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RCSLT Neonatal CEN response to ESPGHAN Preterm Enteral Nutrition Position Paper (2022) - Issues of oral feeding on CPAP.

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Dear Editors,

The recently published ESPGHAN position paper; Enteral nutrition in preterm infants (1) presents an important critical literature review related to enteral nutrient intake and practice for infants born preterm with birthweight <1800g. We wish to comment on the section that considers oral feeding, rather than enteral nutrition.

As SLTs working in neonatal care we understand that the transition from enteral to oral feeding for some infants can be more complex than the summary in the oral feeding section would suggest. The RCSLT Neonatal Clinical Excellence Network Position Paper about oral feeding for infants receiving respiratory support recommends both caution and team decision-making if planning oral feeding by breast or bottle. This practice is challenging and worthy of its' own critical review. Several strategies are being investigated to ease transition, such as cue-based feeding, reducing milk flow, and pacing, trialled with the goal of reducing aspiration, while allowing the infant positive early oral-sensory feeding experiences and supporting infant-carer bonding. However, the risk of aspiration, mal-adaptive feeding behaviours, respiratory system morbidity and the negative influence of stress in the neonatal period continue to concern clinicians who want to safe-guard these infants' outcomes and long-term development. Table 1 includes some studies where feeding infants who require respiratory support has been investigated, demonstrating that outcomes, practice and conclusions are varied thereby stressing the necessity for large number randomised studies. Such studies may help to develop better evidence-based protocols to guide the best oral feeding interventions for infants receiving respiratory support.

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Table 1: *Summary of key studies that have investigated oral feeding when receiving respiratory support*

Study	Aim	Outcome
Dalgleish et al., 2016 (2)	Quality Improvement Project across 5 NICUs investigating individualised nipple feeding competence for preterm infants requiring respiratory support. (N = 196).	Consistent suck feeding management may be safe in the short-term. The authors acknowledge that more research is needed.
Dumpa et al., 2020 (3)	A retrospective study investigating the effect of oral feeding while on nCPAP* in prems ≥32 gestational birth age. (N = 109).	Infants receiving suck feeds when on nCPAP* did not enable quicker transition to full oral feeds or discharge home. The authors acknowledge that further research is needed to develop more evidence to support suitable protocols.
Ferrara et al., 2017 (4)	An investigation into the swallowing of N = 7 infants to see if nCPAP* alters swallow function.	Findings from this study indicated that oral feeding whilst receiving nCPAP*increases the risk of laryngeal penetration and aspiration events.
Hanin et al., 2015 (5)	A retrospective cohort study that investigated a controlled introduction of suck feeds in infants (N = 26) with BPD*** who are receiving nCPAP*.	The authors argue that their sample received specific strategies such as pacing, elevated side lying, etc., but acknowledge that further research is necessary.

La Tuga et al., 2019 (6)	An investigation of the clinical characteristics of preterm infant (<32 weeks post conceptual age) feeding when receiving nCPAP*. Infants were all born less than 32 weeks. Suck feeds started at 34 weeks regardless of respiratory status. 31% (n=243) had their first suck feed whilst on nCPAP*.	No clear information regarding risks associated with aspiration when feeding infants receiving respiratory support. Infants fed whilst receiving respiratory support took longer to achieve full oral feeding and needed to stay longer in hospital.
Leibel et al., 2022 (7)	A randomized controlled comparison of nCPAP* versus High flow nasal cannula when introducing oral feeding for preterm infants from ≤28 weeks gestational birth age. This randomized pilot study recruited N = 25.	The authors did not discuss the possible adverse effects of feeding infants receiving ventilation.
Shimizu et al., 2019 (8)	A study of the impact of HFNC** therapy on oral feeding (N = 11) in very low birth weight infants with chronic lung disease compared with infants (N = 34) who were no longer receiving respiratory support.	The authors report no adverse feeding events such as aspiration when feeding infants receiving HFNC** therapy. The benefits for maternal mental health are cited as a reason for implementing oral feeding when an infant is receiving HFNC** therapy, but there is an acknowledgement that further studies are necessary.
Taha et al., 2016 (9)	A study comparing outcomes within HFNC** and nCPAP* groups	This paper does not include a specific oral feeding protocol for infants

	including number of days to achieve oral feeding and length of hospital stay. The authors suggest that HFNC**use is associated with increased morbidity and length of hospitalization in extremely low birth weight infants (N = 2487).	receiving respiratory support. However, the authors acknowledge the limited evidence base and highlight that infants developing oral feeding skills when receiving respiratory support are likely to take longer to achieve oral feeding skills.

*Nasal CPAP = nCPAP

**High Flow nasal cannula = HFNC

***Bronchopulmonary Dysplasia = BPD