Efficacy of Nasal Bridles on Securing Nasoenteric Feeding Tubes in Critically Ill Patients

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Background

- In the ICU, the preferred method of nutrition delivery is via enteral nutrition, as it helps protects gastrointestinal (GI) mucosa and minimizes GI break down[12].
- It is estimated that patients in the ICU only receive, on average, 40 – 60% of their goal nutritional requirements[12].
- Enteral feeding is often administered with the use of nasoenteric feeding tubes[3].
- Feeding tubes are secured to patients via adhesive tape. When secured with adhesive tape, rates of accidental tube dislodgements are estimated to be as high as 62%[3].
- The nasal bridle was developed as an alternative method for securing feeding tubes in the 1980s[7].
  - A catheter is fed into the nasopharynx, so that umbilical tape can be looped around the vomer bone[7].
  - The umbilical tape is then clipped to the feeding tube so that tube remains anchored to the patient with compressing the skin[7].

Purpose

The following **PICO** statement will guide the following literature assessment:

In adult patients receiving care in the intensive care unit who require the use of nasoenteric tubes to receive nutrition **(P)**, does the use of nasal bridles **(I)** as opposed to adhesive tape **(C)** as a securement device decrease the incidence of inadvertent tube dislodgment **(O)**?

Methods

Initial literature search was conducted using One Search with Boolean /Phrase terms (nasogastric tube or ngt or ng tube or feeding tube) AND (nasal bridle), which yielded 39 results. Article search was further limited by electronic full text and publication in the English language. This narrowed down the results to 36. Articles were excluded from this search if they were not prospective, did not target an adult population, and did not analyze the effectiveness of securing nasoenteric feeding tubes with nasal bridles. The remaining seven articles were selected for review.

Summary of Evidence

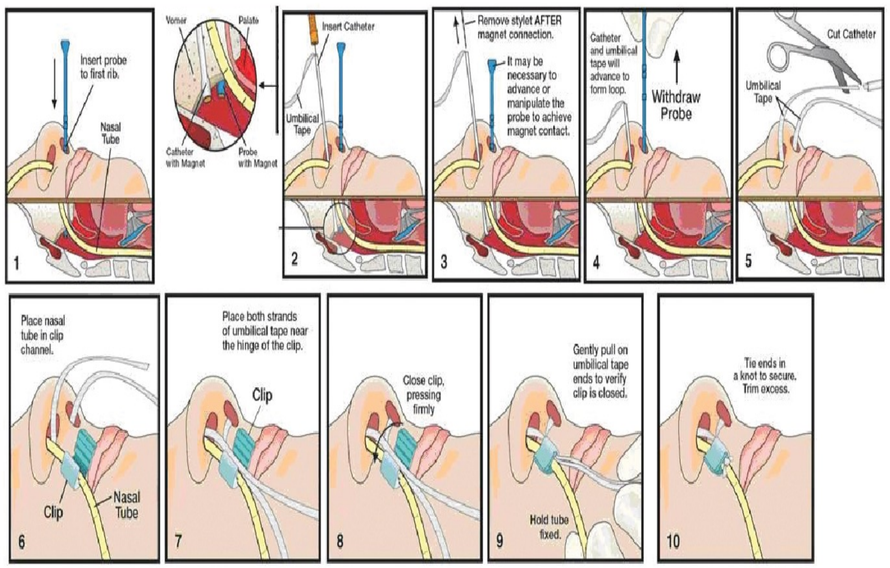
In all but one study, the use of the nasal bridle was compared to the traditional method of securing nasoenteric feeding tubes with adhesive tape.

- The use of nasal bridle reduced the rate of accidental tube dislodgments[3,4,7,8,9,10].
- Significant difference in survival analysis between nasal bridle and adhesive tape ($P < 0.05$)[4].
- Patients with nasal bridles experienced fewer overall feed tube placements (Li et al., 2018)[7].

Other findings:

- Patients with nasal bridles received a greater proportion of their ordered nutrition than that of those patients who had their feeding tubes secured with adhesive tape[1,2,7,9,10].
- Nasal bridles reduced the overall hospital cost than those who did not use nasal bridles[2,7].
- The most common adverse events included epistaxis and nasal ulcerations[1,2,4,7,8,9].

Figure 1.



Note. Nasal Bridle Placement, from Gurram (2022).

References

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Implications and Conclusion

The practice of securing feeding tubes with nasal bridles is a safe and effective way of preventing inadvertent tube dislodgement and increasing nutritional intake in critically ill patients.

- Nasal bridles may not appropriate for patients with coagulation disorders[1].
- Nasal bridles may be beneficial for patients who suffer from dysphagia[2] or extensive burns[7].
- Reduction of tube dislodgements could prevent severe complications such as accidental tracheobronchial intubation[10].
- Increased survival of feeding tubes could enhance disease recovery and reduce hospital stays[10].

Recommendation: Further research to be done at multiple critical care units across multiple hospitals, investigating their current standard practice of securing feeding tubes. Additionally, data should be collected from nursing staff regarding barriers to implementing nasal bridles.

The CNL Role

Goal of the CNL Role: Reduced errors and poor patient outcomes during a change in practice[6].

Steps to implementing a change in practice:

1. Assess any knowledge gaps amongst staff regarding the benefits of feeding tube longevity as well as safe and effective ways of tube securement.
2. Perform a thorough search of the literature regarding interventions which have proven to be the most safe and effective.
3. Collaborate with disciplines across the continuum of patient care to create a comprehensive change in practice protocol using lateral integration.
4. Collaborate with stakeholders such as staff nurses, wound ostomy nurses, providers, hospital leaders, bridle manufacturers, as well as the patient and the patient's family.

Notes

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