

NICU FELLOWSHIP STANDARD NICU PROCEDURES

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NICU CARE & PROCEDURES OVERVIEW

Newborn meds – Eyes/thighs within 1-2 hours after birth, Hep B vaccine next day (if born over 2 kg) or at 1 month

Bath – \geq 24 hours (at the earliest)

Hearing Screen – when NG is out and/or soon before discharge

Circumcision – when/who does it, close to discharge

Newborn Screen – on admission, at 48 hours, at 1 month (if born < 2 kg), and as needed for abnormal results

Car seat study – for any babies born less than 37 0/7, less than 1500 g at birth, or at MD discretion

Measurements (head and length) – done weekly on Sunday nights

WHAT DOES FEEDING LOOK LIKE IN THE NICU?





FEEDING CONSIDERATIONS

- Trophic feed duration is now a 3-day period

EnFit system:

- When priming the enteral set, do not prime all the way to the end

Cleaning:

- Insert tip of cleaning tool into opening of tube
- Push down outer sleeve until brushes extend through opening in bottom of mote
- Twist back and forth to clean debris in mote
- May use a sterile water bullet to loosen debris while cleaning
- The tool is disposable and a one-time use

SUCROSE

Policy: Sucrose (oral) & Other Non-pharmacological Interventions for Procedural Pain

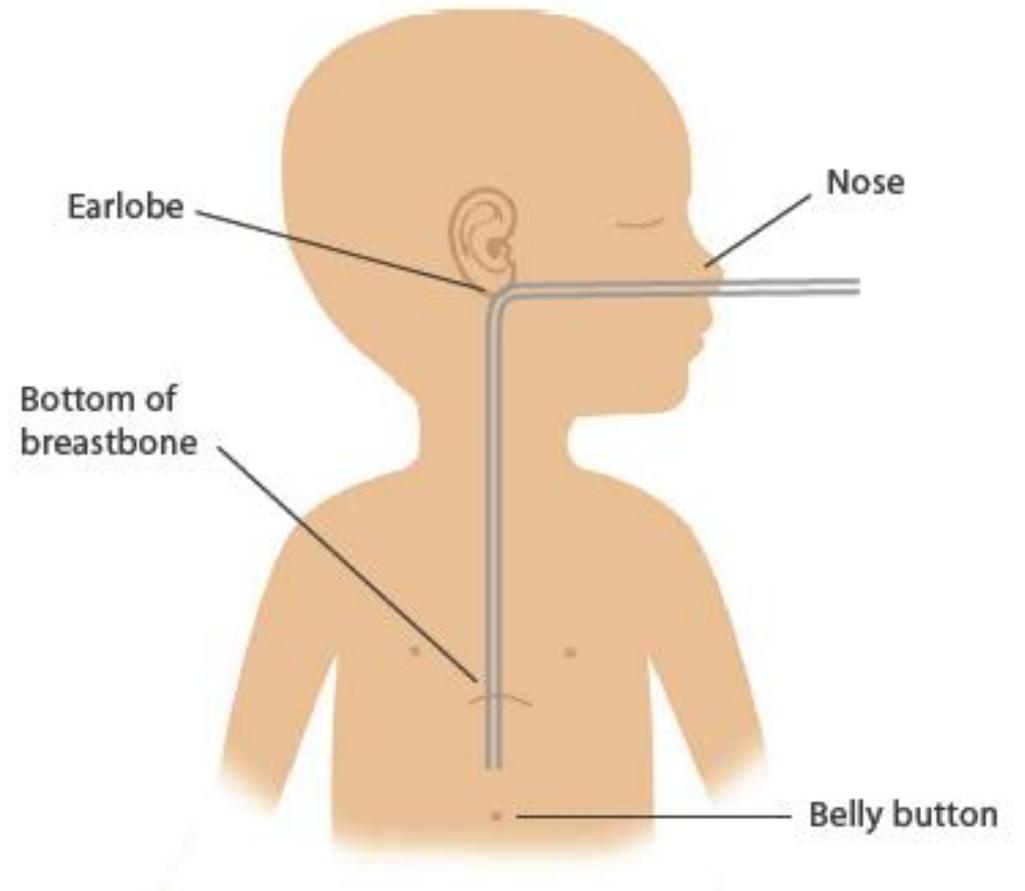
- Should be given for ANY potentially painful procedure, even if NPO
 - Art sticks
 - Eye exams
 - Dressing change / tape removal
 - NG/OG placement
 - IM injection
 - Venipuncture
 - Lumbar puncture
 - PIV insertion
 - Urinary catheterization
- Place drops on buccal membrane
 - 0.1 - 0.2mL (2.5 - 5 drops)
 - Takes 2 minutes to take effect, lasts approximately 5-10 minutes



NG/OG CARE

Policy: Enteral Tube Feeding

- Changed every 7 days
- Label with date and day of the week the tube was placed
- Replace if inadvertently pulled out
- Measure by placing the tip of the feeding tube at the tip of the nose to the base of the earlobe, then halfway between the xiphoid process and the umbilicus



SUMMARY OF FEEDING INITIATION, ADVANCEMENT, & FORTIFICATION

Birth Weight or Gestational Age at Birth	Start with	Initiate Feeds at Trophic x3 days?	Advance by	Fortify MBM & DBM directly to 24kcal with HMF at	Goal Volume
<1000g or <28w0d	15-20 ml/kg	YES	20 ml/kg/d	≥ 60 ml/kg	≥ 150-160ml/kg/d
1000g-2000g or 28w0d – 32w6d	30 ml/kg	NO	30 ml/kg/d	≥ 60 ml/kg and at least 72 hours of feeds	≥ 150-160ml/kg/d
>2000g or ≥34w0d	40 ml/kg (ad lib demand for ≥36w0d if clinically appropriate)	NO	30-40 ml/kg/d	≥ 60 ml/kg and at least 72 hours of feeds If ≥35w0d, HMF may not be needed	150-160ml/kg/d
>35w0d with wt-for-age >95%ile	40 ml/kg	NO	30-40 ml/kg/d	n/a	120-140 ml/kg/d until decreasing wt-for-age %ile

NG/OG FEEDING

Policy: Enteral Tube Feeding

- Continuous gtt vs bolus feedings
 - Tubing changed once per 24 hours (on nights)
- Do not warm if gavaging for an hour or more
- Oral Immune/Milk Drop therapy if not nipple feeding
 - Follow cues
 - Watch for tolerance of baby
 - MBM/DBM/Formula

12. Feedings:

- Feeding tube connection/cap site will be kept clean
 - When verifying placement, use a new syringe each time
 - Intermittent (for example, feedings given over 30 minutes, 1 hour or 2 hours)
 - Verify placement of feeding tube prior to each feeding
 - Prepare feeding syringe with exact feeding amount ordered
 - Warm feeding if it is to be given over less than 1 hour utilizing the milk warmer. (Refer to NICU policy entitled, "Medela Waterless Milk Warmer"
 - Attach feeding syringe to extension tubing and prime. Attach extension tubing to feeding tube. If the infant is in an incubator, the extension tubing will be placed through an access port; not a port hole.
 - Place syringe onto feeding pump
 - Program feeding pump and set feeding time for 30 minutes or as per order
 - Offer pacifier during feeding when appropriate
 - After infusion complete, manually clear tubing of residual feeding with air over at least a few minutes; slow as needed per infant tolerates
 - Disconnect syringe and extension tubing from feeding tube, discard and cap feeding tube
 - Continuous drip
 - Verify placement of feeding tube with hands on cares
 - Prepare feeding syringe with up to 4 hours of feeding amount, attach to extension tubing and prime. Attach extension tubing to feeding tube
 - Warming is not recommended for continuous feedings
 - Place syringe onto feeding pump
 - Program feeding pump and set rate as per order
 - Begin infusion
13. Assess skin integrity of tube insertion site and surrounding area with hands on cares
14. When removing the feeding tube pinch the tube or close feeding tube cap
15. Discard gloves, syringe, and feeding tube in universal trash bag

WHY DO WE SAY BREASTMILK IS LIQUID GOLD?

DID YOU EVER WONDER WHAT'S IN... ?

BREASTMILK

Water	87%
Lactose	7%
Protein	1%
Fat	4%
Minerals	0.1%
Vitamins	0.1%
Enzymes	0.1%
Antibodies	0.1%
Cells	0.1%
...and many other beneficial components	

FORMULA

Water	87%
Lactose	7%
Protein	1%
Fat	4%
Minerals	0.1%
Vitamins	0.1%
Enzymes	0.1%
Antibodies	0.1%
Cells	0.1%
...and many other beneficial components	



ORAL CARES & MILK DROPS

Oral Cares:

- Purpose: Improved intestinal absorption of milk-derived immune proteins (lactoferrin and sIgA) when administered this way
- Started on first day of life
- Administer 0.2 ml (0.1 ml on each side) human milk oral immune therapy in the infant's cheek, toward the posterior oropharynx/buccal mucosa

Milk Drops:

- Place a drop of milk on infant's lips
- *As the infant licks at the drops, pacifier is offered
- *Infant becomes a PARTICIPANT!



BREASTFEEDING AND THE NICU

Breast is best

Pump early Pump often

Establishing a supply

Skin to Skin

Non-nutritive breastfeeding 32-34 weeks

Breastfeeding attempts, pre/post weights

Positioning – football can be easier for premature babes to latch and transfer

Nipple shields- not a permanent option- it's a patch

Set expectations and offer encouragement



BOTTLE CLEANING

- Wash bottle and all pieces after every feeding with warm soapy water
 - Use bottle brush on bottle and parts, and brush end on nipple
 - Use small metal brush on inner pieces
 - Microbiomes
 - Lay out in bin on a clean paper towel (not washcloth!) to dry
 - Store in cabinet
- Steam all parts once every shift (bottle brush daily)
- Replace small metal brush daily (with liner). Do not microwave!



VENTROL TUBE

Policy: Sump vented double lumen gastric tube--placing and maintaining

- Blue lumen is ventilation lumen – leave open to air (flush with air only)
- Low continuous suction 40 – 60 mmHg
 - Low suction to prevent mucosal irritation
- Larger/shorter lumen is drainage lumen
 - NS or air to flush (do not use sterile water)
- If sump is to dependent drainage/gravity only, use air to irrigate

10. If placed to dependent drainage/gravity:
 - a. Attach the sump tube drainage lumen (gray or green) to a specimen trap. A syringe maybe used for short periods of time if needed (i.e., holding)
 - b. Leave the side ventilation lumen (blue) open to air and keep it positioned above the level of the infant's stomach
11. If suction is ordered
 - a. Attach the sump tube drainage lumen to the flexible rubber tubing on the specimen trap
 - b. Connect the suction tubing to the port on top of the specimen trap. The other end of the suction tubing is attached to the suction canister. Apply suction amount per MD/NNP order. Low continuous suction = 40-60 mmHg, Moderate continuous suction = 60-80 mmHg
 - c. Leave the side ventilation lumen (blue) open to air and keep it positioned above the level of the infant's stomach
12. Irrigation fluid and amount is to be ordered by MD/NNP
 - a. Fluid irrigant is to be instilled via the sump tube drainage lumen and allowed to drain by suction
 - i. If unable to irrigate, remove the sump tube and insert a new one
 - ii. If the sump tube is to dependent drainage/gravity, only use air to irrigate it
 - b. The ventilation lumen should be not aspirated but can be flushed with air. If fluid is noted in the lumen or the lumen is occluded flush with air
13. Monitor and document gastric output amount, color and consistency. Notify MD/NNP of any change in drainage, color and/or quantity
14. Assess skin integrity at the insertion site and surrounding tissue for color, quality of perfusion, and possible area of pressure or excoriation
15. If the sump tube has been placed in x-ray by a physician, do not remove, reposition or replace without an order from the physician that placed it
16. When removing, pinch the tube off and promptly pull it out

DOCUMENTATION:

In electronic medical record:

1. Insertion of sump tube, size and location
2. Verification of tube placement and patency
3. Dependent drainage/gravity or suction
4. Color and consistency of gastric drainage
5. Type and amount of irrigant
6. Amount of drainage obtained
7. Skin integrity of insertion site and surrounding tissue



GASTROESOPHAGEAL REFLUX (GER)

Spontaneous passage of gastric contents into the esophagus

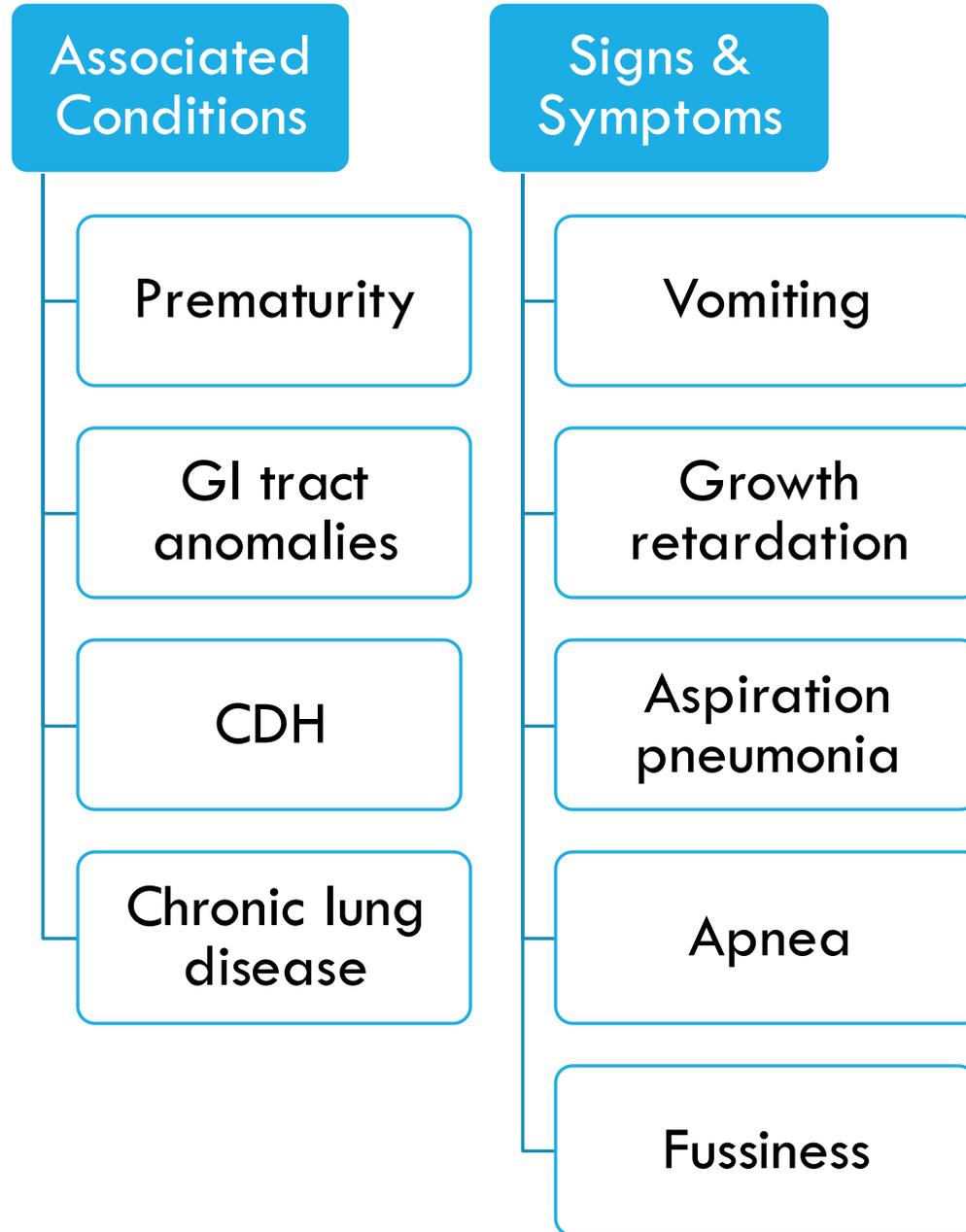
In preterm infants, regurgitation of small quantities of fluid usually only reach the pharynx and do not enter the larynx

Reflux is considered physiologic as long as the infant continues to thrive and has no complications

Transient relaxation of the lower esophageal sphincter

Delayed gastric emptying and decreased esophageal motility

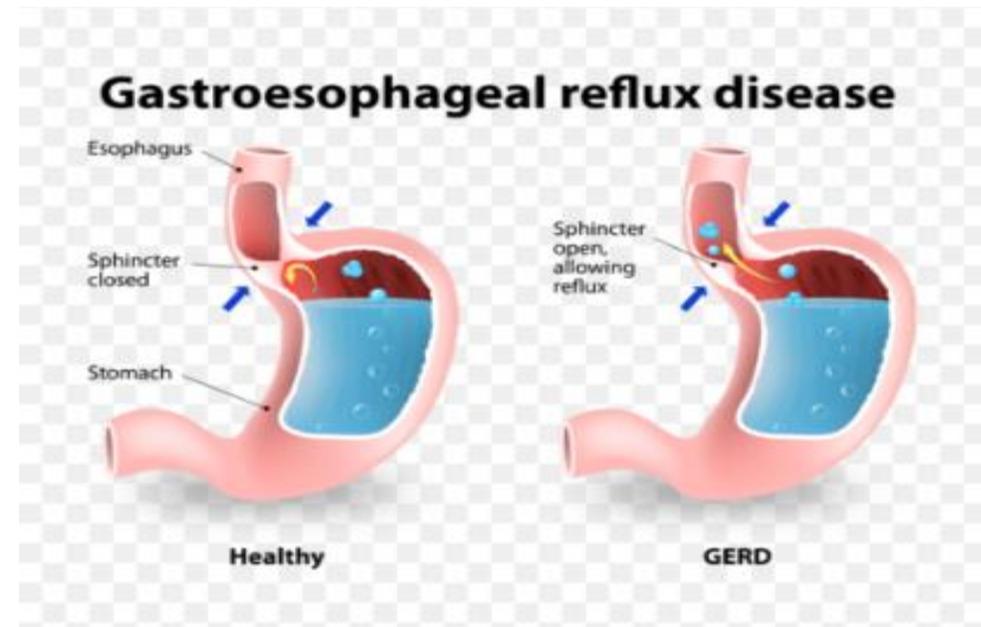
GER



GER

Clinical presentation

- Feeding difficulties
 - Regurgitation
 - Gagging
 - Feeding refusal
 - Aspiration
 - Failure to thrive
- Apnea



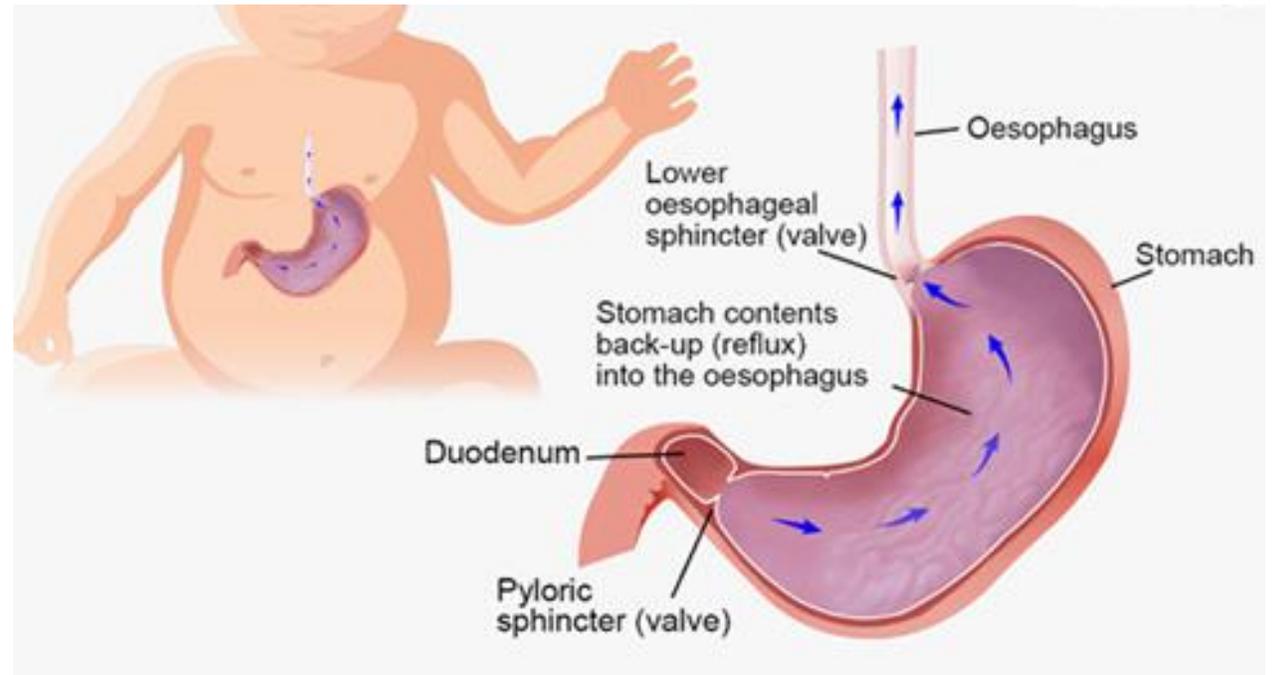
Diagnosis

- Swallow study/UGI
- Esophageal pH probe – detect acid reflux only
- Endoscopy

GER

Medical Management

- Frequent small feedings
- Frequent burping
- Holding upright for 30 minutes after feedings
- Avoid pressure on abdomen during feeding
- Most infants require no intervention
- Most effective way to treat is time



EVERYBODY POOPS

Meconium Plug

1 in 100 newborns

Obstruction of the distal end of intestines

75% expel plug spontaneously

25% may need intervention

May be associated with Hirschsprung's disease or cystic fibrosis

Plug is yellowish white and gelatinous



NECROTIZING ENTEROCOLITIS (NEC)

Acquired disease that affects the GI system

Characterized by inflammation of the bowel wall followed by areas of necrosis

Occurs most commonly in infants less than 32 weeks gestation

Usually presents after the first week of life and has been associated with aggressive enteral feedings

NEC

Etiology

- Intestinal ischemia
- Bacterial colonization
- Enteral feedings
- Chorioamnionitis-prolonged rupture of membranes
- Genetic



Signs & Symptoms

- Abdominal distention, dusky/discolored abdomen, tenderness, visible bowel loops
- Feeding intolerance / vomiting
- Bloody stools
- Lethargy / extreme fussiness
- Apnea and bradycardia
- Temperature instability
- Diminished urine output
- Hypoperfusion
- Hypotension
- Mottled color, pale, greyish appearing
- Gastric residuals
- Abnormal labs: CBC, chemistry, blood gas, clotting factors

NEC

Nursing care

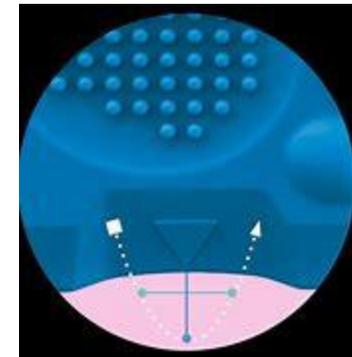
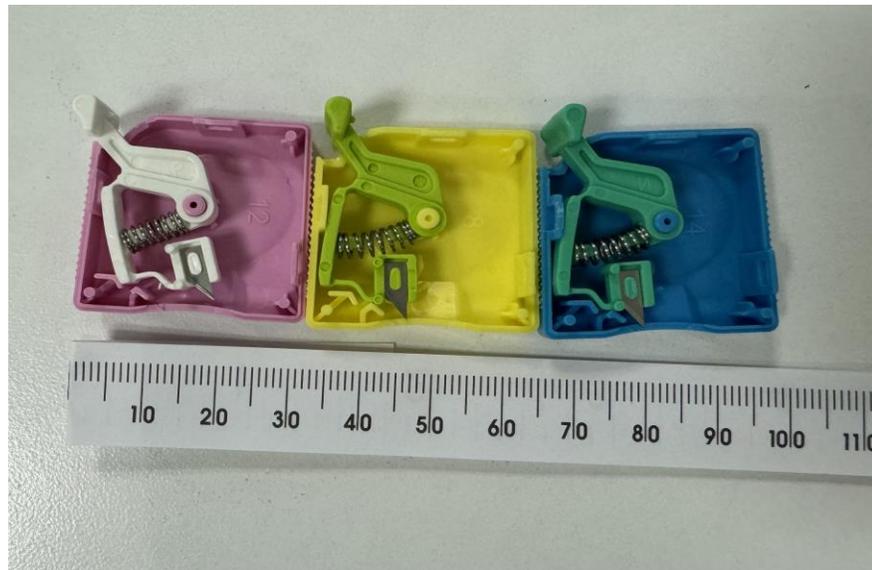
- Place a double lumen tube (to suction) to rest the bowel- NPO
- Antibiotics
- Frequent CBCs and electrolytes
- Serial abdominal films (Q6H)

Treatment

- Actual procedures are dependent on condition, age of infant, and amount of necrosis
- NPO
- FEN Management
- Surgery to remove necrotic bowel
- Peritoneal drain for bowel perforation

HEEL SAMPLING BEST PRACTICE VIDEO

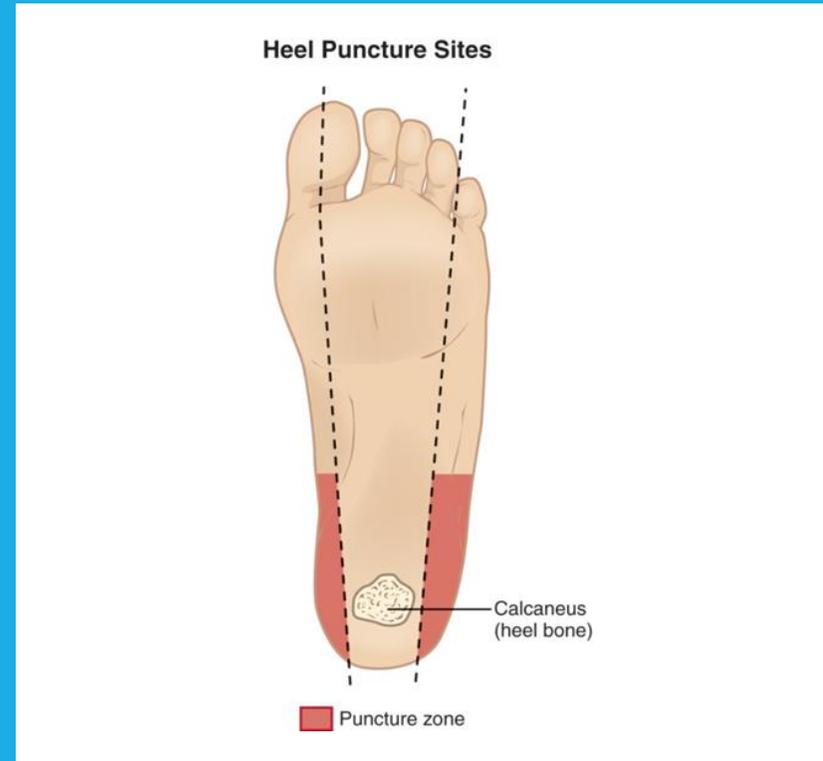
<https://youtu.be/67iCV7pNbJY?si=sMxgS6UJk749GAMx>



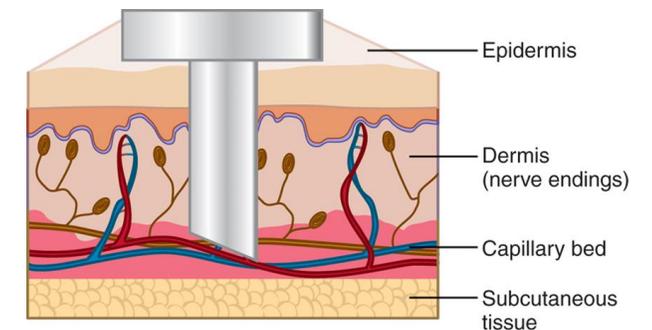
LAB DRAWS-CAPILLARY

Policy: Capillary Heel Stick Blood Sampling

- Sucrose
- Check patient ID every time
- Get comfortable with your technique
- Hot pack 1-5 minutes
- Turn phototherapy lights off
- Alternate pressure and relaxation
- Invert all specimens 10 times after lab draw

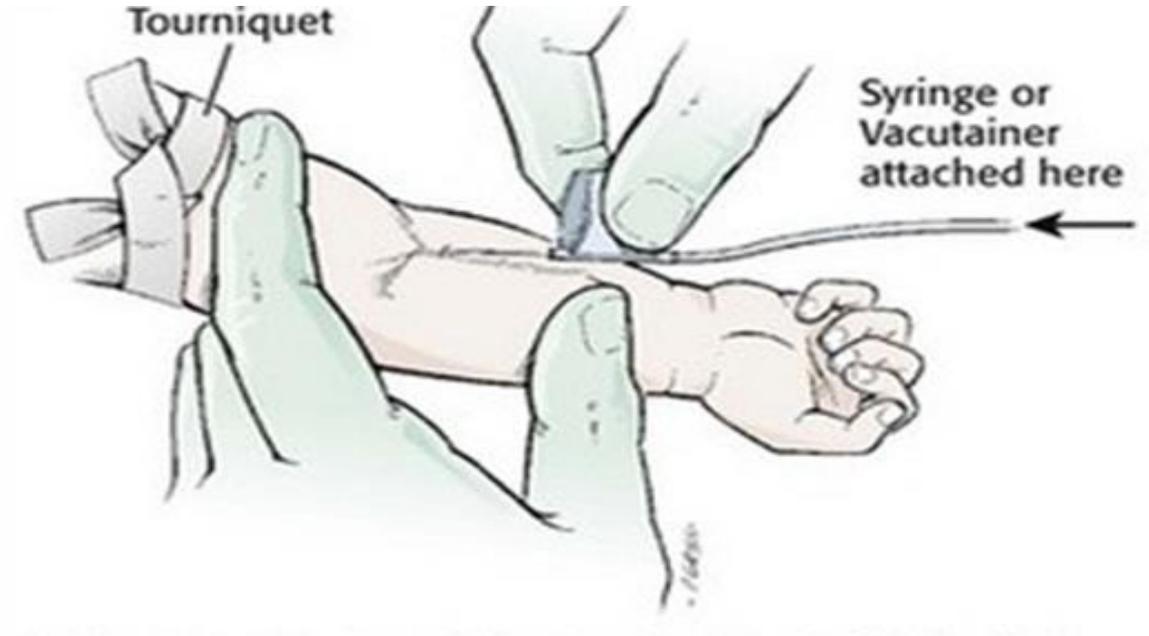


<https://youtu.be/80aRZD5xMaY?si=cxqeStMyyJWuy1G1>



Policy: Venipuncture Blood Sampling

- Anchor vein
- Position needle with bevel up
- Insert at 15 – 30 degree angle
- Avoid advancing needle like when starting a PIV
- Must insert at angle so blood can flow over bevel



***Invert all specimens 10 times after drawn

LAB DRAWS - VENOUS

Order of Draw for
Venous Puncture/Line
Draw:

- Blood Cultures
- Blood gas
- Sage
- Blue
- Purple
- Lavender
- Green
- Gold
- Newborn Screen

Order of Draw for
Dermal Puncture:

- Capillary blood gas
- Lavender
- Green
- Gold
- Newborn Screen



ORDER FOR LAB DRAWS

TIPS FOR PREVENTING LAB CLOTTING AND HEMOLYSIS

Clotting - CBC

Avoid scraping the foot (you are scraping partially clotted blood at the site)

Move the foot to allow blood to drop rather than run down the foot

Mix blood (blood must come in contact with the sides of tube to mix with the additive.
Tip it upside down, 10 times to adequately mix

If you are having problems with specimens clotting:

Consider using 2 hot packs (one on the foot and one on the leg)

Utilize a buddy to invert the specimen and/or send it right away

TIPS FOR PREVENTING LAB CLOTTING AND HEMOLYSIS

Clotting - CBG



Try to use 3-4 drops only



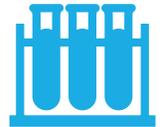
When you have a small drop, wait and squeeze again to get a full drop



Mix well



Have a buddy send specimen to lab for you when needed

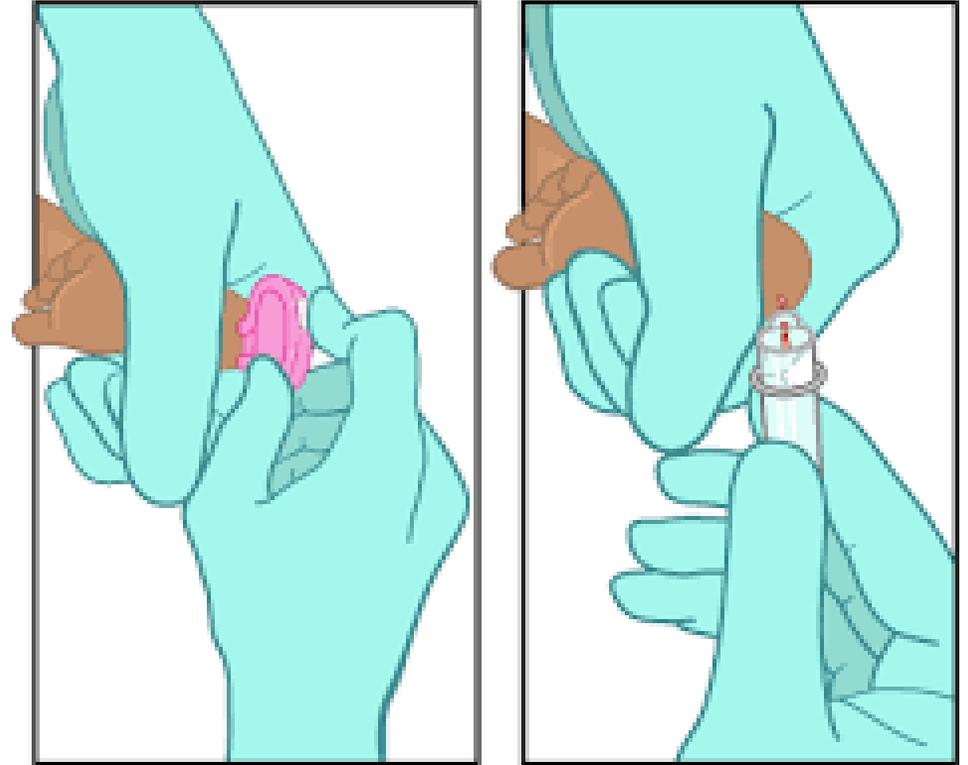


Avoid sending multiple CBG's from the unit to lab at a time (only one machine)

TIPS FOR PREVENTING LAB CLOTTING AND HEMOLYSIS

Hemolysis

- Make sure you waste the first drop of blood
 - This also helps wipe the excess alcohol off
- Avoid excessive squeezing/milking of heel
 - If the baby is not bleeding well, poke again



LAB REMINDERS

- ❖ Make sure you sign your lab in the computer before sending
- ❖ All labs are doubled bagged before sending
- ❖ Send cap gas in tube with blue lid
- ❖ Send newborn screen in bag separate from other labs
- ❖ Do NOT send anything that cannot be re-collected or is non-replaceable via the tube system: spinal fluid, ACTH stim test sample, first urine or meconium...etc.



CARE OF NEONATAL SKIN

NICU Diaper Dermatitis Guidelines

<p>Skin Assessment</p>	<ul style="list-style-type: none"> • Skin intact • High risk for skin breakdown: <ul style="list-style-type: none"> ◦ Frequent stools ◦ Loose stools • Without redness 	<ul style="list-style-type: none"> • Skin intact • Higher risk for skin breakdown: <ul style="list-style-type: none"> ◦ On antibiotics ◦ Opiate withdrawal ◦ Human milk or formula > 20cal • Without redness 	<ul style="list-style-type: none"> • Skin intact • With redness • No fungal rash 	<ul style="list-style-type: none"> • Skin intact • With redness • Evidence of fungal rash*** 	<ul style="list-style-type: none"> • Skin breakdown ** • No fungal rash 	<ul style="list-style-type: none"> • Skin breakdown** • Evidence of fungal rash*** 
<p>Goal of Treatment</p>	Prevent skin breakdown	Prevent skin breakdown; Provide a barrier	Prevent skin breakdown; Provide a barrier	Prevent skin breakdown; Treat fungal rash; Provide a barrier	Prevent further skin breakdown; Provide a barrier	Prevent further skin breakdown; Treat fungal rash; Provide a barrier
<p>Treatment</p>	Vaseline	<u>Desitin</u>	<u>Desitin</u>	Antifungal then <u>Desitin</u>	Pectin Powder then <u>Desitin</u> or No Sting Barrier- on infants >30 days old	Antifungal then <u>Desitin</u>
<p>Application Instructions</p>	Apply a thick layer* of Vaseline	Apply a thick layer* of <u>Desitin</u> With each diaper change remove stool leaving a layer of <u>Desitin</u> , apply more if needed	Apply a thick layer* of <u>Desitin</u> With each diaper change remove stool leaving a layer of <u>Desitin</u> , apply more if needed	Apply Antifungal then a thick layer* of <u>Desitin</u> Between applications or remove stool leaving a layer of <u>Desitin</u> , apply more if needed	Apply a thin layer of pectin powder to open areas. Brush off excess. Then apply a thick layer* of <u>Desitin</u> With each diaper change remove stool leaving a layer of <u>Desitin</u> . Apply more pectin powder and/or <u>Desitin</u> if needed OR No Sting Barrier- see below	Apply Antifungal then a thick layer* of <u>Desitin</u> Between applications or medication with each diaper change remove stool leaving a layer of <u>Desitin</u> , apply more if needed
<p>Additional Information</p>	<ul style="list-style-type: none"> • Change diapers frequently • After bathing, allow skin to dry (may use medical air/yellow outlet) and reapply appropriate ointment/barrier • To promote moist wound healing do not leave the diaper open to air • If any rash is present notify NNP to evaluate. Prompt antifungal treatment can prevent further injury to the skin • <u>Sitz Bath</u>: May be beneficial in treating open areas not responding to use of other barriers. Soak infant's buttock in tub of warm shallow water for ≈ 10 minutes (or as tolerated), gently pat skin or use medical air/yellow outlet to dry and reapply appropriate ointment/barrier within a few minutes. May be done once or twice a day. • <u>No Sting Barrier</u>: Provides a waterproof barrier. To apply uniformly by holding buttocks apart, begin at the anus and apply in a circular manner. Continue to hold buttocks apart until dry. If an area is missed reapply once first application has dried. Do not use with other products. Contraindicated on fungal rash. Reapplication recommended Q 24-72 hrs after bathing. With frequent <u>sitz</u> baths more frequent application (Q 12-24 hrs) MAY be necessary. 					
<p>* Thick layer = like icing on a cake ** Skin breakdown = Skin with moist, open, oozing ulceration *** Fungal rash = Fiery red skin with oval/dotty lesions scattered at edges (satellite lesions, usually involves skin folds, skin may or may not be broken down)</p>						

Adapted from AWOHHN, (2018), Neonatal Skin Care Evidence Based Clinical Practice Guidelines (4th ed.), REV 10-2020

BATHING

Initial bath will be given after cardiorespiratory and thermal stability have been achieved. This may not be until a minimum of 24 hours of age.

a. The newborn's temperature must be $> 98^{\circ}\text{F}$ axillary on two sets of vitals within 4 hours.

b. The newborn must have a stable blood sugar of > 40 mg/dL

2. Ensure a thermal neutral environment to minimize newborn heat loss during bathing:

a. Bath water temperature should be 100°F to $< 104^{\circ}\text{F}$ (38°C to $< 40^{\circ}\text{C}$)

b. Room temperature should be 79°F to 81°F (26°C to 28°C)

c. Minimize air currents by closing the room door

d. Use pre-warmed towels/blankets for drying

*See References



Neonatal Skin Assessment, Care, and Treatment policy

First Bath

- a. Infants born at < 26 weeks, can be given first bath once the infant is 2 weeks old and achieves thermal and cardio-respiratory stability. Sterile water may be used as needed to cleanse soiled areas prior to this time.
- b. Infants born 26 0/7 to 29 6/7 weeks can be given first bath on day 4 of life and achieves thermal and cardio-respiratory stability
- c. Infants \geq 30 weeks, can be given first bath once infant is 24 hours old and achieves thermal and cardio-respiratory stability
- d. Any infant whose mother has history of/or suspected HIV infection or Hepatitis B or C should be bathed as soon as stable to minimize the risk of transmission of infectious agents. Other newly identified infections may also apply, refer to infection control recommendations regarding these infections and recommendations.
- e. If > 32 weeks, may use minimal amount of cleanser if needed to assist with removal of blood and amniotic fluid
- f. Keep duration of bath as short as possible
- g. Leave vernix on the skin
 - i. Provides protection against infection, decreases skin permeability and transepidermal water loss, cleanses and moisturizes skin, aids in pH development, wound healing and temperature regulation
 - ii. If skin is contaminated with blood, meconium, or other debris, gently remove the contaminant. Do not scrub to remove all vernix

WHAT IS CPAP?

Continuous Positive Airway Pressure (CPAP)

- Maintain positive end-expiratory pressure (PEEP)
- Prevent alveolar collapse



CPAP

Considerations:

- O2 blender
- Mask or prongs/cannula/ flexitrunk
- Initial setting usually a PEEP of 5 or 6
- Chest X-ray
- Blood gas

Nursing management:

- Proper fit
- Assess nasal septum
- Always use lowest O2 needed

FLEXITRUNK VS RAM CANNULA

[How to fit the F&P FlexiTrunk™ CPAP interface - F&P Healthcare on Vimeo](#)



WHAT IS THERMOREGULATION?

Policy: Thermoregulation

- A balance of heat loss, heat gain, and heat production
- Maintaining a neutral thermal environment (NTE)
 - Infant's metabolic rate and oxygen consumption are at a minimum while normal body temperature is maintained

METHODS OF HEAT LOSS

Radiation	Conduction	Convection	Evaporation
<ul style="list-style-type: none">• Cold room temp• Cold walls• Cold items on bed	<ul style="list-style-type: none">• Cold scale• Cold x-ray plates• Cold blankets	<ul style="list-style-type: none">• Bed near air vent• Oxygen left on• Passing traffic	<ul style="list-style-type: none">• Wet diaper/clothes• Bath• Tachypnea

PANDA



- Full access to baby
- Used during stabilization process and observation in well nursery
- Ability to give PPV

OMNIBED



- Easy, quick access to baby
- Incubator and radiant warmer in one device
- One touch canopy lift
- Humidity option
- Skin Probe Placement
- Comfort Zone
- Baby Susan
- Air boost

INCUBATOR



- Humidity
- Baby Susan
- Air boost

Warmer

Baby Temp (°C)
36.5
44:06

APGAR On/Off

Set Temp
36.5

Mode
Manual Baby

Pulse Rate
140

SpO2
98

Menu

Wednesday, April 21, 2009 2:24 PM

EQUIPMENT I.D. #
064791



NAME: BIRTH G.A.: DOB: LAST WT: 1550 g

BABY TEMP
No Temperature
Probe Attached

AIR MODE
SET TEMP
83.5 °F
AIR TEMP
83.7 °F
Alarms

Air Boost

Humidity

Timer



Scale

Trends

Setup

Help

Skin Temp Alarm Disabled

8:30 Wed 07/07/2021

EQUIPMENT I.D. #
079249



NAME: BIRTH G.A.: DOB: LAST WT: 710 g

BABY MODE

BABY TEMP
97.5
°F 99.9
96.3

SET TEMP
98.1
°F
Alarms

AIR TEMP
85.2
°F

Air Boost

Humidity
71
%
Set 65%

Timer



Scale

Trends

Setup

Help

TEMP PROBE

Place over soft, non-bony tissue
(abdomen or back)

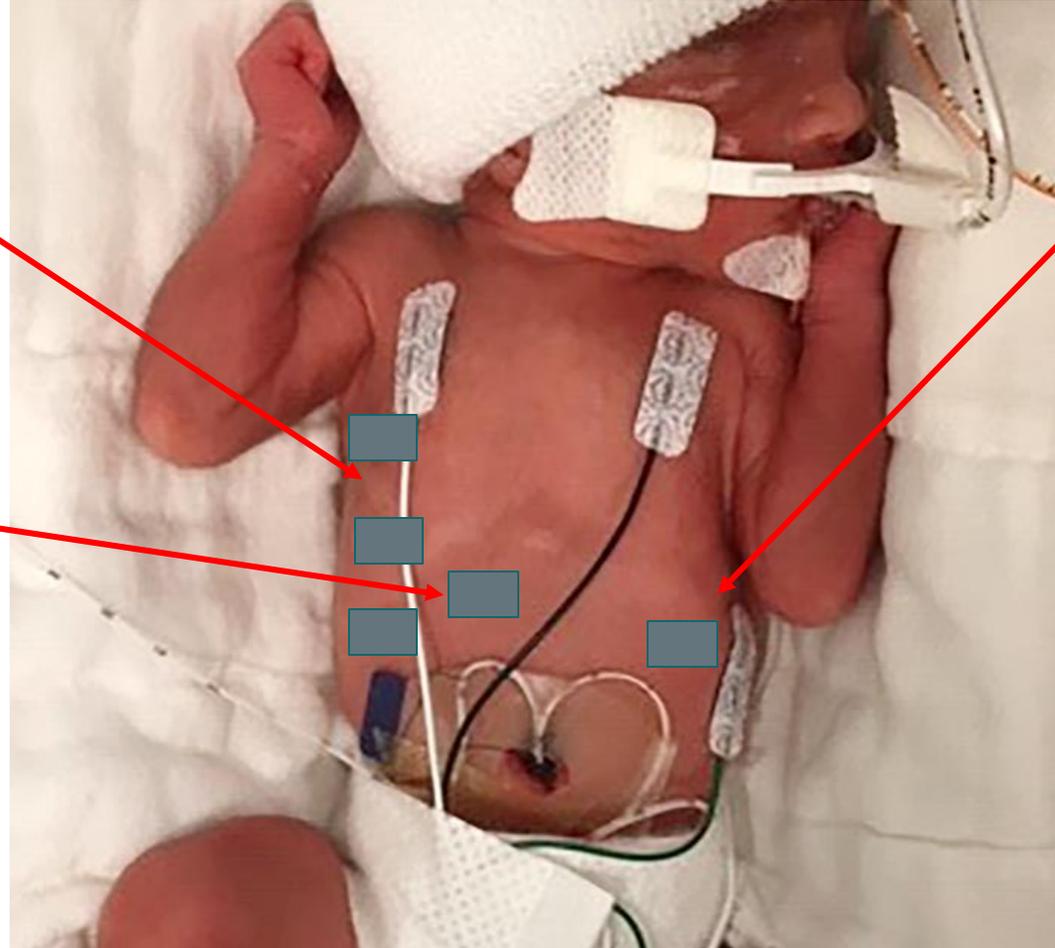
Temp probe should go directly on skin
– do not place probe over duoderm

Must use reflector over probe when on
phototherapy or using radiant heat

Do not lay infant directly on temp
probe to avoid heat trapping

TEMP PROBE PLACEMENT

- Nipple line, on the side of chest –
 - NOT in axilla – avoid any skin folds or wrinkles
- Over liver



Either side of the abdomen

Avoid positioning on probe

Use reflective cover

Change when soiled or no longer sticking

If placed on side of chest – take temperature on same side

THERMOREGULATION

Servo/Baby Mode



< 32 weeks



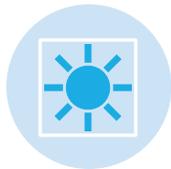
Humidity



Acutely ill



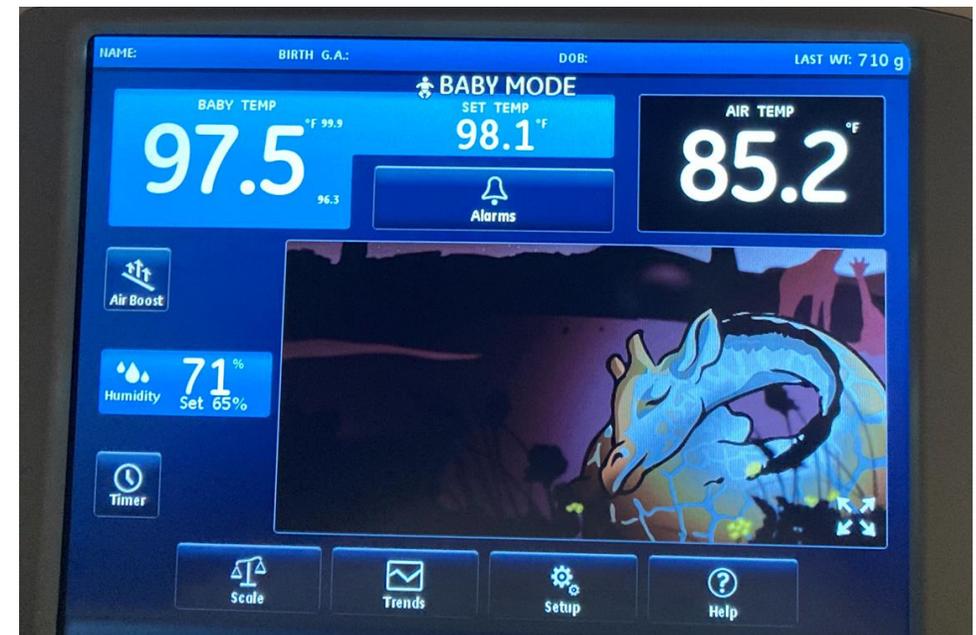
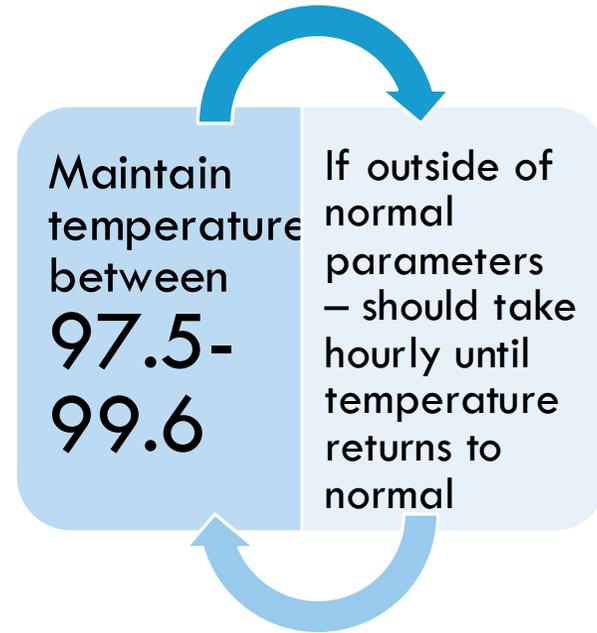
Unstable temp
(air or skin) in
incubator



Must use this
mode when
using radiant
heat



Recommended
when on
phototherapy



THERMOREGULATION

Air Mode

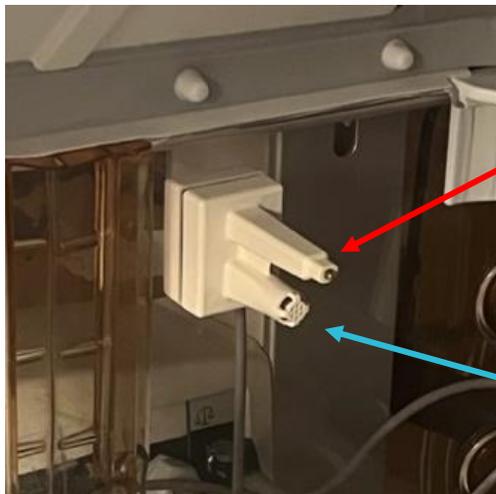
- Not on humidity
 - Medically stable temps
 - Stable incubator air temps
- *May continue to use temp probes when swaddled but only if on air mode



BED SENSORS

Back of bed inside has 2 little prongs sticking out. The top is the temperature sensor and the bottom is the humidity sensor.

- Do NOT place linens or JET box in front of sensors



Temperature sensor

Humidity sensor



TROUBLESHOOTING

Getting an alert on the bed but don't know what the problem is?

- Check the baby's temperature
- Look at the baby's air temps over the last 24 hours (whether on baby or air mode)
- Consider if baby is on air or baby mode, if any changes were made recently, and which mode is most appropriate at this time
- Check your temp probe placement
- Check your vent tubing



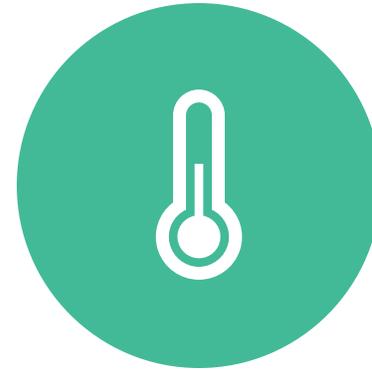
SWITCHING TO AIR MODE



NOT ON HUMIDITY



MEDICALLY STABLE
TEMPERATURE



STABLE INCUBATOR
TEMPERATURE

HUMIDITY

Policy: Thermoregulation

All infants less than 28 weeks

Day of Life	% of Humidity
0 – 7	70%
8	65%
9	60%
10	55%
11 - 27	50%
28	45%
29	40%
30	Turn off humidity

HUMIDITY

Policy: Thermoregulation

Humidity changes are prompted in Care Compass if activated in the Care Plan

   Add to Phase ▾ Start: ... Duration: ...

	\$	Offset	▼	Component	Status	Details
Plan-NICU Infant Problem List, Humidity Born At < 28 Weeks (Planned)						
Last updated on: XXXXXXXXXX						
△ Outcomes						
<input checked="" type="checkbox"/>				O-Tissue integrity, skin & mucous membrane - 4=Mil...		
<input checked="" type="checkbox"/>				Total NSCS - Less Than or Equal 3		
△ Interventions						
<input checked="" type="checkbox"/>				Set Incubator Humidity at 70% (CP)		T;N
<input checked="" type="checkbox"/>		+8 day		Set Incubator Humidity at 65% (CP)		T;N
<input checked="" type="checkbox"/>		+9 day		Set Incubator Humidity at 60% (CP)		T;N
<input checked="" type="checkbox"/>		+10 day		Set Incubator Humidity at 55% (CP)		T;N
<input checked="" type="checkbox"/>		+11 day		Set Incubator Humidity at 50% (CP)		T;N
<input checked="" type="checkbox"/>		+28 day		Set Incubator Humidity at 45% (CP)		T;N
<input checked="" type="checkbox"/>		+29 day		Set Incubator Humidity at 40% (CP)		T;N
<input checked="" type="checkbox"/>		+30 day		Discontinue Incubator Humidity (CP)		T;N

▲ Details

WEANING TO A CRIB

- Infant weighs ≥ 1700 grams
- Consistent weight gain
- Stable A/Bs
- Enteral feeding established
- Stable axillary temperatures
- Stable incubator temperatures
- Incubator temp 82.4°
- May decrease air temp up to 1° with each set of cares



WHEN TO DRESS

- Avoid dressing until wean to crib order
- Dress with shirt/sleeper that opens in front to facilitate skin to skin holding
- Can use sleeper or joey jacket alone if cumbersome to use both
- Do not use onesies
- No hats or mittens



WHAT IS THE PROBLEM?

Your patient was born at 33 1/7 weeks and is corrected to 34 weeks today. The baby has a skin temp of 97.1 and an air temp (on baby mode) of 86.4° F. What do you do?

Check the temperature!



If correlating with skin temp:

- Check the range of air temps in the past 24 hours
- Check the Hero scores
- Reassess the baby
- Notify the NNP
- Consider getting a rectal temp

If not correlating:

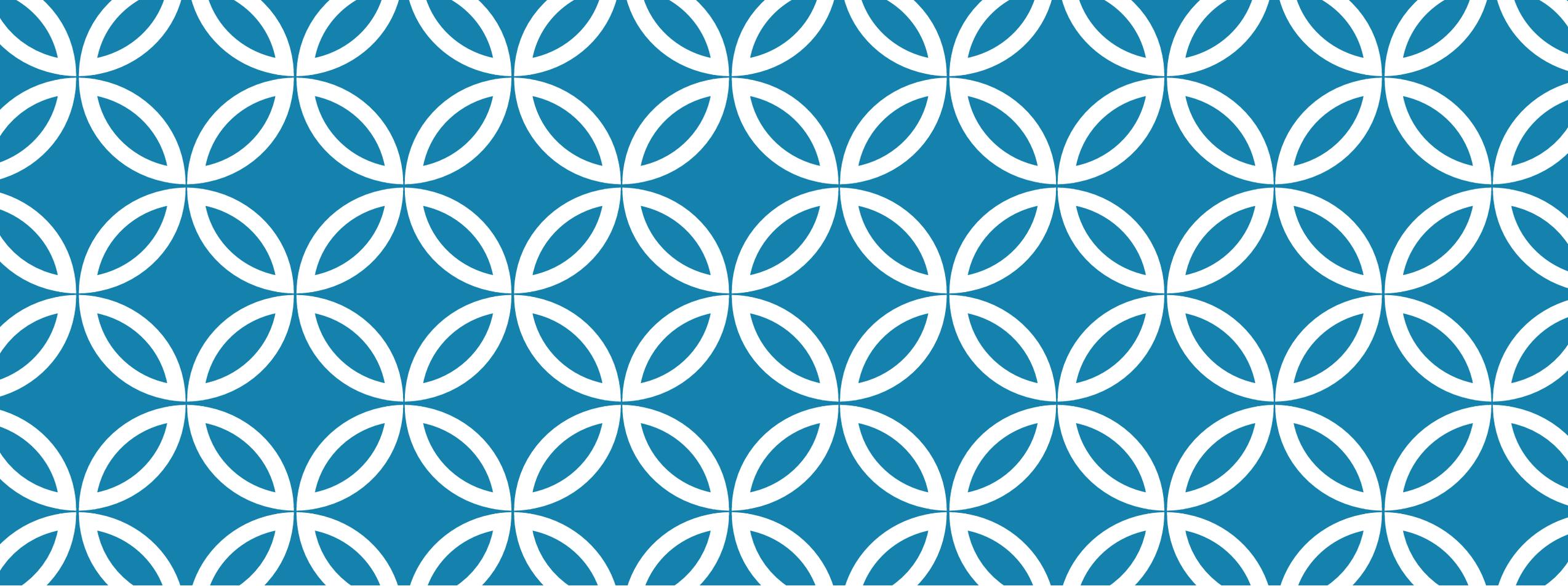
- Check the temp probe placement
- Replace the temp probe/cover
- Consider switching to air mode
- Check vent tubing
- Change out the bed if needed
- Avoid opening portholes or popping the top



PIV INSERTION TECHNIQUE

Policy: IV Therapy: Peripheral intravenous catheters (PIV)

- May attempt x2,
second RN x2 → notify
Core and/or NNP
- Find a good technique/
hold that works for you



LET'S PRACTICE!



REFERENCES

Koletzko B, Cheah F-C, Domellöf M, Poindexter BB, Vain N, van Goudoever JB (eds): Nutritional Care of Preterm Infants. Scientific Basis and Practical Guidelines. World Rev Nutr Diet. Basel, Karger, 2021 vol 122, pp 265-280 (DOI:10.1159/000514743)

McInemey, C. & Gupta, A. (2015). Delaying the first bath decreases the incidence of neonatal hypoglycemia. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 44, S73-S74. doi:10.1111/1552-6909.12650

Methodist Health System (2013). NICU diaper dermatitis guidelines. Retrieved from: <http://mhsintranet.nmhs.org/Resource.ashx?sn=DiaperdermatitischartREV1-20>

Methodist Health System (2018). Enteral tube feeding. Retrieved from: <http://mhsintranet/Main/Policies/Enteral-Tube-Feeding--11955.aspx>

Methodist Health System (2018). Sucrose (oral) & Other Non-pharmacological Interventions for Procedural Pain. Retrieved from: <http://mhsintranet/Main/Policies/Sucrose-oral-Other-Nonpharmacological-Intervention-11492.aspx>

Methodist Health System (2018). IV therapy: peripheral intravenous catheters (PIV). Retrieved from: <http://mhsintranet/Main/Policies-and-Procedures/IV-Therapy-Peripheral-IV-in-NICU-11951.aspx>

Methodist Health System (2018). Capillary heel stick blood sampling. Retrieved from: <http://mhsintranet/Main/Policies-and-Procedures/Capillary-Heel-Stick-Blood-Sampling-11127.aspx>

Methodist Health System (2018). Venipuncture blood sampling. Retrieved from: <http://mhsintranet/Main/Policies-and-Procedures/Capillary-Heel-Stick-Blood-Sampling-11127.aspx>

Methodist Health System (2018). Neonatal abstinence scoring and treatment guidelines. Retrieved from <http://mhsintranet/Main/Policies/Neonatal-Abstinence-Scoring-and-Treatment-Guidelin-11126.aspx>

Methodist Health System. (2023, October). Newborn Bath. <https://mhsintranet.nmhs.org/Main/Policies/Newborn-Bath-11281.aspx>

Methodist Health System (2017sept). Thermoregulation of an infant. Retrieved from: <http://mhsintranet/Main/Policies-and-Procedures/The moregulation-NICU-11543.aspx>

Preer, G., Pisegna, J., Cook, J., Henri, A., & Philipp, B. (2013). Delaying the Bath and In-Hospital Breastfeeding Rates. *Breastfeeding Medicine*, 8(6), 485-490. Doi:10.1089/bfm.2012.0158

Shepley, M. M., Smith, J. A., Sadler, B. L., & White, R. D. (2014). The business case for building better neonatal intensive care units. *Journal of Perinatology*, (34), (811-815). doi: 10.1038/jp.2014.174

Suchy, C., Morton, C., Roy Ramos, R., Ehrgott, A., Quental, M. M., Burridge, A., & Rutledge, D. N. (2018). Does changing newborn bath procedure alter newborn temperatures and exclusive breastfeeding?. *Neonatal Network*, 37(1), 4-10. doi:10.1891/0730-0832.37.1.4

Verklan, M. T. & Walden, M. (2015) Core curriculum for intensive care nursing (5th ed). St. Louis, MO: Elsevier.

Vohra, A., Purani, C., Mehariya, K. M., & Shah, B. (2017). Neonatal analgesia: Effect of sucrose solution versus breastfeeding in procedural pain. *Pediatric Oncall Journal*, 14(4), 79-81. doi:10.7199/ped.oncall.2017.56

World Health Organization (2017). WHO recommendations on newborn health: Guidelines approved by the WHO guidelines review committee. Retrieved from <http://apps.who.int/iris/bitstream/handle/10665/259269/WHO-MCA-17.07-eng.pdf;jsessionid=0519FD41CF3E23352266DF75EB7687F9?sequence=1>