Taping Tots: Utilizing Kinesiology Taping in the NICU to Promote Oral Feeding Readiness in Preterm Infants with Oral Motor Dysfunction

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Introduction

Premature infants often experience prolonged stays in a Neonatal Intensive Care Unit (NICU) as medical professionals provide life saving and life-sustaining care. Amongst those medical professionals, is a Speech-Language Pathologist (SLP) who is the expert in infant feeding. This poster session will provide an overview on how Kinesiology Taping could be implemented as a treatment technique for infants suffering from feeding difficulty.

Purpose

There is limited research to support the efficacy of SLPs utilizing Kinesiotaping on infants. Therefore, the purpose of this study is to gain the perspectives of Speech-Language Pathologists regarding their opinions, concerns, and thoughts about the effectiveness of Kinesiology Taping on infants with Oral Motor Dysfunction. Gaining more knowledge and insight on the matter will help future clinicians determine if KT taping is an effective treatment option, as well as how it can impact safe and functional PO feedings in preterm infants.

Learning Outcomes

- Explain the impact of Oral-Motor Dysfunction in preterm infants.
- Identify what should be considered when selecting tape type / brand selection.
- Recall how to implement three evidence-based taping techniques for oral-motor skills.
- Describe the pros and cons of suing Kinesiotaping identified by the participating SLPs.

Background

- According to the World Health Organization, approximately 15 million babies are born prematurely every year, which greatly increases the risk for feeding difficulties amongst babies being cared for in NICUs.
- Feeding is perhaps the first and most important task that the medical team takes part in given that feeding success is such an important indicator of an infant's ability to facilitate growth and general neurological maturation. However, successful eating requires effective oral-motor patterns, which is commonly very weak in premature infants. Oral-Motor Dysfunction impacts an infants ability to achieve successful oral feeds due to weakness of the:
  - Lips
  - Tongue
  - Jaw

- One of the many roles of the SLP is to improve an infant's oral motor control. In doing so, SLPs look at ways in which they can increase functional strength and movement control of the lips, cheek, jaw, and tongue. A way in ensuring this is through the application of Kinesiology Taping, also known as K-Tape (Gonzalez, 2021).

Methodology

Procedures: An online questionnaire was posted in a Medical SLP forum group specifically targeted toward NICU speech therapists who can report any experiences and/or clinical knowledge regarding Kinesiotaping.

Subjects & Settings: NICU Speech-Language Pathologists who have experience or exposure to utilizing K-Tape with infants.

Measures: Background information on participating SLPs were collected before a series of online survey questions were presented. The questions included:

1). Have you ever been exposed to using Kinesiology Tape on infants to promote positive oral feeding outcomes?

2). Does your hospital currently have any protocols in place related to utilizing Kinesiology Taping techniques on infants suffering from impaired sucking and swallowing? If so, please describe.

3). Achieving full oral feeding is an important milestone in preterm infants. With that being said, do you believe Kinesiology Taping can reduce transition time to oral feeding?

4). Speaking from personal experience or observation -- please explain your thoughts on best practice use regarding taping techniques to implement on infants with oral-motor deficits? If applicable, please include both pros and cons.

Results

There were 15 respondents, all of whom answered the online questionnaire in its entirety.

Question 1:	Yes	No
Have you ever been exposed to using Kinesiology Tape on infants to promote positive oral feeding outcomes?	40%	60%

Question 2:	Yes	No
Does your hospital currently have any protocols in place related to utilizing Kinesiology Taping techniques on infants suffering from impaired sucking and swallowing?	13.33%	86.67%

Question 3:	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Achieving full oral feeding is an important milestone in preterm infants. With that being said, do you believe Kinesiology Taping can reduce transition time to oral feeding?	6.67%	13.33%	53.33%	13.33%	13.33%

Question 4:

Speaking from personal experience or observation -- please explain your thoughts on best practice use regarding taping techniques to implement on infants with oral-motor deficits? If applicable, please include both pros and cons.

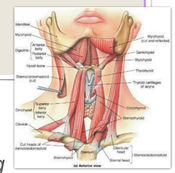
PROS		
Orbicularis Oris (OO-Tape) has been helpful with my infant patients to improve sucking and lip closure.	*Since a babies skin is soft and fragile, my unit has found K-Taping to work best when only using about 15% pulling force as the upper limit when facilitating lip closure, jaw movement, immature suck pattern, etc.*	*Skin input to the nervous system would be beneficial when using K-Tape on infants.*
Skin integrity and forming sensory responses need to be carefully considered in conjunction with maximizing musculoskeletal responses. With that said, k-taping for cleft palate can be very beneficial and is something that is encouraged to be used in the NICU where I work.	*I find it best to start by using Elastic Therapeutic Taping (ETT) on the skin of pre-term, or even term born babies from the 29th postnatal day onwards. However, if breathing and swallowing is compromised and tube feeding or oxygen is needed, I recommend starting earlier.*	*I advocate to use the S-Tape application on my unit first when treating swallowing disorders in neonates, and then the OO-Tape can also be a very effective application.*

CONS		
Newborn skin is thin and vulnerable and can be easily damaged when removing tapes and adhesives.	*We know that a least to most support system is best practice and with the use of K-Tape it would not allow the SLP to fade support during a PO attempt.*	*Taping can be time consuming.*
Sensory affects of taping on neonates can raise concern, as well as risk increasing oral aversion.	*We should be utilizing other evidence-based intervention techniques including regulation, flow rate, and positioning to get infants to full PO before considering K-Taping.*	*I am not opposed to using K-Taping because I believe it could be very beneficial. However, I need more experience and education before implementing this intervention and unfortunately, my hospital does not cover CEU cost.*

Techniques

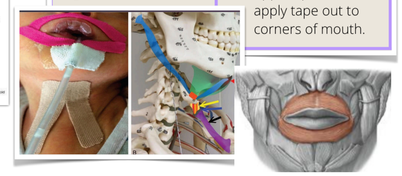
"S" Taping

Indications	Application
• Decrease frequency and severity of any drooling. • Improve swallow, decrease coughing and choking. • Increased tongue activity (Support Mylohyoid and Digastric Belly of the Suprahyoids.	• Palpate for base of tongue/cue point for swallow. Apply center of tape first, paper-off tension, with head/neck in neutral position.



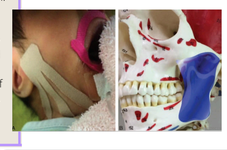
Orbicularis-Oris"OO" Taping

Indications	Application
• Increase labial protrusion, rounding, and closure. • Improve straw/bottle drinking and eating. • Decrease open mouth breathing. • Reduce the interlabial gap.	• 2- "I" cuts (length will depend on size of infant and how much input needed -- less is more). • Center tape first, starting in the middle above the upper lip - and then apply tape out to corners of mouth.



Masseter Taping

Indications	Application
• Increase jaw movement. • Improve chewing activity. • Improve sucking function and lip closure.	• Cut should be in the form of an "I" or Fan. • Tape should be anchored on the lower border of the zygomatic arch and elongated to the coronoid process of the mandible bone. • Less is more!



What should be considered when selecting a type of tape?

- Location
- Age/weight/strength of infant
- Skin integrity/sensitivity
- Purpose/function of the tape
- Amount of resistance needed
- Length of wear desired
- Color/Dye: some babies are sensitive to dyes

Discussion

Regarding the perspectives of SLPs -- each readily shared their knowledge and concerns about implementing Kinesiology Taping as a technique to increase success in feeding infants with oral-motor deficits. In conclusion, most SLPs with experience in K-Taping reported that they take pride in trialing different taping techniques before finding one that works the best on an infant. However, some reported the need to utilize other evidence-based interventions prior to considering K-Taping such as regulation, flow rate, and positioning. A common theme noted amongst the SLPs responses is the lack of education and the need for more research on this topic. Many want to agree that K-Taping can reduce the transition time to oral feeds, and offer other great benefits but feel as if they need more experience and research in the particular area of K-Taping and infants.

References

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