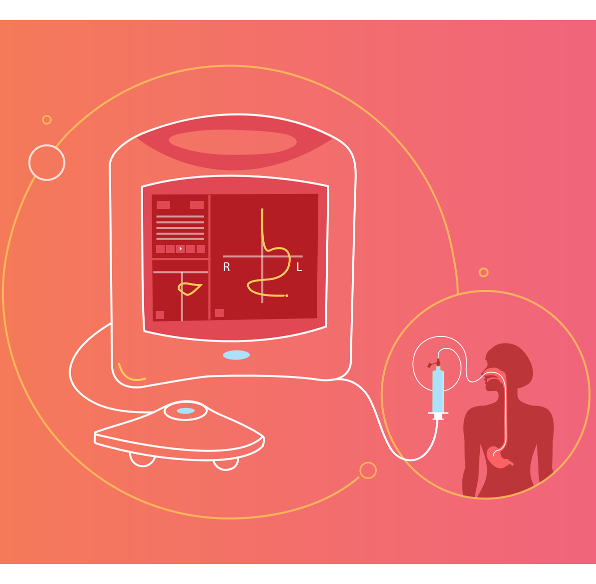
CHALLENGES OF NASOENTERIC TUBE DISLODGEMENT



Nasoenteric tubes (nasogastric, nasoduodenal, and nasojejunal) are used for short-term nutrition supplementation.[1]

- Though used often, pose a challenge of retention in the proper position.[1]

Accidental feeding tube dislodgement is common in those receiving nasoenteric feeding, with a reported total incidence of 40% and 28.9% in ICU.[2]

- May be caused due to inadvertent tube removal, either by the patient or by accident, eg., snagging on clothing or vomiting.[3]

Consequences of tube dislodgement

Delays in enteral nutrition and decreased caloric delivery.[1,2]

Increased risk of aspiration or malposition of the tube at the time of replacement.[1]

Added costs involved in time spent replacing tubes, the new feeding tube itself, radiographic confirmation studies.[1]

Repeated tube replacement **increases the cost of patient care** and **contributes to lost clinician productivity.**[2]

The resultant failure to establish successful enteral feeding may be considered an indication to initiate gastrostomy feeding or to proceed to total parenteral nutrition.[2]

Hence, regardless of the location of the tube tip or level of infusion within the GI tract, securing the nasoenteric tube is important.[1]

Tube securement

Various techniques exist to secure the nasoenteric tube–[4]

Use of tape[1]

- Traditional method[1]
- Tube is taped onto the patient's face, nose and forehead[1]
- Relatively ineffective, with a displacement rate as high as 62%[1]
- Adhesive tape may cause discomfort to patient, nasal necrosis, lead to skin tears and skin breakdown, cause cutaneous sensitivity reactions to the tape, or may interfere with endotracheal tubes, facial wounds, or other monitoring devices, pressure to the surrounding tissue with frequent monitoring and adjustment as indicated[1]

Use of transparent dressings[4]

- Tube is less visually distracting; works well for small, soft tubes[4]
- May increase risk of skin breakdown[4]

Suturing the nasal tubes[5]

- Nasal tubes may be sutured to the nares in some situations to reduce inadvertent displacement such as after head and neck surgery[5]
- Tubes can become displaced partially or completely through the sutures[5]
- The suture disrupts skin integrity, carrying a risk of infection[5]
- Discomfort at suture site, especially if there is tension on the tube, such as from being snagged or tugged on[5]

Use of commercial securement devices/nasal securement methodology/ 'bridle' or 'bridle loop'[4]

- Useful if there is a limited skin surface available for securing the tube (in case of burn or trauma)[4]
- Reduces need for tube replacement due to less tube displacement and resultant cost-effectiveness compared with tape (cost savings and avoids feeding interruption, patient discomfort and repeated X-ray)[4]
- Prevents anterior-posterior movement of the feeding tube[2]

As per a meta-analysis, the use of a nasal bridle is an effective strategy following nasoenteric tube placement –[1]

Significant reduction in **tube dislodgement** (P<0.01) compared with the use of traditional adhesive tape.[1]

Longer mean **duration of tube use** (23 vs 16 days; P<0.05).[1]

Less mean **tube replacements** per day (0.26 vs. 0.44; P<0.05) compared to taping alone.[1]

Less episodes of **reported sinusitis** (0% vs 6%; P<0.05) compared to taping alone.[1]

Clinical time spent on tube replacement and repeated radiographic confirmation of proper placement **decreases efficacy** and adds to the **cost of patient care.**[2]

A recent study on the use of an NG/NJ feeding tube retention system mentioned that having a feeding tube retention system in place resulted in–[6]

Reduced exposure to X-ray[6]

Some patients underwent four X-rays without a feeding tube retention system in place[6]

Reduced number of healthcare personnel involved[6]

Number of healthcare assistants for observation and engagement to prevent removal of NG tubes reduced for patients who could tolerate insertion of a tube retention system[6]

Did you know ?

Recommendations from ASPEN 2017 guidelines–[5]

- Provide practical **education on enteral access device (EAD) securement** to clinical staff and assess clinical competencies on a regular basis.[5]
- Securement of enterally placed feeding tubes and prevention of dislodgement are the responsibility of all clinical staff.[5]
- Routinely assess patients with EADs to check tube securement in addition to appropriate tube position. Early detection of displacement reduces risk of adverse events.[5]
- **Consider bridling of nasally placed feeding tubes, which may help reduce displacement of tubes at risk for displacement.**[5]
- Include routine assessment in patient monitoring for signs of tissue pressure, patient discomfort, and inadequate securement.[5]
- Avoid maintaining a bridle for longer than 4 weeks.[5]

Moreover, the ESPEN 2010 guidelines suggest that the nasal bridle is a successful, safe, cost-effective method of securing enteral feeding tubes and recommends its use in patients at risk of inadvertent tube dislodgement.[2]

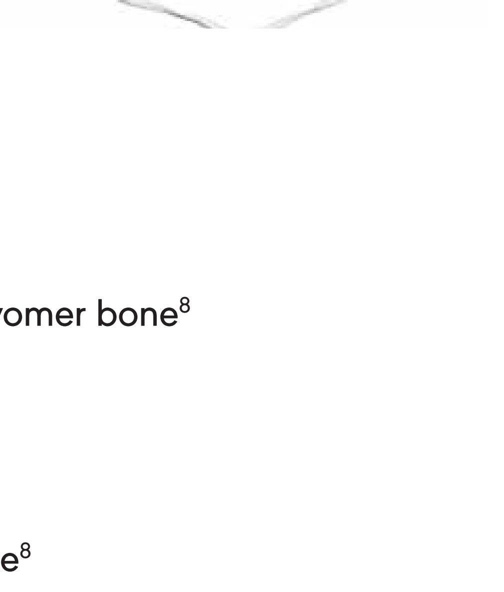
Our Solution

AVANOS CORGRIP* NG/NI tube retention system: Keeping feeding tubes in place.[7]

Designed to prevent inadvertent removal or displacement of feeding tubes in adult patients, CORGRIP* NG/NI tube retention system is indicated for use with enteral feeding tubes of 8 Fr and greater and NG decompression, suction and drainage tubes up to 18 Fr.[7]

Use of the CORGRIP* system can–[7]

- Increase a patient's caloric intake[7]
- Lower the risk of patients undergoing replacement procedures[7]
- May help to avoid unnecessary escalation to PEG feeding or intravenous nutrition[7]
- Reduce facility costs because of improved patient outcomes related to continuous enteral therapy and fewer procedures[7]
- Result in decrease in unnecessary X-rays for replacement procedures[7]
- Prevents patient discomfort and potential trauma from repeated procedures[7]



The CORGRIP* system product features include–[8]

- Unique deployment–no dragging of tape around vomer bone[8]
- Unique Slot Slide Lock (SSL) securement clip[8]
- Each catheter has numeric cm markings[8]
- Range of sizes, 8 Fr–18 Fr[8]
- Biocompatible, long-lasting polyester umbilical tape[8]
- Supplied with water soluble lubricant[8]
- Colour coded clips for Fr size[8]
- Single patient use[8]
- Use for up to 4 weeks[8]
- Supplied with spare clip and opening device[8]

Institution protocols must always supersede the use of CORTRAK*2. Clinical judgment must always take precedence.[9]

References:
1. Bechtold ML, Nguyen DL, Palmer LB, et al. Nasal bridles for securing nasoenteric tubes: a meta-analysis. Nutr Clin Pract.2014; 29(5):667-71. **2.** Power S, Smyth N, Duggan S, Roddy M, Feehan S. The nasal bridle: A useful approach to prevent the dislodgement of feeding tubes. E Spen Eur E J Clin Nutr Metab. 2010; 5(2):e73-6. **3.** Scott R, Bowling TE. Enteral tube feeding in adults. J R Coll Physicians Edinb. 2015;45(1):49-54. **4.** PPowers J, Brown B, Lyman B, et al. Development of a competency model for placement and verification of nasogastric and nasoenteric feeding tubes for adult hospitalized patients. Nutr Clin Pract. 2021;36(3):517-33. **5.** Boullata JI, Carrera AL, Harvey L, et al. ASPEN safe practices for enteral nutrition therapy. JPEN J Parenter Enteral Nutr. 2017; 41(1):15-03. **6.** Woon C. On track to the stomach!! Cortrak® for the insertion of nasogastric tubes amongst neuroscience patients–how effective is it?. AJON. 2020; 30(2):13-8. **7.** Avanos website. CORGRIP NG/NI tube retention system [Internet]. [cited 2022 Mar 24]. Available from: https://avanosmedicaldevices.com/digestive-health/enteral-feeding/corgrip-ngni-tube-retention-system/. **8.** Avanos catalogue 2019_ANZ_DH. **9.** CORTRAK 2 Quick Start Guide_15M1360.

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