

Taichung Armed Forces General Hospital
Leaflet of Inpatient Nursing Instructions

鼻胃管灌食之護理指導

Sir/Lady:

Nursing instructions for nasogastric tube feeding

- I. Purpose: When the patient is unable to eat by mouth on his/her own, or suffers from conditions such as esophageal stricture, head and neck surgery, radiation therapy, unconsciousness, or swallowing difficulties caused by burns, the use of a nasogastric (NG) tube for feeding can serve as a route to supply fluids, medications, and liquid food to the patient.
- II. Steps:
- III. Preparation before feeding:
- IV. Preparation of the patient
 - (1) If turning the patient, back-patting, suctioning, or changing diapers is required, it should be completed at least one hour before feeding⁵ to avoid aspiration pneumonia caused by food reflux after feeding.
 - (2) Check if the NG tube is properly secured and confirm that its placement and scale markings are correct.
 - (3) For bedridden patients, raise the head of the bed to an angle of 30-60 degrees for the patient to take a semi-sitting or sitting position.
 - (4) Place a towel or napkin around the patient's chest to avoid soiling their clothes or bedding.
- V. The caregiver should wash hands thoroughly before preparing necessary items such as warm boiled water, the feeding syringe, and food for NG feeding or liquidized meals
- VI. Food preparation:
 - (1) The feeding food should be warmed to a temperature of 37.7-40.5°C. Do not overheat it. It can be tested on the inner side of the arm—if it does not burn, and is close to body temperature, it is suitable. This helps avoid gastric mucosal injury from food that is too hot, or gastric spasms from food that is too cold.
 - (2) Prepared food for tube feeding can be kept at room temperature for no longer than six hours, and no more than 24 hours in the refrigerator.
 - (3) Food and medications should be fed separately, with at least a 30-minute interval between the two.

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VII. Methods of confirming the presence of NG tube in the stomach:

- (1) Verifying NG tube position: Before each feeding, connect a 50cc feeding syringe that is empty to the end of the NG tube, pull back to obtain gastric liquid to check that the NG tube is positioned in the stomach. Observe the stomach contents for digestion.
- (2) If there is resistance when pulling back the empty syringe for the aspirate test, flush 20-30cc of warm water into the tube. If the water flows smoothly and no coughing, difficulty breathing, or cyanosis occurs, then the digestion in the stomach has completed and it is safe to proceed with feeding. If coughing, difficulty breathing, or other abnormal signs show up or the water does not flow in smoothly, stop feeding immediately and notify a healthcare professional or seek medical attention.

VIII. Checking food digestion in the stomach:

- (1) If the aspirated contents are dark green, dark red, blood-colored, or coffee-colored, this may indicate bleeding⁵. Notify healthcare professionals immediately.
- (2) Reintroduce the aspirated gastric contents back into the stomach to maintain electrolyte balance.
- (3) If the residual gastric content is more than 1/2 of the previous feeding amount N after 2 hours, suspend the current feeding, and extend by 0 for subsequent meals
- (4) If the residual gastric content exceeds N70ml and is less than 1/2 of the previous feeding amount after 2 hours, reduce the feeding volume by half.

IX. During feeding:

- (1) Adjust the height of the empty feeding syringe to control the flow rate, and allow the food solution to flow slowly through the NG tube into the stomach using gravity. The distance from the food liquid level to the stomach should be approximately 30-45cm (12-18 inches) for adults, and about 15-20 cm (6-8 inches) for children, to ensure effective gravity effect that helps the food flow into the stomach. The feeding should not be too fast or too slow and should take at least 15-20 minutes.
- (2) The total feeding amount should not exceed 350cc per feeding. The feeding should not be too fast as it may cause diarrhea, nausea, vomiting, and other symptoms. Avoid introducing air during the feeding process.
- (3) Monitor the patient's reactions during feeding, such as nausea, vomiting, persistent coughing, diarrhea, sweating, or rapid heartbeat. If any of these symptoms occurs, stop feeding immediately and inform the medical staff. In particular, if vomiting occurs, in addition to stopping feeding, turn the patient to his/her left side to prevent aspiration, and assist with oral cleaning and changing clothes.

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X. After feeding:

- (1) After feeding, administer 20-30cc of warm boiled water (5-10cc for children) through the NG tube to clear any residual feeding solution to prevent bacterial growth, as well as to avoid bloating caused by air entering the stomach.
- (2) After feeding, bend the end of the NG tube back, remove the feeding syringe, and seal the tube to prevent air from entering.
- (3) Assist the patient in maintaining a semi-sitting position for 20-30 minutes to aid digestion and prevent vomiting.
- (4) Avoid turning the patient, patting his/her back, or performing suction within 1 hour after feeding (2 hours for children) to prevent vomiting and aspiration pneumonia.
- (5) After feeding, the feeding syringe should be cleaned with water, followed by rinsing with cold boiled water.
- (6) Record the amount of food fed to the patient, digestion status, and patient's reactions, separating records for fluids, food, and medications to accurately assess the feeding.
- (7) If feeding becomes difficult, this may indicate that the tube is blocked by food, or the tip of the tube is against the stomach wall. In this case, inform the nurse for assistance.

XI. Precautions:

- (1) The adhesive bandage securing the NG tube should be changed daily to prevent it from falling off. Keep the nose clean, but be careful not to change the NG tube insertion depth.
- (2) Oral and nasal care should be provided daily for patients using an NG tube.
- (3) The tube should be protected from pressure, kinks, or being pulled out during feeding, especially for restless patients.
- (4) During and after the feeding, ensure that no air enters the stomach to prevent bloating. Feeding should be done slowly to avoid gastric distension.

If you are still unclear about something or have any questions, please contact the nursing station in the ward.