Time arrived in NICU: ________ Admission Temp: _________ ^{0}C

Tiny Baby Program DOL #1 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7 days of life – if condensation forms, decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ No bath for the first 72 hours and the skin is not gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette, (SONICU to 50, light filtering shades always down) ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _____% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat with diligent placement on face to protect skin integrity. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place ________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then prn. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Schedule caffeine maintenance dose to begin 24 hours after loading dose	
Nutrition ❍ Daily weights (weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ *Continue TPN ordered at_____ml/kg/day* ❍ Initiate feeds of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Educate mother about hand expression, pumping and use of colostrum	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _______ ml/kg/day ❍ Vitamin A (M, W, F) for a 12-dose course ❍ NIRS placed ___________ if ordered ❍ aEEG started___________if ordered	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Orient parents regarding good hand hygiene, no cell phone (pictures only), the NICU environment, and parent space at the bedside ❍ Give parents admission packet and Instructions on downloading Peekaboo ICU app. ❍ Promote parent bonding/participation in care, encourage to be at bedside during rounds ❍ Introduce purpose and use of Lovey/scent cloth ❍ Educate parents on stimuli, touch, and sleep (both infant's and parents' sleep) ❍ Introduce parents to care team and rounding schedule ❍ Educate parents on the next developmental goal i.e. readiness for skin-to-skin care	

Tiny Baby Program DOL #2 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ No bath for the first 72 hours and the skin is not gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _____% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings ____________ ☐ Cannulaide in place ________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then prn. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting, except when doing length measurement), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at____________ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to hand express for first three days	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _______ml/kg/day ❍ Vitamin A (M, W, F) ❍ DC aEEG 24 hours (confirm with MD before discontinuing)	
Labs ❍ Labs drawn as ordered (Newborn screen after24HOL)	
Family Centered Care ❍ Orient/reinforce good hand hygiene, no cell phone, the NICU environment and parent space ❍ Promote parent bonding/participation in care, being at bedside and participating during rounds and decision making with plan of care ❍ Encourage the use of Lovey/scent cloth ❍ Educate parents on stimuli, touch, and sleep (both infant's and parent's sleep). Demonstrate and teach hand containment ❍ Explain types of alarms in NICU and how care team responds to alarms	

Tiny Baby Program DOL #3 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment. ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ No bath for the first 72 hours and the skin is not gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ______% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place _______________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting) ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to hand express	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered. Time out prior to 4th dose ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ______ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Give parents admission packet instructions on downloading the PeekabooICU.com app ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Reinforce information on types of alarms in the NICU and how the care team responds to them ❍ Educate parents on stimuli, touch, and sleep. Demonstrate and teach hand containment. ❍ Encourage parents to use Peekaboo app. ❍ Introduce parents to "The Parent Checklist"	

Tiny Baby Program DOL #4 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ Touch times q 4 hours and prn (Please respect baby's sleep cycle) ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _______%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_____________☐ Cannulaide in place ____________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting) ❍ Continue TPN ordered at_____ml/kg/day. ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for at least 15-20 min or until milk flow stops	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ______ml/kg/day ❍ Vitamin A (M,W,F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Parent performing diaper changes, temperature taking ❍ Reinforce education of parents on stimuli, touch, and sleep ❍ Educate parents on behavioral signals/cues (refer to NICU site) ❍ Introduce offer for formal family conference with care team ❍ Educate parents about skin to skin (STS) including the benefits to both infant and parent, the procedure for transfer (including watching video and the STS wrap and how to use it). If unable to do STS, promote hand containment by parent. ❍ Work on items from parent checklist	

Tiny Baby Program DOL #5 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low 90% and high 97%) or per order. FIi0_2 requirement ________________%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place ____________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting) ❍ Continue TPN ordered at_____ml/kg/day. ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for at least 15-20 min or until milk flow stops	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ml/kg/day ❍ Vitamin A (M, W, F) ❍ DC NIRS monitoring (Confirm with MD before discontinuing)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Review infant behavioral signals/cues with parents ❍ Promote STS holding if infant is able (at least 1/day ~60 mins minimum) and support parent with transfer technique. If unable to do STS, promote hand containment by parent. ❍ Start discussion about next milestones, what to expect, length of stay	

Tiny Baby Program DOL #6 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ______________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place ___________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting) ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UVA preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for at least 15-20 min or until milk flow stops	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals regarding current medical condition and developmental care ❍ Introduce resources available for parent support, i.e. Social Worker and sibling visits with Child Life Specialist. ❍ Promote STS holding if infant is able (at least 1/day ~60 mins minimum) and support parent with transfer technique. If unable to do STS, promote hand containment by parent. ❍ Work on items from parent checklist	

Tiny Baby Program DOL #7 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Development ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement ________________%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place __________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting) ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) Consider PICC if not already placed ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for at least 15-20 min or until milk flow stops	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if indicated ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ________ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote STS holding if infant is able (at least 1/day ~60 mins minimum) and support parent with transfer technique. If unable to do STS, promote hand containment by parent. ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Work on items from parent checklist	

Tiny Baby Program Week 2 Checklist
23 to 24 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds. By the end of the infant's week 2 of life, all items on this checklist should be checked off or incomplete reason noted.

	Reason incomplete
Thermoregulation ❍ Use servo-control to provide neutral thermal environment ❍ Start weaning humidity by 5% Q shift until 50% ❍ Change isolette on Day of Life 14 ❍ First swaddle sponge/tub bath on when weaned to 50%, then Q Wed and Sat	
Neuro-Development ❍ Touch times q 4 hours and prn ❍ 2 person cares when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Midline, flexion, containment and comfort when positioning infant ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and positioning ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Eye protection during exposure to bright light. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ HUS at 7-10 DOL	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _____________%. ❍ If intubated, monitor ETT position, taping, and head position ❍ If on noninvasive support, assess for proper hat and mask size and skin integrity at all point of contact each shift. ☐ NIPPV ☐ BCPAP Settings:_ _____________ ☐ Cannulaide in place ________ ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights (weigh baby in bunting) ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access. Consider PICC if not already placed. (max. time for UVC/UAC is 10 days) ❍ Feeding of MOM/DHM using feeding protocol. DOL full feeding were reached _ ❍ Offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for at least 15-20 min or until milk flow stops	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if indicated ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _______ml/kg/day ❍ Vitamin A (M, W, F) (12 doses total)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote STS holding if infant is able (at least 1-2/day ~60 mins minimum) and support parent with transfer technique. If unable to do STS, promote hand containment by parent. ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Work on items from parent checklist	

Tiny Baby Program DOL #1 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ No bath for the first 72 hours and skin is not gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; use giraffe covers (SONICU to 50, light filtering shades always down) ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat with diligent placement on face to protect skin integrity. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place____ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Schedule caffeine maintenance dose to begin 24 hours after loading dose	
❍ **Nutrition** ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ *Continue TPN ordered at_________ml/kg* ❍ *Central* IV access (UVC and UAC preferred or PICC) ❍ Initiate feeds of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Educate mother about pumping and manual expression for first three days and use of colostrum	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ________ ml/kg/day ❍ Vitamin A (M, W, F) for a 12-dose course ❍ NIRS placed ___________if ordered ❍ aEEG started___________if ordered	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Orient parents regarding good hand hygiene, no cell phone use (pictures only), the NICU environment, and parent space at the bedside. ❍ Admission packet and instructions on downloading Peekaboo ICU app. ❍ Promote parent bonding/participation in care, encourage to be at bedside ❍ Introduce purpose and use of Lovey/scent cloth ❍ Educate parents on stimuli, touch, and sleep (both infants and parents sleep) ❍ Introduce parents to care team and rounding schedule	

Tiny Baby Program DOL #2 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ No bath for the first 72 hours and the skin is not gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum, cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement ______% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________ ☐ Cannulaide in place ___________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
❍ **Nutrition** ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_________ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to manually express	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if indicated ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _________ ml/kg/day ❍ Vitamin A (M, W, ❍ DC aEEG 24 hours (confirm with MD before discontinuing)	
Labs ❍ Labs drawn as ordered (Newborn screen after24HOL)	
Family Centered Care ❍ Orient/reinforce good hand hygiene, no cell phone use, the NICU environment and parent space at the bedside ❍ Promote parent bonding/participation in care, being at bedside during rounds ❍ Encourage the use of Lovey/scent cloth ❍ Educate parents on stimuli, touch, and sleep (both infant's and parent's sleep) ❍ Explain types of alarms in NICU and how care team responds to alarms ❍ Educate parents on the next developmental goal i.e. readiness for skin to skin care	

Tiny Baby Program DOL #3 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _______% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_____________ ☐ Cannulaide in place ___________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to manually express	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if indicated. Time out prior to 4th dose ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ________ ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds ❍ Reinforce information on types of alarms in the NICU and how the care team responds to them ❍ Educate parents on stimuli, touch, and sleep ❍ Introduce parents to “The Parent Checklist”	

Tiny Baby Program DOL #4 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

Checklist	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. Fi0$_2$ requirement __% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________ ☐ Cannulaide in place __________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _______ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Parent performing diaper changes, temperature taking ❍ Reinforce education of parents on stimuli, touch, and sleep ❍ Educate parents on behavioral signals/cues (refer to NICU site) ❍ Introduce offer for formal family conference with care team ❍ Educate parents about skin to skin (STS) including the benefits to both infant and parent, the procedure for transfer (including watching video and the STS wrap and how to use it) ❍ Work on items from parent checklist	

Tiny Baby Program DOL #5 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ____________%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place _____________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _______ml/kg/day ❍ Vitamin A (M, W, F) ❍ DC NIRS monitoring (Confirm with MD before discontinuing)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Review infant behavioral signals/cues with parents ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Start discussion about next milestones, what to expect, length of stay	

Tiny Baby Program DOL #6 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _____________%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place ____________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day. ❍ Central IV access (UVC and UVA preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _____ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals regarding current medical condition and development care ❍ Introduce resources available for parent support such as social worker and sibling visits with Child Life specialist. ❍ Work on items from parent checklist	

Tiny Baby Program DOL#7 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2 person when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _______%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings: _________________ ☐ Cannulaide in place _________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) Consider PICC if not already placed ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _______ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Work on items from parent checklist	

Tiny Baby Program Week 2 Checklist
25 to 26 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds. By the end of the infant's week 2 of life, all items on this checklist should be checked off or have the reason incomplete noted on guideline.

	Reason incomplete
Thermoregulation ❍ Use servo-control to provide neutral thermal environment ❍ Start weaning humidity by 5% Q shift until 50% ❍ Change isolette on Day of Life 14 ❍ First swaddle sponge/tub bath when weaned to 50% and stable temp, then Q Wed and Sat	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person handling when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Midline, flexion, containment and comfort when positioning infant ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Eye protection during exposure to bright light. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ HUS at 7-10 DOL	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. Fi0$_2$ requirement ______________% ❍ If intubated, monitor ETT position , taping and head position. ❍ If on noninvasive support assess for proper hat and mask size and skin integrity at all point of contact each shift. ☐ NIPPV ☐ BCPAP Settings:_______________ ☐ Cannulaide in place _______ ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at ________ ml/kg/day ❍ Central IV access. Consider PICC if not already placed. (max. time for UVC/UAC is 10 days) ❍ Feeding of MOM/DHM using feeding protocol if ordered. DOL full feeding were reached ❍ Offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if indicated ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ________ml/kg/day ❍ Vitamin A (M, W, F) (12 doses total)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote skin to skin holding if infant is able (at least 1-2/day ~60mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Work on items from parent checklist	

Tiny Baby Program DOL #1 Checklist
27 to 28 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ No bath for the first 72 and the skin is no longer gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette, (SONICU to 50, light filtering shades always down) ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement _________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat with diligent placement on face to protect skin integrity. ☐ NIPPV ☐ BCPAP Settings: _____________ _☐ Cannulaide in place ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Schedule caffeine maintenance dose to begin 24 hours after loading dose.	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Initiate feeds of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Educate mother about pumping, manual expression for first three days and use of colostrum	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ___________ml/kg/day ❍ Vitamin A (M, W, F) for a 12-dose course ❍ NIRS placed __________if ordered ❍ aEEG started _________if ordered	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Orient parents regarding good hand hygiene, no cell phone use (pictures only), the NICU environment, and parent space at the bedside ❍ Promote parent bonding/participation in care, encourage to be at bedside during rounds ❍ Educate parents on stimuli, touch, and sleep (both infants and parents sleep) ❍ Educate parents about skin to skin (STS) including the benefits to both infant and parent, the procedure for transfer (included watching video and discuss the STS wrap and how to use it) ❍ Introduce parents to care team and rounding schedule ❍ Give parents admission packet, parent checklist and instructions on PeekabooICU.com app	

Tiny Baby Program DOL #2 Checklist
27 to 28 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

Reason Incomplete

Thermoregulation

- ❍ Keep giraffe canopy down
- ❍ Use servo-control to provide neutral thermal environment
- ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.

Neuro-Developmental

- ❍ No baths for the first 72 hours and the skin is no longer gelatinous
- ❍ Touch times q 4hours and prn
- ❍ 2-person care when handling
- ❍ Gentle, firm touch, with slow controlled movements
- ❍ Head midline, neutral positioning (in supine or side-lying only)
- ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning
- ❍ Promote hands to face
- ❍ Position bed so that baby can be approached from both sides
- ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette
- ❍ Silence alarms as quickly as possible; phone ringers set to low
- ❍ Eye protection during exposure to bright light.

Respiratory

- ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ______________%.
- ❍ If intubated, monitor ETT position and taping, keep head midline
- ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings: ____________ ☐ Cannulaide in place ____
- ❍ HOB elevated
- ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based.
- ❍ Oral care per policy; with colostrum when available and DHM when no colostrum
- ❍ Caffeine maintenance dose

Nutrition

- ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat
- ❍ Continue TPN ordered at_____ml/kg/day
- ❍ Central IV access (UVC and UAC preferred or PICC)
- ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn
- ❍ Check residual once per shift and prn if symptomatic
- ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to manually express

Other Monitoring, Medications and IV fluids

- ❍ Antibiotics given if ordered
- ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _________ml/kg/day
- ❍ Vitamin A (M, W, F)

Labs

- ❍ Labs drawn as ordered (Newborn Screen at 24 hours of life)

Family Centered Care

- ❍ Orient/reinforce good hand hygiene, no cell phone use, the NICU environment and parent space at the bedside
- ❍ Promote parent bonding/participation in care, being at bedside during rounds
- ❍ Encourage the use of Lovey/scent cloth
- ❍ Educate parents on stimuli, touch, and sleep (both infant's and parent's sleep)
- ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique
- ❍ Explain types of alarms in NICU and how care team responds to alarms
- ❍ Educate parents on the next developmental goal i.e. readiness for skin to skin care

Tiny Baby Program DOL #3 Checklist
27 to 28 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ No baths for the first 72 hours and the skin is no longer gelatinous ❍ Touch times q 4 hours and prn ❍ 2-person cares when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ______________%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place _______ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to manually express	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered. Time out prior to 4th dose ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ___________ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds ❍ Reinforce information on types of alarms in the NICU and how the care team responds to them ❍ Educate parents on stimuli, touch, and sleep ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Work on items from parent checklist	

Tiny Baby Program DOL #4
27 to 28 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement ______________%. ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings: _____________ ☐ Cannulaide in place __________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; no with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ________ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Reinforce education of parents on stimuli, touch, and sleep ❍ Educate parents on behavioral signals/cues (refer to NICU site) ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Introduce offer for formal family conference with care team ❍ Work on items from parent checklist	

Tiny Baby Program DOL #5 Checklist
27 to 28 6/7 weeks GA

This checklist should be reviewed daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ . 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90% high limit 97%) or per order. $Fi0_2$ requirement _______________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings: __________☐ Cannulaide in place________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day. ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ________ ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Review infant behavioral signals/cues with parents ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Start discussion about next milestones, what to expect, length of stay	

Tiny Baby Program DOL #6 Checklist
27 to 28 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person cares when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light and negative oral stimuli to a minimum; use giraffe covers ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90% high limit 97%) or per order. $Fi0_2$ requirement __________________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place__________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at_____ml/kg/day ❍ Central IV access (UVC and UVA preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if indicated ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _________ ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals regarding current medical condition and development care ❍ Introduce resources available for parent support such as social work and sibling visits with Child Life specialist. ❍ Work on items from parent checklist	

Tiny Baby Program DOL #7 Checklist
27. to 28 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds

Checklist	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Use servo-control to provide neutral thermal environment ❍ 70-85% humidity for the first 7days of life – if condensation forms decrease by 5% q hour until condensation stops.	
Neuro-Developmental ❍ Touch times q 4 hours and prn ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette cover ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement __________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________ ☐ Cannulaide in place ________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at __________ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) Consider PICC if not already placed ❍ Feeding of MOM/DHM using feeding protocol if ordered, offer cue based nonnutritive suck prn ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _________ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Work on items from parent checklist	

Tiny Baby Program Week 2 Checklist
27 to 28 6/7 weeks GA

This checklist should be reviewed by the care team on a daily during rounds. By the end of the infant's week 2 of life, all items on this checklist should be checked off or reason not completed noted.

	Reason incomplete
Thermoregulation ❍ Use servo-control to provide neutral thermal environment ❍ Start weaning humidity by 5% Q shift until 50% ❍ Change isolette on Day of Life 14 ❍ First swaddle bath sponge/tub when temperature is stable and humidity weaned to 50%, then Q Wed and Sat	
Neuro-Developmental ❍ Touch times q 4 hours and prn (Please respect baby's emerging sleep cycles) ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Midline, flexion, containment and comfort when positioning infant ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Eye protection during exposure to bright light. ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ HUS at 7-10 DOL	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement _______________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on noninvasive support assess for proper hat and mask size and skin integrity at all point of contact each shift. ☐ NIPPV ☐ BCPAP Settings:______________ ☐ Cannulaide in place ________ ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at__________ml/kg/day ❍ Central IV access. Consider PICC if not already placed. (max. time for UVC/UAC is 10 days) ❍ Feeding of MOM/DHM using feeding protocol if ordered. DOL full feeding were reached ________ ❍ Check residual once per shift and prn if symptomatic ❍ Offer cue based nonnutritive suck prn	
Other Medications and IV fluids ❍ Antibiotics given if ordered. ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) __________ml/kg/day ❍ Vitamin A (M, W, F) (12 doses total)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote skin to skin holding if infant is able (at least 1-2/day ~60mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Work on items from parent checklist	

Tiny Baby Program DOL #1 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off. ❍ Use servo-control to provide neutral thermal environment	
Neuro-Developmental ❍ No bath for first 72 hours ❍ Touch q 4 hours and prn (Please respect baby's sleep cycles) ❍ 2-person care when handling ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette, (SONICU to 50, light filtering shades always down) ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement ________% ❍ If intubated, monitor ETT position and taping, keep head midline ❍ If on non-invasive support ensure correct size for prongs and hat with diligent placement on face to protect skin integrity. ☐ NIPPV ☐ BCPAP Settings:_____________ ☐ Cannulaide in place _____ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Schedule caffeine maintenance dose to begin 24 hours after loading dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at _________ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Initiate feeds of MOM/DHM if ordered, using feeding protocol ❍ Check residual once per shift and prn if symptomatic ❍ Educate mother about pumping, manual expression for the first three days and the use of colostrum ❍ Offer cue based nonnutritive suck prn	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) _________ml/kg/day ❍ Vitamin A (M, W, F) for a 12-dose course ❍ NIRS placed ___________if ordered ❍ aEEG started __________if ordered	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Orient parents regarding good hand hygiene, no cell phone use (pictures only), NICU environment, and parent space at the bedside, give admission packet, information on downloading PeekabooICU.com app ❍ Promote parent bonding/participation in care, encourage to be at bedside ❍ Introduce purpose and use of Lovey/scent cloth ❍ Educate parents on stimuli, touch, and sleep (both infant's and parent's sleep) ❍ Educate parents about skin to skin (STS) including the benefits to both infant and parent, the procedure for transfer (included watching video and discuss the STS wrap and how to use it)	

Tiny Baby Program DOL #2 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason Incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off. ❍ Use servo-control to provide neutral thermal environment	
Neuro-Developmental ❍ Touch times q 4 hours and prn (Please respect baby's sleep cycle) ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement _________% ❍ If intubated is there room to wean or extubate? SETTINGS: ----------------------------- ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place _________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at __________ ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM if ordered, using feeding protocol ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min and to manually express ❍ Offer cue based nonnutritive suck prn	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ____________ ml/kg/day ❍ Vitamin A (M, W, F) ❍ DC aEEG (confirm with MD before discontinuing)	
Labs ❍ Labs drawn as ordered (Newborn screen after 24 hours)	
Family Centered Care ❍ Orient/reinforce good hand hygiene, no cell phone use, NICU environment and parent space at the bedside ❍ Promote parent bonding/participation in care, being at bedside during rounds ❍ Encourage the use of Lovey/scent cloth ❍ Educate parents on stimuli, touch, and sleep (both infant's and parent's sleep) ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Explain types of alarms in NICU and how care team responds to alarms ❍ Educate parents on the next developmental goal i.e. readiness for skin to skin care ❍ Work on parent checklist	

Tiny Baby Program DOL #3 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

Reason Incomplete

Thermoregulation

- ❍ Keep giraffe canopy down
- ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off.
- ❍ Use servo-control to provide neutral thermal environment

Neuro-Developmental

- ❍ Touch times q 4 hours and prn (Please respect baby's sleep cycle)
- ❍ 2-person care when handling
- ❍ Gentle, firm touch, with slow controlled movements
- ❍ Head midline, neutral positioning (in supine or side-lying only)
- ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning
- ❍ Promote hands to face
- ❍ Position bed so that baby can be approached from both sides
- ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette
- ❍ Silence alarms as quickly as possible; phone ringers set to low
- ❍ Eye protection during exposure to bright light.

Respiratory

- ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ________%
- ❍ If intubated is there room to wean or extubate? SETTINGS: ----------------------------
- ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place ___________
- ❍ HOB elevated
- ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based.
- ❍ Oral care per policy; with colostrum when available and DHM when no colostrum
- ❍ Caffeine maintenance dose

Nutrition

- ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat
- ❍ Continue TPN ordered at _________ ml/kg/day
- ❍ Central IV access (UVC and UAC preferred or PICC)
- ❍ Feeding of MOM/DHM if ordered, using feeding protocol
- ❍ Check residual once per shift and prn if symptomatic
- ❍ Encourage mom to pump 8-10 times/day for 15-20 and to manually express
- ❍ Offer cue based nonnutritive suck prn

Other Medications and IV fluids

- ❍ Antibiotics given if ordered Time out prior to 4th dose
- ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications ___________ ml/kg/day
- ❍ Vitamin A (M, W, F)

Labs

- ❍ Labs drawn as ordered

Family Centered Care

- ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment
- ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds
- ❍ Reinforce information on types of alarms in the NICU and how the care team responds to them
- ❍ Educate parents on stimuli, touch, and sleep
- ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique
- ❍ Work on parent checklist

Tiny Baby Program DOL #4 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off. ❍ Use servo-control to provide neutral thermal environment	
Neuro-Developmental ❍ Touch times q 3 to 4 hours and prn (Please respect baby's sleep cycle) ❍ 2-person touch/handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement ___________% ❍ If intubated is there room to wean or extubate? SETTINGS: ----------------------------- ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_____________☐ Cannulaide in place ____________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at _________ ml/kg/day ❍ Central IV access (UVC and UAC preferred or PICC) ❍ Feeding of MOM/DHM if ordered, using feeding protocol ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min ❍ Offer cue based nonnutritive suck prn	
Other Monitoring, Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications __________)ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Reinforce education of parents on stimuli, touch, and sleep ❍ Educate parents on behavioral signals/ cues (refer to NICU site) ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique ❍ Introduce offer for formal family conference with care team ❍ Start discussion about next milestone, what to expect, length of stay	

Tiny Baby Program DOL #5 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

Reason incomplete

Thermoregulation

- ❍ Keep giraffe canopy down
- ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off.
- ❍ Use servo-control to provide neutral thermal environment

Neuro-Developmental

- ❍ Touch times q 3 to 4 hours and prn (Please respect baby's sleep cycle)
- ❍ 2-person care when handling
- ❍ Gentle, firm touch, with slow controlled movements
- ❍ Head midline, neutral positioning (in supine or side-lying only)
- ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning
- ❍ Promote hands to face
- ❍ Position bed so that baby can be approached from both sides
- ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette
- ❍ Silence alarms as quickly as possible; phone ringers set to low
- ❍ Eye protection during exposure to bright light.

Respiratory

- ❍ Pulse oximeter alarm limits set at (low limit 90 %, high limit 97 %) or per order. $Fi0_2$ requirement _ ________%
- ❍ If intubated is there room to wean or extubate? SETTINGS: _______________
- ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_______________☐ Cannulaide in place __________
- ❍ HOB elevated
- ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based.
- ❍ Oral care per policy; with colostrum when available and DHM when no colostrum
- ❍ Caffeine maintenance dose

Nutrition

- ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat
- ❍ Continue TPN ordered at ___________ml/kg/day
- ❍ Central IV access (UVC and UAC preferred or PICC)
- ❍ Feeding of MOM/DHM if ordered, using feeding protocol
- ❍ Check residual once per shift and prn if symptomatic
- ❍ Encourage mom to pump 8-10 times/day for 15-20 min

Other Monitoring, Medications and IV fluids

- ❍ Antibiotics given if ordered
- ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) ___________ml/kg/day
- ❍ Vitamin A (M, W,F)
- ❍ DC NIRS (confirm with MD before discontinuing)

Labs

- ❍ Labs drawn as ordered

Family Centered Care

- ❍ Reinforce good hand hygiene, gloving, cell phone use, NICU environment
- ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care, work on parent checklist
- ❍ Review infant behavioral signals/cues with parents
- ❍ Promote skin to skin holding if infant is able (at least 1/day ~60mins) and support parent with transfer technique
- ❍ Start discussion about next milestones, what to expect, length of stay
- ❍ Review with parent's milestones that are achievable within the 1st week of life

Tiny Baby Program DOL #6 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off. ❍ Use servo-control to provide neutral thermal environment	
Neuro-Developmental ❍ Touch times q 3 to 4 hours and prn (Please respect baby's sleep cycle) ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement ________% ❍ If intubated is there room to wean or extubate? SETTINGS: ----------------------------- ❍ If on noninvasive support, is patient ready to be weaned off to room air? ❍ If on noninvasive support, ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:_____________ ☐ Cannulaide in place _________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN using guidelines at_____ml/kg/day ❍ Central IV access (UVC and UVA preferred or PICC) ❍ Feeding of MOM/DHM using feeding protocol ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min	
Other Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) __________ ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs as ordered	
Family Centered Care ❍ Reinforce good hand hygiene, no cell phone use, the NICU environment ❍ Promote skin to skin holding if infant is able (at least 1-2x/day, > 60 mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care, work on parent checklist ❍ Explain short term goals regarding current medical condition and development care ❍ Introduce resources available for parent support such as social work and sibling visits with Child Life specialist.	

Tiny Baby Program DOL #7 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds.

	Reason incomplete
Thermoregulation ❍ Keep giraffe canopy down ❍ Babies less than 30 weeks set humidity at 85% for the first week of life then wean by 5% q shift and adjust air temperature to maintain baby's temperature 36.4-37 until 50% humidity is achieved, at 30-32 weeks of life wean humidity by 5%/shift and adjust air temperature to maintain baby's temperature 36.4-37 until humidity is off.	
Neuro-Developmental ❍ Touch times q 3 to 4 hours and prn (Please respect baby's sleep cycle) ❍ 2-person touch/handling ❍ Gentle, firm touch, with slow controlled movements ❍ Head midline, neutral positioning (in supine or side-lying only) ❍ Use bunting, Froggie (never on top of baby), small Z-Flo and Tortle for 360-degree containment and for positioning ❍ Promote hands to face ❍ Position bed so that baby can be approached from both sides ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Silence alarms as quickly as possible; phone ringers set to low ❍ Eye protection during exposure to bright light.	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FIO2 requirement __________% ❍ If intubated is there room to wean or extubate? SETTINGS: ----------------------------- ❍ If on noninvasive support, is patient ready to be weaned off to room air? ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place __________ ❍ HOB elevated ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weight, weigh baby in bunting, except when doing length measurement)), subtract weight of bunting, diaper and hat ❍ Continue TPN ordered at _________ ml/kg/day ❍ Feeding of MOM/DHM if ordered, using feeding protocol ❍ Check residual once per shift and prn if symptomatic ❍ Encourage mom to pump 8-10 times/day for 15-20 min ❍ Offer nonnutritive suck twice a shift and prn	
Other Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) __________ml/kg/day ❍ Vitamin A (M, W, F)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Promote skin to skin holding if infant is able (at least 1-2x/day, > 60 mins) and support parent with transfer technique ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Explain short term goals with plan of care developed during rounds ❍ Introduce resources available for parent support such as social work and sibling visits with Child Life specialist ❍ Work on items from parent checklist	

Tiny Baby Program Week 2 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds. By the end of the infant's week 2 of life, all items on this checklist should be checked off or reason not completed noted.

	Reason incomplete
Thermoregulation ❍ Change incubator on Day of Life 14 ❍ First swaddle sponge/bath on when weaned to 50%, then Q Wed and Sat	
Neuro-Developmental ❍ Skin-to-skin care and start non-nutritive sucking at the breast ❍ Touch times q 3 to 4 hours and prn (Please respect baby's sleep cycle) ❍ 2-person care when handling ❍ Gentle, firm touch, with slow controlled movements ❍ Continue facilitated tuck and flexion, containment and comfort when positioning infant ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Keep noise, odors, touch, light, and negative oral stimuli to a minimum; cover isolette ❍ Eye protection during exposure to bright light ❍ At 32 weeks CGA, start cycled lighting (start with 15-30 minutes at each touch time during the day) ❍ Silence alarms as quickly as possible ❍ Provide positive oral experiences (non-nutritive sucking, gentle suctioning, containment with suctioning, oral suction only when necessary for airway clearance)	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. FiO_2 requirement__________% ❍ If intubated, is there room to wean or extubate? Settings: ________________________ ❍ If on noninvasive support, is patient ready to be weaned off to room air? ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place ❍ Gentle oral, nasal, and endotracheal suctioning with 1st set of cares and then cue based. ❍ Oral care per policy; with colostrum when available and DHM when no colostrum ❍ Caffeine maintenance dose	
Nutrition ❍ Daily weights ❍ Is central line still needed? ❍ Daily weights, length and head circumference Q Saturday ❍ Follow Occupational Therapy's recommendations ❍ Is the baby achieving their weight gain goal (see Registered Dietician's note in LEAP)? ❍ Parenteral nutrition at 90kCal/day ❍ Feeding of MOM/DHM if ordered, using feeding protocol. DOL full feeding were reached __________ ❍ Check residual once per shift and prn if symptomatic	
Other Medications and IV fluids ❍ Antibiotics given if ordered ❍ Total fluids (including TPN, IL, feedings and IV flushes and medications) __________ ml/kg/day ❍ Vitamin A (M, W, F) (12 doses total)	
Labs ❍ Labs drawn as ordered	
Family Centered Care ❍ Parents understand infant's awake and sleep times, and schedule presence at bedside accordingly ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Initial family conference has been scheduled and parents are informed ❍ Parents familiar with unit and hospital amenities i.e. bedside locker, parent lounge, family resource center, parking pass. Finish items on parent checklist.	

Tiny Baby Program Week 3 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds. By the end of the infant's week 3 of life, all items on this checklist should be checked off or reason not completed noted.

	Reason incomplete
Thermoregulation ❍ Swaddle sponge/tub bath Q Wed and Sat if no contraindication ❍ At 33-34 weeks CGA, wean to open crib	
Neuro-Developmental ❍ Respect baby's sleep cycles ❍ Skin-to-skin care and start non-nutritive sucking at the breast ❍ Gentle, firm touch, with slow controlled movements ❍ Midline, flexion, containment and comfort when positioning infant ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Position incubator/crib to facilitate providing care from both sides ❍ Keep giraffe top down unless medical procedure being performed or taking infant out of giraffe ❍ Silence alarms as quickly as possible ❍ At 32 weeks CGA, start cycled lighting (start with 15-30 minutes at each touch time during the day) ❍ At 33 weeks CGA, begin feeding readiness scoring and follow cue-based feeding algorithm ❍ After 34 weeks CGA, gradually increase exposure time to low intensity light during the day ❍ Provide positive oral experiences (non-nutritive sucking)	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90%, high limit 97%) or per order. $Fi0_2$ requirement __________% ❍ At 32 weeks CGA, if on noninvasive support, is patient ready to be weaned off to room air? ❍ If on noninvasive support ensure correct size for prongs and hat, assess skin integrity at all point of contact. ☐ NIPPV ☐ BCPAP Settings:______________☐ Cannulaide in place___________ ❍ At 33 weeks CGA, when was the last CSCE (clinically significant cardiopulmonary event)? ❍ If on caffeine, ready to discontinue therapy?	
Nutrition ❍ Weigh daily ❍ Follow Occupational Therapy's recommendations ❍ Is the baby achieving their weight gain goal (see Registered Dietician's note in LEAP)? ❍ Length and head circumference Q Saturday	
Family Centered Care ❍ Parents comfortable performing daily care i.e. diaper change, taking temperature, transferring completed out of incubator for skin-to-skin ❍ Mother is pumping 8-10 times/day ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Parents educated to infant's next developmental milestone i.e. feeding readiness ❍ Parents informed of and participate in NICU Baby Care Classes. ❍ Parents identify choice for pediatrician ❍ Work on items from parent checklist	

Tiny Baby Program Week 4 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds. By the end of the infant's week 4 of life, all items on this checklist should be checked off or if incomplete the reason

	Reason incomplete
Thermoregulation ❍ Swaddled immersion bath Q Wed and Sat, if no contraindication ❍ At 33-34 weeks CGA, wean to open crib	
Neuro-Developmental ❍ Respect baby's sleep cycles ❍ Skin-to-skin care ❍ Gentle, firm touch, with slow controlled movements ❍ Support facilitated tuck, flexion, containment and comfort when positioning infant ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Position incubator/crib to facilitate providing care from both sides ❍ Silence alarms as quickly as possible ❍ At 33 weeks CGA, begin feeding readiness scoring and follow cue-based feeding algorithm ❍ After 34 weeks CGA, gradually increase exposure time to low intensity light during the day ❍ After 35 weeks CGA, model safe-sleep practice, tummy time and side-lying when awake and supervised	
Respiratory ❍ Pulse oximeter alarm limits set at (low limit 90 % high, high limit 97%) or per order. $Fi0_2$ requirement __________%. ❍ At 33 weeks CGA, when was the last CSCE (clinically significant cardiopulmonary event)? ❍ If on caffeine, ready to discontinue therapy?	
Nutrition ❍ Weigh daily ❍ Follow Occupational Therapy's recommendations ❍ Is the baby achieving their weight gain goal (see Registered Dieticians note in LEAP)? ❍ Length and head circumference Q Saturday ❍ Vitamin supplementation ❍ Mother breastfeeds	
Family Centered Care ❍ Parents educated on baby care and performed independently i.e. bathing, feeding ❍ Mother is pumping 8-10 times/day ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Parents begin education on CPR, Period of Purple Crying, safe sleep, RSV & Synagis, car-seat safety, follow-up care in the community ❍ Parents identify choice for pediatrician ❍ Work on items from parent checklist	

Tiny Baby Program Month 2 Checklist
29 to 31 6/7 weeks GA

This checklist should be reviewed by the care team daily during rounds. By the end of the infant's 2nd month, all items on this checklist should be checked off.

	Reason incomplete
Thermoregulation ❍ Swaddled immersion bath Q Wed and Sat, if no contraindication	
Neuro-Developmental ❍ Respect baby's sleep cycles ❍ Support facilitated tuck, flexion, containment and comfort when positioning infant ❍ Support hand grasping, encouraging hand to mouth/face, and foot bracing ❍ Position crib to facilitate providing care from both sides ❍ Silence alarms as quickly as possible ❍ Provide positive oral experiences i.e. holding and non-nutritive sucking while tube-feeding, offer pacifier while holding ❍ Cue-based feeding per algorithm ❍ Transition to home bottle feeding system at least 2 days prior to DC ❍ After 34 weeks CGA, gradually increase exposure time to low intensity light during the day ❍ After 35 weeks CGA, model safe-sleep practice, tummy time and side-lying when awake and supervised ❍ After 37 weeks CGA, exposure to ambient light during the day and introduce visual stimulation ❍ Complete hearing screen	
Respiratory ❍ At 33 weeks CGA, when was the last CSCE (clinically significant cardiopulmonary event)? ❍ If on caffeine, ready to discontinue therapy?	
Nutrition ❍ Weigh daily ❍ Follow Occupational Therapy's recommendations ❍ Is the baby achieving their weight gain goal (see Registered Dieticians note in LEAP)? ❍ Length and head circumference Q Saturday ❍ Vitamin supplementation ❍ Mother breastfeeds	
Family Centered Care ❍ Parents educated on baby care and performed independently i.e. bathing, feeding ❍ Promote parent bonding/participation in care, encourage them to be at bedside and participate during rounds and decision making with plan of care ❍ Parents begin education on CPR, Period of Purple Crying, safe sleep, RSV & Synagis, car-seat safety, follow-up care in the community ❍ Parents understand immunization schedule post-discharge ❍ Post-discharge medication and administration schedule reviewed with parents ❍ Pediatrician has been identified and verified ❍ Post-discharge lactation support offered ❍ Work on items from parent checklist	

Tiny Baby Program

Primary Care Standards

Loma Linda University Children's Hospital

(Updated and approved by the Committee July 2017)

1. RN Residents may Primary after they have been employed in the NICU for 2 years. The 2 years begins with the start of the internship program.

2. Experienced RN's with 2 years or more of NICU experience may primary after 1 year of employment in the NICU.

3. Travelers may not primary.

4. A Nurse may primary a baby in the Tiny Baby Unit for the baby's entire NICU stay **OR** may choose to primary the baby only while on the Tiny Baby Unit (i.e. not follow the baby once transferred out of the Tiny Baby Unit).

5. The Nurse must sign **herself/himself** up only after caring for the infant at least one shift. Sign up may be done after the shift or any time prior to the next shift as long as TL1 has not made the shift assignment. The only time this is not required is in the case of "previously established relationship." This could be the baby of a friend or previously primaried sibling.

6. Occurrences against the Standards are placed in a file. The first is a notice; the second warrants inability to use Primary Care for advancement or maintenance of Level C (No time constraints on the 2nd offense).

7. Nurses may sign up to primary only one baby at a time. The only exception is for multiples (twins/triplets), which are signed up for as "a unit***." If one of the multiples is in isolation they are still considered part of the "unit." You can not only sign up for the one that is in or out of isolation.***

8. Primary care nurses will not place co-workers on their primary while they are not on shift. The determination of the patient assignment is the responsibility of TL1.

9. Primary Nurses are to collaborate with each other and the multidisciplinary team to form a plan of care. If unable to attend rounds/meetings, forward concerns to another nurse who will be in attendance or a Physician on the infant's team. **Primaries are responsible** for initiating, updating, and reviewing the progress of **PARENT EDUCATION** and **DISCHARGE TEACHING**. For long term, difficult infants, it would be helpful to place a concise plan of care on the hard chart for others to follow.

10. "Breaks" are permitted when Primarying long term/difficult infants or difficult parents. Simply tell TL1 and/or place a note in pencil on the Primary sheet if longer than 1 shift.

11. Reasons to be "bumped" from your Primary: isolation days and staffing emergencies, which include skill level/acuity issues and nurses staying over on a Primary list. Be aware of what types of infants you are able to care for. TL 1 or a charge nurse may remove you from your primary if you are not able to safely care for the infant. When staying over, a nurse may not

choose a list whose Primary will be coming to work but may stay if already assigned to that list.

12. If the experience of a Primaried baby is needed for an orientee, the Primary may choose to take the orientee for that shift rather than be "bumped."

13. **Two primaries on same list:** As more babies are being Primaried, it is becoming increasingly difficult to keep 2 Primaried babies off the same list.
    a. Babies will be moved if possible.
    b. Take another list in the same room and divide the lists amongst yourselves so each has his/her Primary.
    c. If these alternatives are not possible, the Primary on the previous night/day will stay. (Single primary list follows original guide of 1st over 2nd, etc.)
    d. If both on for a first night/day, the First Primary will override the 2nd Primary etc.
    e. If both are First Primaries (or both second, etc), the nurse Primarying his/her baby the longest will be assigned.

14. When a primaried baby is discharged to home or another unit and returns, it is a new admission. The Primaries must sign up again (**IF** they choose…this is not expected or mandatory). The previous Primaries may **NOT** sign up for this baby **IF** they are already signed up on another baby. Before signing up on these babies, give the previous Primaries first option out of courtesy.

15. Primary Care information, forms, and answers to most questions can be found in the Red Resource Book outside room 13. This binder also contains "Happiness is…" cards to post on the beds. Please remember to use these. They act as a visual for the TL when moving babies as well as letting Doctors know the baby has Primaries.

16. You need permission from a charge nurse before visiting a baby on another unit.

17. You may call the unit to check on your primary but, you are not allowed to share any information with anyone else and as long it does not interfere with the care of the infant.

18. Primary Care meetings are held on the 2nd Tuesday of odd months from 5:30-6:30pm in the conference room.

***Primary Care Contacts:**
Coordinator: Krystal Protz
AM Reps: Lin Shabinaw, Annette Gross, Janice Tellefson, Jacey Steinmetz
NOC Reps: Toni Barding, Amanda Christianson

Krystal Protz, RN, BSN
Primary Care Coordinator
Loma Linda University Children's Hospital - NICU
11234 Anderson Street
Loma Linda, California 92354 (909) 558-4403

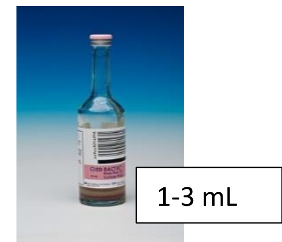
Guidelines – Placental Cord Blood

Procedures for Umbilical Cord Blood Collection for initial admission lab tests
(Beeram et al, 2012; Costakos, 2014)

NICU physician/NNP will order any initial labs on EPIC after baby is born and stable: blood cultures, complete blood count with differential and platelet count, state metabolic screen, blood gas, blood glucose determination and occasionally other tests such as coagulation tests, type and cross match, genomic microarray or karyotype.

NICU Team Leader at delivery will be responsible for collecting cord blood

Supplies needed, provided in cord blood kit) :
CBC tube (lavender micro tube)
Procalcitonin tube (yellow top tube)
Blood culture tube (pink plastic top)
10% Povidone-iodine swabs
1 alcohol wipe
24 g and18 g needles2)
10 ml syringe
Gauze
Sterile gloves
Any additional laboratory tubes needed (see below for amount/color of tube)

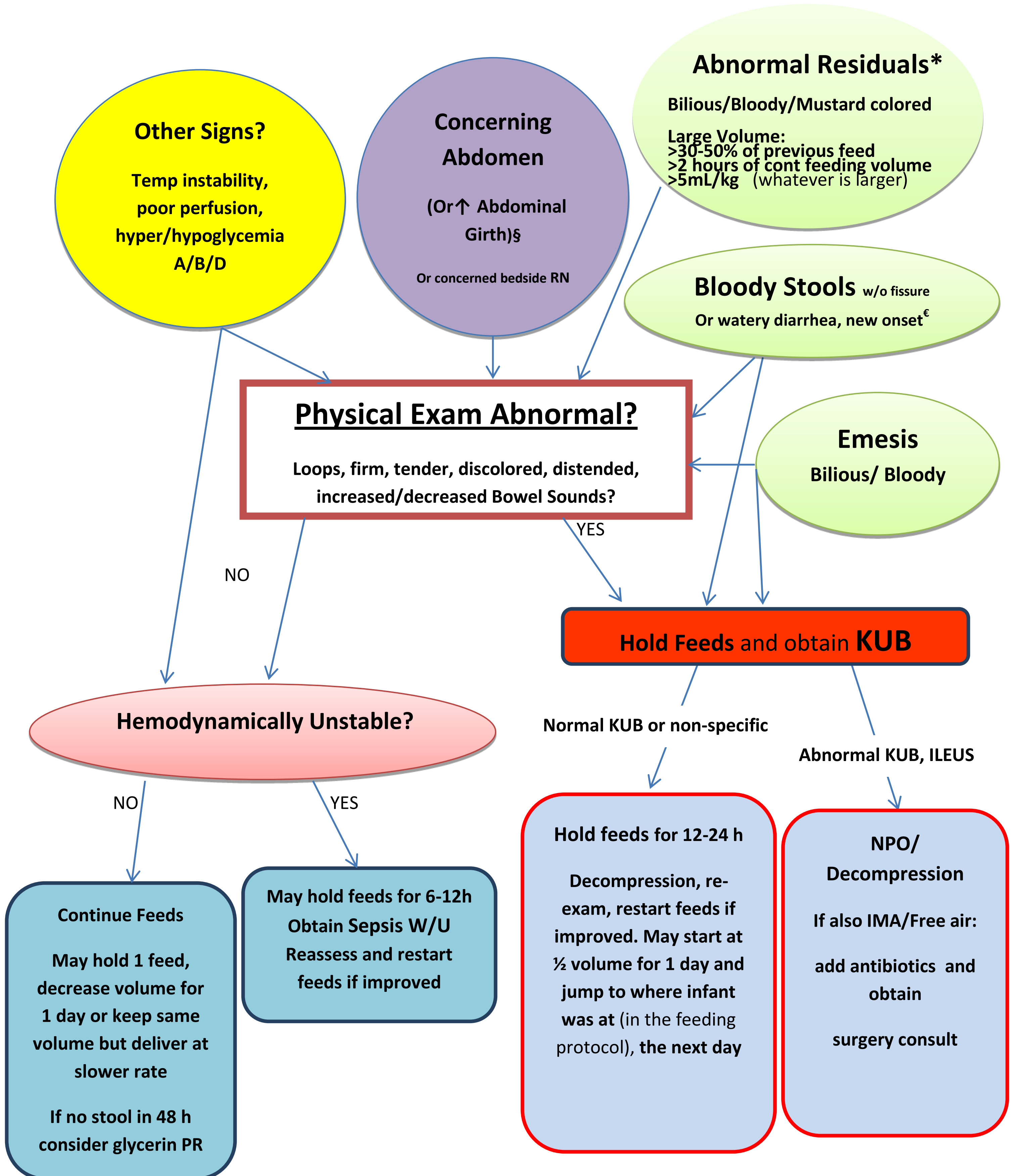


1) Before the placenta is delivered, NICU nurse will notify OB and L&D staff that placental draw is needed and excess umbilical cord is needed for labs
2) After the infant is born, a pair of hemostat clamps will be applied at the distal end of the cord near the neonate's umbilicus and another pair of hemostat clamps applied at the end of the cord near the placenta
3) The segment of the cord in between the clamps will be excised and placed in a sterile container
4) Drawing of blood will be by NICU team leader as soon as infant is stable
5) Don clean gloves and choose a site 4-6 inches on the isolated cord segment
6) Wipe the site with gauze to remove blood. Use the 10% povidone-iodine swabsticks to clean the entire width of the cord within 4 inches of the chosen puncture site. (After cleaning site, do not allow secretions, non-sterile items, or maternal blood, to contaminate the puncture site.)
7) Allow the site to dry (for at least 30 to 60 seconds), and place a sterile needle and sterile syringe on the sterile field.
8) Don sterile gloves
9) Using sterile technique, take the sterile needle and place on the sterile syringe, and insert the needle, with the bevel down, into the cleaned puncture site of the umbilical vein
10) Withdraw the needed amount of blood into the syringe (5 ml for routine labs, 8-9 if more is indicated)
11) Take blood and transfer to appropriate blood tube containers
12) Wipe the top of the blood culture bottle with an alcohol wipe, place a NEW needle and place the remaining blood (about 2 ml or more) into the blood culture bottle.

13) Print labels from work-list on EPIC, obtain correct lab requisition from printer and place the appropriate lab labels with the correct patient, collect the lab on EPIC, and this will label it with the patient's name, medical record number, date, time, specimen type (blood), and collector's name, and send the specimen to lab.

Laboratory Tests	**Amount of blood needed**	**Color tube**
Blood culture	At least 2 ml	Pink plastic top bottle
CBC with Diff	0.5 ml	Lavender micro tube
Blood Gas	0.4 ml	Blood gas tube
PT/PTT	1 ml	Blue tube
Type and Screen	1.5 ml	Pink tube
Microarray/Karyotype	2 ml	Purple tube
Procalcitonin	0.7 ml	Yellow tube
Total	9 ml	

Neonatal Feeding Intolerance
Algorithm 7/2016



Feeding intolerance:

Clinical assessment and integration of several pieces of information are required to ascertain the clinical implications of the findings. A good physical exam is of paramount importance.

***Residuals**: Gastric residuals are for the most part **not significant**, especially if partially digested, isolated episode or small volume: <30-50% of previous bolus (or less than continuous hourly volume X2) OR <5ml/kg (take whatever is larger). Stomach is a reservoir, and therefore bound to have fluid.

Do not check gastric residuals routinely, but do so once a shift and prn when there is a concern and at least 1 sign of intolerance.

Green residuals, if small or just green tinged, can be disregarded when everything else is reassuring. These are often found in infants on opioids or in extremely premature infants with very immature peristalsis.

To decrease residuals:

- Deliver the feeding at slower pace.
- Place infant on right side post feeding. Elevate infant's head.
- Feed lukewarm milk.
- If feeding formula, consider feed formulas with 100% Whey (like Good Start) *(this formulation may not be kosher/halal).*

Consider **residuals significant** if they are of new onset and/or large, particulate, dark bilious/mustard or bloody. Especially if accompanied by abnormal bowel sounds.

Bloody stools: significant if large/grossly bloody-mucousy stool. Small amount of blood in stool with otherwise normal findings **may be due to recto-anal fissures or milk allergy**

[€] **Diarrhea**: significant if new onset of watery, frequent stool (>10/day)

§ Abdominal Girth: Follow q/day. Significant if increases >10% from baseline. Evaluate the trend over time.

Differential Dx for feed intolerance: aerophagia *("CPAP belly")*, overfeeding, position (low head), antibiotic treatment, sedatives/opiates treatment, prematurity.

References:

Groh-Wargo S. Pocket Guide to Neonatal Nutrition, pg 106.

Hansen and Berry. Implementation of nutrition best practice for VLBW. *Nutrition Clinical Practice*, 2015;26: pg 614.

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Hanson C, Sundermeier J, Dugick L, Lyden E, Anderson-Berry, A. Implementation, process and outcomes of nutrition best practices for infants <1500gm. *Nutr Clin Pract*, 2011;26:614-624.

Feeding Intolerance Algorithm, Univ of Michigan, 2009.

Guidelines – Breastfeeding

Supporting Development of Pre-Feeding and Breastfeeding Skills for Preterm Infants

PRE-FEEDING SUPPORT

< 32 WEEKS PCA

Continuous drip feedings with cares every 4 hours

- Neuroprotective, family-centered, developmental care
  - Frequent skin-to-skin contact, positive oral/facial experiences, and oral care per protocol
- Offer breastfeeding practice when skin to skin and awake
  - Licking, smelling, practice suckling (no need for mother to pump prior)
- Offer pacifier during oral care and when baby is awake
  - Wee Thumbie pacifier for <30 weeks
- Support mother's lactation
  - Ask mother how pumping is going - encourage at least 8 times in 24 hours
  - Encourage mother to pump at the bedside
  - Encourage frequent skin-to-skin contact
  - Encourage mother to pump within 30 minutes after holding baby skin to skin
  - Thank mother for providing life-saving milk for her baby
  - Thank partner for providing support to mother and baby
  - Remind parents that breastmilk is medicine for preterm babies

TRANSITIONAL BREASTFEEDING SUPPORT

32 WEEKS PCA

Begin bolus gavage feedings q 3 h per protocol
(120 min x 2 days, 90 min x 2 days, 60 min x 2 days, < 60 min as tolerated)

- Neuroprotective, family-centered, developmental care
  - Frequent skin-to-skin contact, positive oral/facial experiences, and oral care per protocol
- Document feeding readiness scores q 3 hours
  - If score is 1 or 2, offer breast or pacifier with gavage feeds
    - Offer breastfeeding practice if mother is present
    - Offer pacifier practice if mother is not present
  - If score is 3, 4 or 5, gavage only with no breast or pacifier practice
  - Involve parents in assessing feeding readiness scores
- Continue to support mother's pumping and breastfeeding practice
  - Thank mother for providing milk for her baby
  - Thank partner for supporting mother and baby
  - Remind parents that breastmilk is medicine for preterm babies

Guidelines – Pain

NICU PAIN MANAGEMENT July 2017

GENERAL PRINCIPLES

- Identify actual or potential sources of pain for neonate: surgical procedures, invasive/indwelling tubes, heel sticks, suctioning, peritonitis, fractures, renal stones, and noxious environment
- Pain assessment is the fifth vital sign. Assessment for pain should be included with every vital sign measurement.
- Treatment or intervention can be pharmacologic and/or non-pharmacologic, depending on the clinical situation.
- Preference is to start with non-pharmacologic measures and to incorporate with pharmacologic treatment.

ASSESSMENT OF PAIN/SEDATION

- More frequent pain assessments should be performed in the following situations:
  - Invasive tubes or lines other than IVs or feeding tubes: every 2-4 hours
  - Receiving analgesics and/or sedatives: every 2-4 hours
  - One hour after an analgesic is given for pain behaviors – to assess response to medication
  - Post-operative: every 2 hours for 24-48 hours, then every 4 hours until off medication
- Scoring of pain/sedation:
  - The cries or N-PASS (Neonatal Pain, Agitation, and Sedation Scale) can be used to assess pain
  - Treatment/interventions should usually be initiated for scores >3. Some other infants may have a higher baseline score; interventions should then be instituted for consistent elevation in scores. Infants being weaned from opioids may also have a higher baseline score.
  - **A SCORE SHOULD ALWAYS BE EVALUATED WITHIN THE CONTEXT OF THE CLINICAL SITUATION.**
  - The goal of pain treatment/intervention should usually be a score of 3 or less, or a downtrend in the pain score.

NON PHARMACOLOGICAL COMFORT MEASURES

- Implement <u>non-pharmacologic comfort measures first</u> if the infant has no identifiable cause for pain
  - Developmental positioning (knees flexed, arms close to body, hands to mouth), swaddling, nesting, pacifier, reducing environmental stressors (light, noise, handling). Older babies may respond to rocking, holding, massage, soft soothing voice.
  - Grouping assessments and lab draws to minimize number of lab sticks
  - Optimize ventilation: babies become agitated when they are not being adequately ventilated. This should be corrected by optimizing ventilation (suctioning, adjusting ventilator settings).
  - These measures should always be instituted along with analgesics if the infant has an identifiable pain source: i.e., post-op, chest tube, lab draws, etc.
  - Implementation of NIRS whenever possible
- Treat anticipated procedure-related pain prophylactically
  - All babies will tolerate procedures better if swaddled, or contained by parents or other staff members. Efforts should be made to calm the baby before and after the procedure.
  - Sucrose/dextrose water attenuates the pain response and should be considered as an adjunctive measure before during and after any procedure (cumulative effect). Use also for brief, less invasive procedures such as IV starts, heel sticks, etc.
  - Invasive procedures such as chest tubes, abdominal drains, etc. should include IV/intranasal pre-mediation.

NEONATAL SEDATION

- Sedatives do not provide pain relief, but do enhance the effects of opioids. Therefore, sedatives should rarely be given alone, in anticipated pain producing procedures, since it is usually not possible to distinguish between pain and agitation in the neonate.
- Sedatives should be used with caution in preterm infants. Seizure-like myoclonic movements have been observed in preterm infants receiving sedatives. Adverse neurologic outcomes have been associated with prolonged sedative use in preterm infants.

Why Sedate?

- Sedation is very important for many NICU patients. Unmanaged distress can result in long-term detrimental sequelae.
- Increased muscle tone increases energy expenditure and decreases weight gain
- Increased heart rate increases oxygen consumption
- Increased blood pressure increases intracranial pressure in preterm infants
- Restlessness/reduced sleep lead to
  - Impaired rest, reduced growth, increased healing time
  - Behavioral changes leading to “negative infant”
- Excessive body movements lead to
  - Displacement of indwelling catheters and tubes
  - Airway trauma and increased airway secretions
- Resistance to ventilator breaths leads to
  - Impaired oxygenation and pneumothorax
  - Increased pulmonary artery pressure and intracranial pressure

Indications for Sedation:
- Painful procedures
- Prolonged mechanical ventilation
- Need for sedation should be individualized for each patient using clinical observation and behavioral scores

Side Effects of Sedation:
- Does not produce analgesia and may even increase pain
- Can cause hypotension
- May decrease spontaneous respirations
- Long term administration, especially in preterm infants, may lead to neurologic side effects/seizures

Sedation Medications (see Formulary for dosing):
- Barbiturates/Phenobarbital
- Antihistamines
  - Atarax (oral hydroxyzine)
    - Be aware of volume in patients with minimal enteral feeds
    - May use IM form (25 or 50 mg/mL) and give PO
    - Must use around the clock. PRN dosing is not effective
- Benzodiazepines
  - Ativan (lorazepam) - long acting
  - Versed (midazolam) - short acting, rapid onset (1-5 min)
- Provides good sedation/amnesia but NOT anesthesia
- Poor water solubility may cause severe sloughs if infiltrated
- Be aware of Benzyl alcohol in lorazepam (preservative)
  - Cumulative dose must be <100 mg/kg/day. Ask pharmacist for details if starting Ativan drip.

PHARMACOLOGICAL ANALGESIC MEASURES

- Administer sedative and analgesics in the least painful route possible. Oral (Sucrose/glucose and Acetaminophen) and Topical lidocaine (EMLA/LMX)
- Local analgesia/anesthesia with subcutaneous lidocaine
- Intranasal delivery of Fentanyl and Versed (see below)
- IV Analgesia using opiates and non-opiate medication (IV Acetaminophen)

1.Premedication for painful procedures:

Sweet-Ease: (24% sucrose) - for all painful procedures (not as sedative)
  - Give 0.2 mL PO as initial and repeat doses per protocol
  - Give with pacifier at least 2 minutes prior to procedure

- May repeat during procedure per protocol
- Absorbed through buccal mucosa so OK to use when NPO. Releases endorphins, activates endogenous opiods to reduce pain sensation. Is not meant to be digested to be effective.
- Will not eliminate, but often significantly reduces pain. Effectiveness of sweet solutions is supported by much research

2.Topical Anesthesia: LMX-4 (Lidocaine 4% transdermal cream)

- Provides skin analgesia
- Apply 30-45 min before injection or procedure
- Always use prior to LP, immunizations, Epogen, Vitamin A and before sending infant for circumcision (apply to glans and base of penis).
- Effectiveness supported by many studies

3.Local Anesthesia: Lidocaine 0.5% (5 mg/mL) For skin infiltration or nerve blockade

- Maximal dose: 4.5 mg/kg/dose
- Decrease stinging sensation from lidocaine by mixing 0.2 mL of sodium bicarbonate (0.5 mEq/mL) with 0.8 mL of 0.5% lidocaine in the syringe. (Always draw bicarbonate first.)
- Can be used prior to placement of PICC lines, arterial lines, chest tubes, lumbar puncture, etc.
- Always use for circumcision, but never use lidocaine with epinephrine for circumcision (may cause severe vasoconstriction and necrosis)

4. Intranasal Analgesia Morphine IV/Intranasal - for painful procedures (not as sedative). Dose similar to IV dose

- Order for PICC and A-line placement
- May order for rapid sequence intubation in place of Fentanyl
- Takes up to 5 minutes to have an affect

FENTANYL INTRANASAL ADMINISTRATION

- Fentanyl dilution: 10 mcg/mL in NS
- Delivered as intranasal spray (attach TB syringe with dose to sprayer tip)
- To be used in patients with no IV access
- Onset of action is about 5 min
- Starting dose: 1 mcg/kg/dose 0.1 mL/kg/dose
    - If needed, dose can be increased to 2 and 2.5 mcg/kg/dose
- Dosing can be repeated q 5-10 min up to three doses within 30 minutes

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POST-OPERATIVE PAIN- Daily management using opiates and IVAcetaminophen

Following invasive surgery (ie, abdominal/intestinal, neuro- surgery)

Day 1:

- Optimize comfort with environmental changes (adequate bedding, decreased light/sound/touch), decompression, positional measures
- Start morphine drip immediately post op at 20-25 mcg/kg/h
- Start IV Acetaminophen around the clock at dose appropriate for gestational age (see below)
- Consider sedation if agitation is noted

Day 2:

- Continue comfort measures. Wean towards extubation.
- Wean morphine drip to ½ the dose
- Continue Acetaminophen for 48 h in all surgeries, but continue for 5 days in invasive surgeries
- Start Versed drip or round the clock dosing if agitation is noted

Day 3:

- Continue comfort measures. Extubate if possible and not done yet (if TEF, involve surgery in the decision)
- Discontinue morphine drip, but allow prn doses if needed
- Continue Acetaminophen if invasive surgery
- Continue sedation as needed. If on drip consider weaning to prn doses

Days 4 and 5:

- Continue Acetaminophen q 6 h alternating with prn doses of morphine and or Versed if needed.

Post-op Monitoring:

- Provide continuous cardiorespiratory monitoring and continual pulse oximetry when using opioids or sedatives for pain relief or to achieve sedation
- Correct detrimental side effects of the medications
- Use NPASS to score pain and sedation. Evaluate effectiveness of pain medication 30-60 minutes after intervention/drug administration.

ACETAMINOPHEN IV USE FOR NICU Guidelines

- Acetaminophen showed very effective pain control without the side effects of opiate derivatives.
- There is a synergy with narcotics as acetaminophen receptors differ from opiate receptors.
- At this time it is not being considered for continuous drip but in interval dosing in conjunction with narcotics drips. Thereby the narcotic drip may be weaned more readily decreasing the chance of tolerance and addiction.

Use for NPO patients that have the following Indications:

- NPASS scores ≥4 or as requested by ordering MD and
- Anticipated prolonged need for post-op analgesia, especially in infants with bowel surgery where recovery of GI motility is of an essence.
- Patients for whom prompt extubation is a must following surgery, since high narcotic doses will depress respiratory drive:
    - Giving Acetaminophen in conjunction with morphine drip (10-25 mcg/hr) would provide analgesia with lower dose of morphine, allowing weaning and discontinuation of morphine within 48 hours with faster return of spontaneous breathing, BP stability and GI function
- Patients undergoing painful post-op procedures (ie wound debridement) when morphine could be contraindicated due to cardiovascular or respiratory compromise

Dosage:

10-15 mg per kg per dose IV

- 38-40 weeks q 6 h
- 32-38 weeks q 8 h
- ≤31 weeks q 12 h
- Use lower dosage if infant has hyperbilirubinemia

Use up to 5 days post- op (could be shorter if bowel function recovers and patient is extubated)

Contraindication:

Hepatic dysfunction: elevated bilirubin and/or liver enzymes

References:

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2. Pediatric Anesthesia: 24 (2014) 39-48 Review Article: Neonatal Pain
3. Drugs Jan 2009, 69, 1, 101-113, Intravenous Paracetamol (Acetaminophen)
4. Seminars on Fetal and Neonatal Medicine(2006)11, 246-250. Non-pharmacological pain relief.

Guidelines – PDA

NICU PDA Management Protocol

10/2017

Special situations:

- **If chronological age >3 wks,** for medical management use ibuprofen + acetaminophen first → if fails medical management, then surgical ligation
- **PPHN with R→L or bidirectional shunt**: consider iNO, do not treat PDA
- **If Pulmonary hemorrhage**: surgical ligation
- **If small PDA and not able to extubate**: look for other cause of respiratory failure
- **If patient unstable and echo needed off hours, place attending to attending call**

Doses:

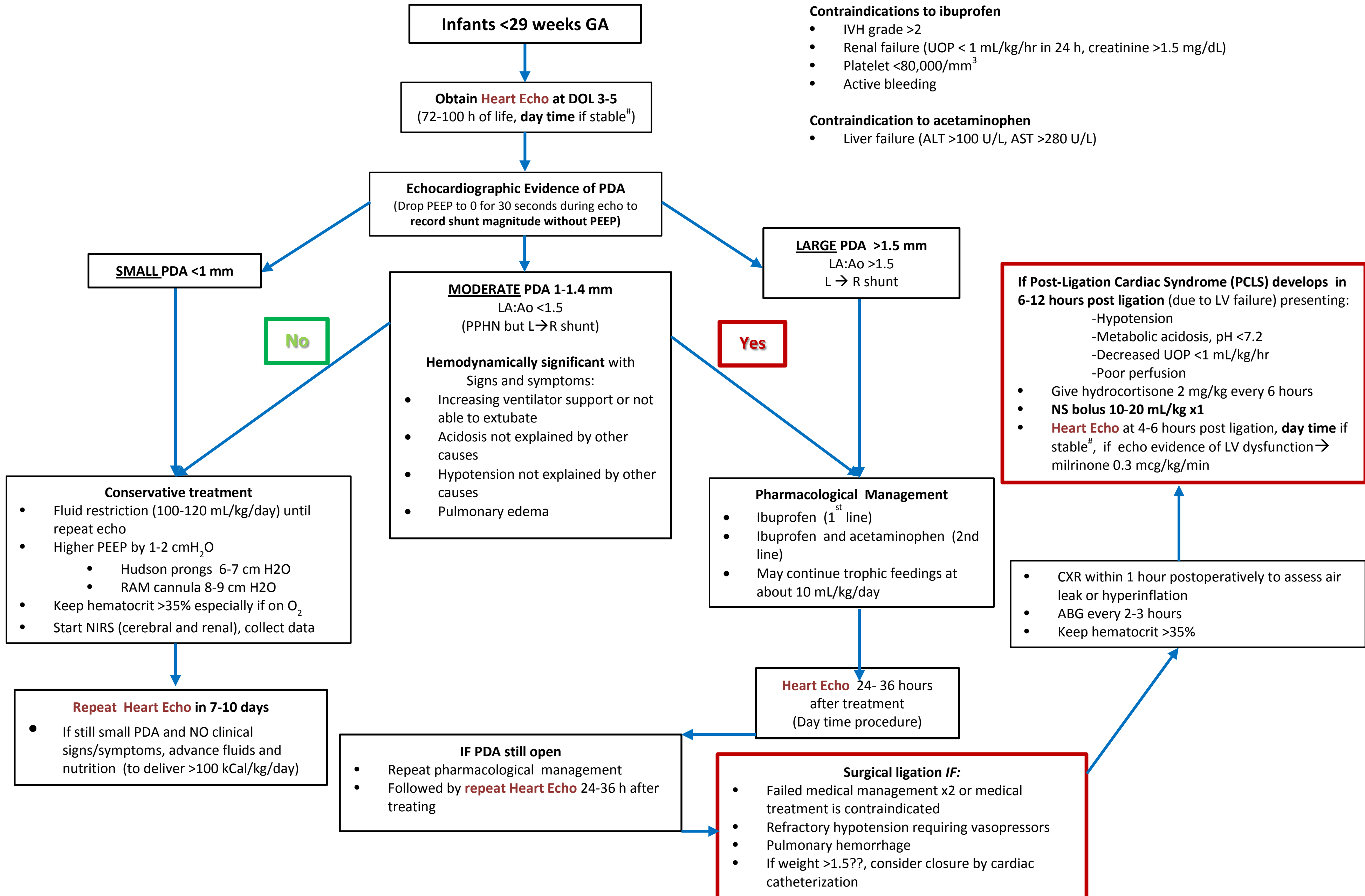
- **Ibuprofen:** IV, 10 mg/kg 1st dose, followed by 5 mg/kg every 24 hours x 2
- **Acetaminophen:** IV, 15 mg/kg/dose every 6 hours for 3 days

Contraindications to ibuprofen

- IVH grade >2
- Renal failure (UOP < 1 mL/kg/hr in 24 h, creatinine >1.5 mg/dL)
- Platelet <80,000/mm^3
- Active bleeding

Contraindication to acetaminophen

- Liver failure (ALT >100 U/L, AST >280 U/L)



DRAFT

NEC Management Protocol
Joint neonatology and pediatric surgery teams

DOCUMENTATION:

Document NEC stage based on Bell criteria in note and problem list including symptoms to justify that stage.

Stage IA	Suspected NEC
Stage IB	Suspected NEC with bloody stool
Stage IIA	Confirmed NEC, mildly ill with pneumatosis intestinalis
Stage IIB	Confirmed NEC, moderately ill with portal venous gas
Stage IIIA	Advanced NEC with organ dysfunction
Stage IIIB	Advanced NEC with pneumoperitoneum

Avoid use of terms such as “NEC watch” or “NEC scare”, etc but may instead use term such as feeding intolerance. If symptoms progress and/or NEC is confirmed, may change to document appropriate bell stage as above. We report to CPQCC infants with NEC stage II and above

FEEDINGS:

- Early re-initiation of feeds with agreement between surgical and neonatal teams (this may be at a time earlier than the completion of antibiotic course).
  - after 3 consecutive days of **normalized physical exam and radiographic imaging**
  - After **platelet count return to baseline**

- Re-initiation of feeding should be with own mother’s expressed breast milk (preferred) or donor breast milk, even for term neonates.
  - Begin at 5 ml/kg/day If tolerated
  - advance to 10mL/kg/day in days 2-3 and to
  - 20,L/kg/day for the reminder of the week.
  - After one week of trophic feeds (no more than 20ml/kg/day) volume may be advanced to reach full feeds in about 10-14 days since initiation

ANTIBIOTIC TREATMENT:

- Aiming at consistent antibiotic length for NEC
  - Stage 1/Suspected: 7 days
  - Stage 2: 10 days
  - Stage 3: 10-14 days
- Tailor antibiotics to cultures. If cultures remain negative then narrow coverage

PREVENTION MEASURES:

1. Use Breast Milk in VLBW infants until 2000 gm and >34 weeks PMA

Transfusions:

Avoid severe anemia. Follow unit guidelines on transfusions:

- Hct < 23% without symptoms
- Hct ≤ 25% if receiving supplemental O2 or mildly symptomatic (A/B/D, poor nippling)
- Hct ≤ 30% if receiving CPAP or minimal mechanical ventilation
- Hct ≤ 35% if any of the following:
  - i. Significant mechanical ventilation (MAP > 8, FIO2 > 40%)

ii. Apnea/bradycardia despite appropriate caffeine therapy (> 9 episodes or 2 events requiring bagging in 24 hours)
iii. Tachycardia (> 180 bpm) or tachypnea (> 80 bpm) persisting for greater than 24 hours
iv. Poor weight gain (<10 gm/day for 4 days) while receiving > 100 kCal/kg/day
v. Prior to major surgery

- Hold a feeding during transfusion (May need to order IV fluids).

2. Avoid prescription of antacids unless clear recommendation for their use (e.g TEF or steroid use)
3. Use antibiotics only with clear indications. They wipe out normal flora for weeks and presidspose to NEC
Consider the use of Probiotics in the future (in Vivo) Working on a protocol for probiotic use now.

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2. Autran, C. A. *et al.* Human milk oligosaccharide composition predicts risk of necrotising enterocolitis in preterm infants. *Gut* gutjnl-2016-312819 (2017). doi:10.1136/gutjnl-2016-312819
3. Blackwood, B. P., Hunter, C. J. & Grabowski, J. Variability in Antibiotic Regimens for Surgical Necrotizing Enterocolitis Highlights the Need for New Guidelines. *Surg. Infect.* (2017). doi:10.1089/sur.2016.163
4. Bohnhorst, B. *et al.* Early feeding after necrotizing enterocolitis in preterm infants. *J. Pediatr.* **143,** 484–487 (2003).
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6. Carter, B. M., Holditch-davis, D., Tanaka, D. & Schwartz, T. A. Relationship of Neonatal Treatments With the Development of Necrotizing Enterocolitis in Preterm Infants. *Nurs. Res.* **61,** 96–102 (2012).
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9. Hall, N. J., Eaton, S. & Pierro, A. Necrotizing enterocolitis: Prevention, treatment, and outcome. *J. Pediatr. Surg.* **48,** 2359–2367 (2013).
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11. Lapillonne, A. *et al.* Use of extensively hydrolysed formula for refeeding neonates postnecrotising enterocolitis: a nationwide survey-based, cross-sectional study. *BMJ Open* **6,** (2016).
12. Reisinger, K. W. *et al.* Noninvasive measurement of intestinal epithelial damage at time of refeeding can predict clinical outcome after necrotizing enterocolitis. *Pediatr. Res.* **73,** 209–213 (2013).
13. Singh, R. *et al.* Association of necrotizing enterocolitis with anemia and packed red blood cell transfusions in preterm infants. *J. Perinatol. Off. J. Calif. Perinat. Assoc.* **31,** 176–182 (2011).
14. Talavera, M. M. *et al.* Quality Improvement Initiative to Reduce the Necrotizing Enterocolitis Rate in Premature Infants. *Pediatrics* **137,** (2016).
15. Sood, B. G., Rambhatla, A., Thomas, R. & Chen, X. Decreased hazard of necrotizing enterocolitis in preterm neonates receiving red cell transfusions. *J. Matern. Fetal Neonatal Med.* **29,** 737–744 (2016).

Notes

Post-Test & Evaluation

1. For connection to the wireless network, select **Loma Linda University.**

   When the login page pops up, type in your username and password (the same ones you use to access your email, etc.)
   Select from the drop-down box **Loma Linda University Medical Center.**
   Click **Login**.
   In the top left corner, the screen will say **Success!**
   You may close the window and use the internet.

2. Please fill out your post-tests and evaluations at this site:
   https://www.surveymonkey.com/r/2018NICUTBPLectureEvals

   Or
   Go to **Google.com**
   Type in: **LLUCH NICU**
   Hit **Enter** or the **Go** key
   Under **Neonatal ICU| Children's Hospital | Loma Linda University**, select **For LLUCH NICU Staff**
   Scroll down to Tiny Baby Program Evaluations, select **Didactic Day**

3. Don't forget to clock in and clock out with the training code (TR).