

NURSING CLINICAL PROTOCOL

ENTERAL FEEDING & MEDICATION ADMINISTRATION - NICU

- PURPOSE:** To outline the management of patients in the neonatal intensive care unit (NICU) receiving enteral feedings and medications.
- SUPPORTIVE DATA:** Enteral feeding in the NICU may be administered via the following tubes: nasogastric tube (NGT), orogastric tube: (OGT), nasojejunal tube (NJT), and gastrostomy tube (G-tube). Prior to using the NJT for feeding, its placement must be verified via KUB x-ray
- ASSESSMENT:**
1. Verify the placement and patency of and maintain as follows:
 - NGT or OGT
 - Placement
 - Measure from xiphoid to earlobe to nasal tip for best estimate of depth to place the NGT/OGT
 - Lubricate NGT with medical water-soluble jelly or sterile water for passage into naris
 - Offer pacifier with oral sucrose to reduce pain perception with tube placement
 - Pass tube to pre-determined depth and secure to facial cheek per NICU Skin Care Team's recommendation (do NOT secure to ETT or artificial airway)
 - Record depth of NGT/OGT on electronic health record (EHR)
 - Aspirate tube gently with oral tipped syringe (5-6 mLs suggested) for gastric contents. Aspiration of gastric contents should occur after initial placement
 - Note: Air injection for auscultation over left upper abdominal quadrant does not confirm placement.
 - Maintenance
 - Aspirate tube gently with oral tipped syringe (5-6 mLs) before each feeding
 - Assess depth of tube by numerical marking with each feeding
 - Assess security of tape holding the tube in place with each feeding (a minimum of every shift)
 - Change NGT/OGT weekly. Consult with Neonatal Nurse Practitioner (NNP) or physician for determination of tube tip location on most recent x-ray as needed
 - G-tube (Mic-Key)
 - Maintenance
 - Follow team's recommendation regarding skin care
 - Keep the skin clean and dry. Use Telfa dressing if needed; change if soiled
 - Rotate button to a full circle throughout the day. Rotate ¼ turn to right completing full circle in 24 hours after sutures are removed
 - Check residuals prior to feedings; return contents
 - Have physician write an order to flush specific amount of sterile water after feeding (i.e. 5ml of sterile water; total of 2.5 ml infused to the baby as the other 2.5 ml stays in the tube)
 - Vent after each feed with an extension set and barrel of catheter tip syringe. When finished, flush as ordered through the extension tube while attached to infant to clear valve inside bottom of the button device, which gives infant additional volume of sterile water to the total volume. Disconnect and close button
 - Use exact amount of sterile water as inflated during surgery (refer to surgical note) only after incision is completely healed if there is a need to reinflate balloon
 - Never inflate balloon with air
 - If there is a leakage around tube check balloon inflation. Check proper amount of sterile water with Luerlock syringe provided with kit
 - Wash tubing with hot water and mild soap when necessary to remove debris from tubing. Rinse with sterile water to air dry

➤ Change enteral feeding sets every 24 hours

- NJT (weighted Corpak-type)
 - Maintenance
 - Placed by physician and remains for 30 days minimum (NO routine changing of feeding tube)
 - Position patient with right side down for 4 hours then 2 hours supine; repeat until ordered depth of tube is reached
 - Consult with NNP or physician to verify optimal tip position via radiology
 - Ongoing
 - Keep ordered depth mark at naris opening
 - Resecure the tube only if loose or soiled
 - Notify physician or NNP of any problems (e.g., clogging, misplacement)
2. Assess the following just before each ordered bolus or intermittent feeding every 3-4 hours:
 - Bowel sounds
 - Insertion skin site for redness, drainage, inflammation
 - Abdominal distension
 - Visible bowel loops on abdomen
 - Non-nutritive suck as possible sign of nipple readiness
 3. Assess every stool for color, quantity and consistency
 - Point of Care Testing (POCT) for occult blood a minimum of once a shift
 4. Monitor hydration and nutritional status, including:
 - Intake and output
 - Body weight every day
 - Blood chemistries as ordered
 5. Measure abdominal girth in centimeters a minimum of every shift.

RESIDUAL CHECK

6. Assess residual aspirate just before each bolus or intermittent feeding every 3-4 hours from NGT/OGT or G-tube
 - This is not necessary for continuous feeding via these tubes, as feedings should not be stopped based solely on residual volume in continuous feedings
 - Never aspirate or bolus NJTs
7. Stop feeding, check residuals and notify physician/NNP if abdominal distension or vomiting occurs.
8. Return aspirated residual to stomach per physician/NNP orders.
Note: Undigested or bile-stained milk/formula may be re-fed on individualized basis
9. Contact physician/NNP if aspirated residual has coffee grounds appearance.
10. Discard residual when:
 - Gastric emptying is required for eye exam or endotracheal tube (ETT) extubation

ADMINISTRATION

11. Obtain tube feeding order, to include:
 - Exact name/type of formula when breast milk is not available
 - Amount to be infused for bolus or intermittent feeding
 - Rate of infusion if intermittent or continuous feeding
 - Frequency of intermittent feedings
 - Physician order required when not using mother's breast milk
12. Administer feedings via designated syringe pump for enteral-only feeding or via enteral pump when intermittent or continuous, or use gavage technique with gravity assist for bolus feedings.
13. Use commercially made liquid formulas only.
14. Administer feeding pre-warmed in hot tap water or at room temperature (never use microwave ovens).
15. Offer pacifier with feeding to stimulate sucking.
16. Use liquid suspension medications when available in pediatric formulations.
Note: Elixers with sorbitol may cause GI distress
17. Use only oral tipped syringes for medication administration via feeding tubes.

FLUSHING:

18. Flush NGT/OGT and G-tube with 0.5 mL air after bolus or intermittent feeding; then place feeding

tube to vent for one hour after feeding.

INFECTION CONTROL:

19. Wash hands prior to preparation of enteral formula / breast milk.
20. Rinse all enteral feeding sets (bags with tubing) used to administer intermittent feedings thoroughly after each feeding with sterile water.
21. Discard enteral feeding sets every 24 hours and after use.
22. Discard feeding syringes and connecting tubings every 4 hours or after each feeding.
23. Clean spilled formula from infusion pump and pole promptly.
24. Hang only the appropriate volume for one feeding (bolus or intermittent) or for four hours (continuous feeding).

SAFETY:

25. Label all enteral sets to include:
 - Patient's name
 - MRN/ FIN
 - Date and time of change including initials
 - Name of formula/ flow rate
26. Label all syringes with the name of the formula or "breast milk."
27. Elevate head of bed between 12 to 30 degrees.
28. Refrain from using manual pressure to force feeding into tube.
29. Use only feeding bag tubing that incorporates safety features to prevent use with other invasive lines:
 - Coloring of tubing that identifies it as a feeding bag tubing
 - Connections that cannot be used with intravenous tubing

SPECIAL CARE:

30. Change G-tube securing tape every shift.
31. Change tape, which secures indwelling NGT/OGT, or NJT only as needed.
32. Provide oral care every four hours and as needed.

REPORTABLE CONDITIONS:

33. Notify physician for:
 - Abdominal distention or pain
 - Absence of bowel sounds
 - Vomiting or diarrhea
 - Unexplained gagging, coughing, respiratory distress
 - Color of aspirate that is not typical of desired tube location or is not expected considering patient's condition
 - Residual in excess of discussed individualized amount
 - Clogged G-tube or NJT
 - Redness, drainage, or bleeding at insertion site
 - Dislodgement

DOCUMENTATION:

34. Document in accordance with documentation standards.
35. Document the depth in centimeters upon insertion on Electronic Health Record (EHR).
36. Document on the Intake & Output Sheet on EHR:
 - Time and amount of each feeding
 - Volume of sterile water used to flush tubes

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