

Oral Feeding in Tracheostomy Dependent Infants: A Scoping Review

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Background

Infants requiring tracheostomies have complex medical care needs. Indications for tracheostomy include:

- Congenital anomalies
- Airway obstruction
- Prolonged ventilation
- Low ventilator drives

These children often have experience feeding difficulties, failure to thrive and are at risk for aspiration. There is much variation in the feeding modalities utilized by these infants, including oral, enteral or a combination of both,



Understanding factors which predict how an infant with tracheostomy will feed, particularly those who will require gastrostomy tubes, may allow for care coordination by allowing simultaneous placement of gastrostomy under the same anesthetic.

AIM:

- 1) Examine what is known about the feeding modalities of tracheostomy-dependent infants
- 2) Determine if any factors predict which modality an infant will use
- 3) Predict which infants are more likely to require a gastrostomy tube

Methodology

A total of 6 databases were searched to identify studies which had a description of the feeding modalities of infants with tracheostomies.



All English language articles published between January 1, 2000 and February 10, 2021 were included.

Inclusion criteria:

1. Infants (defined as 0-18 months)
2. Tracheostomy
3. Study must have a description of feeding modality

Results – Included Studies

1113 Abstracts screened

Due to the limited published literature on this topic, peer-reviewed literature and grey literature such as abstracts and conference proceedings were included

173 Full texts reviewed

Study Types:

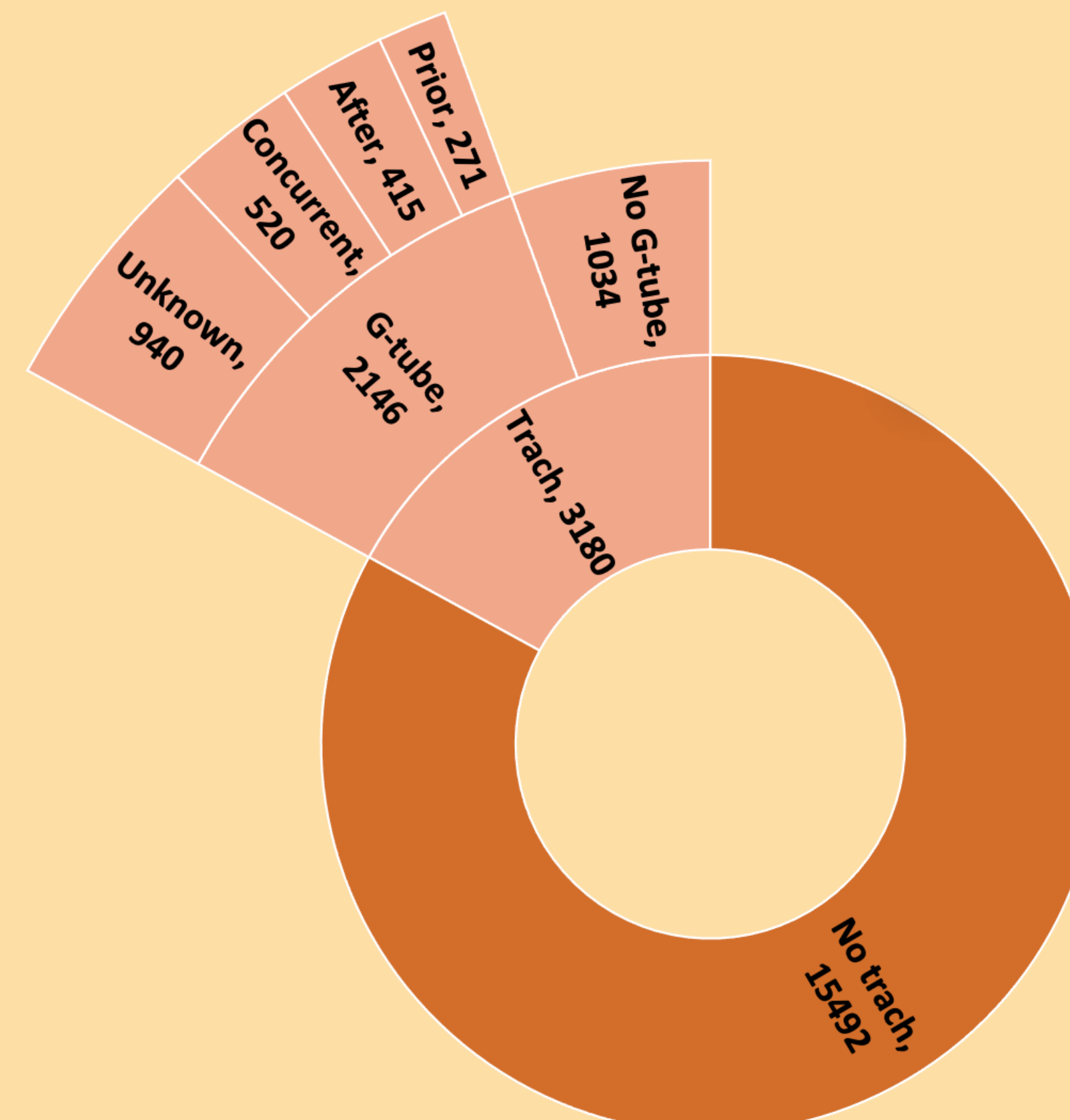
- 36 case reports
- 13 case series
- 29 cohort studies
- 1 survey

79 studies included

Total pooled sample of 18672 patients of which 17% had tracheostomies

Results

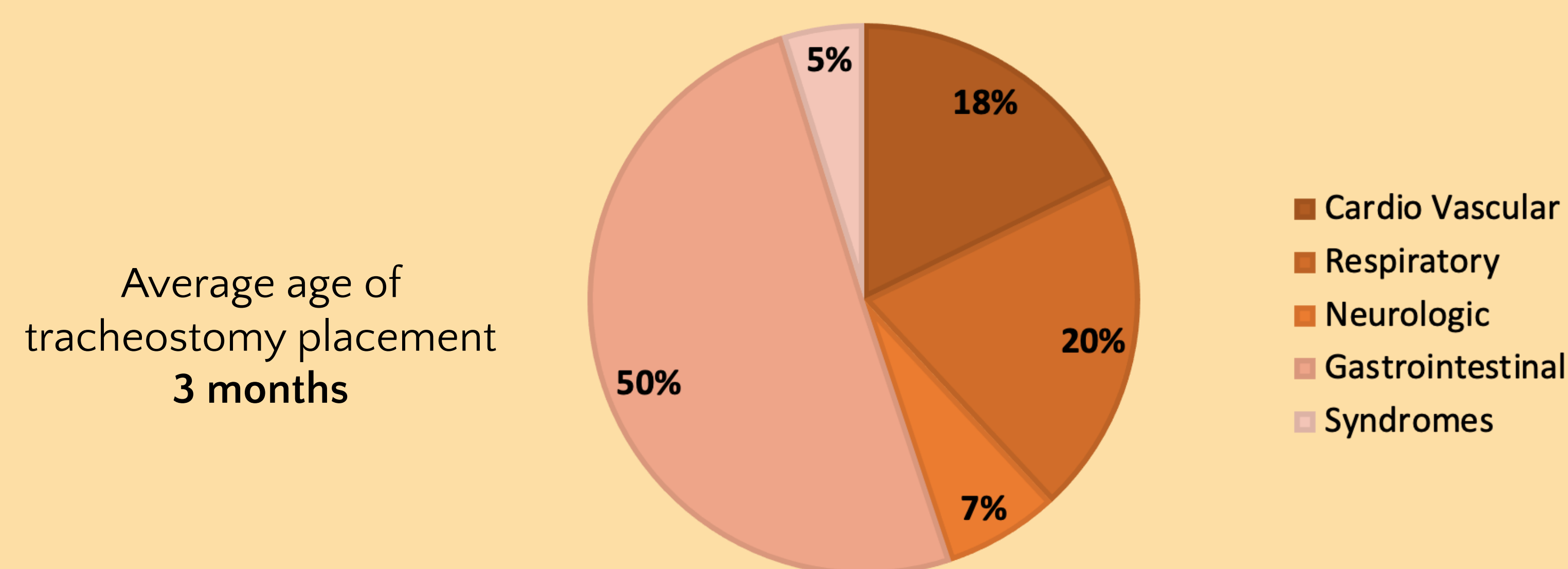
G-tube Use and Timing of Placement



Feeding modalities:

- Full oral intake (7 studies)
- Partial oral intake (26 studies)
- No oral intake (13 studies)
- Remaining studies did not specify whether infants were receiving full enteral feeds or a combination of enteral and oral feeds
- 49 children continued to be reliant on G-tube for nutrition.

Co-morbidities of Infants With Tracheostomies



Average age of tracheostomy placement
3 months

Conclusion

This review demonstrates that infants with tracheostomies have complex medical histories and many require additional nutritional support. These infants use a variety of feeding modalities including oral, enteral or a combination of both.

- Paucity of data to predict feeding modality in infants with tracheostomy.
- Very little literature regarding transitioning from enteral to oral feeding, complications associated with G-tube use and factors influencing the need for a G-tube in infants with tracheostomies
- Further studies needed to characterise the feeding modalities of this population to better anticipate feeding challenges and identify strategies to optimize care

Future Directions

Data presented are from an interim analysis. Future directions include:

- In-depth analysis of collected data to identify themes in literature
- Determine characteristics of tracheostomy-dependent infants who are able to feed orally compared to those who are reliant on enteral feeding
- Update literature review to include studies published up to March 2023
- Quality appraisal of studies included in this review

Selected References

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