Taping in Pediatrics

The use of Kinesio® Tape in pediatrics has become more widespread over the past few years. Taping trials with a few select children at Cleveland Clinic Children's Hospital Shaker Campus have been performed. We hope to initiate research and further case studies in this area.

Dr. Kase, in the Kinesio Taping Perfect Manual, has outlined taping techniques for TMJ pain. These include techniques for pain with chewing and difficulty opening the mouth due to pain. Children with neurological disorders, developmental delay and dysarthria often present with difficulty with mouth closure, resulting in increased drooling, poor articulation, and hypermobility in the TMJ

Trials of Kinesio tape have been used with children who present with decreased oral motor control using techniques for: TMJ stabilization, jaw stability to decrease drooling, orbicularis oris for better lip closure.

The orbicularis oris is the major muscle responsible for lip closure. In children with neuromuscular issues, this may be a weakened muscle, due to overstretch from positioning of the head, neck and mouth. Children with varying diagnoses, including cerebral palsy, developmental delay, and dysarthria have been taped.

Orbicularis Oris Taping:

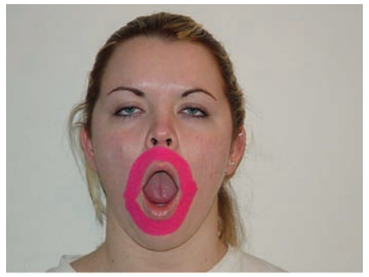
• Orbicularis oris
Origin: alveolar border of maxilla lateral to midline of mandible
Insertion: circumferentially around mouth blends with other muscles
Action: closes the lips, protrudes the lips

Orbicularis Oris Taping Technique:

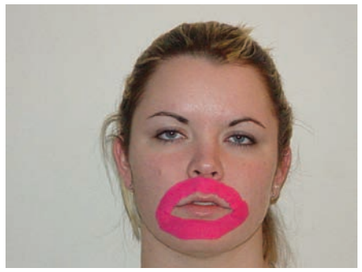
• Use 2 "I" cut tapes, _ to _ inches wide.
• Length needed to fit around mouth when fully opened.
• Anchor at center of mouth above upper lip.

• While mouth is open, lay down tape with paper-off (10%) tension or pull.
• Tape should end at corners of upper lip.
• Do not place tape on lips, but just outside of lips, outlining mouth.

• Take second piece of tape and anchor at center of lower lip.
• Tape should surround mouth, following the orbicularis oris muscle.
• Ends should overlap slightly.



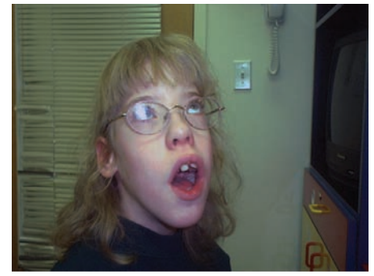
• Taping with this method has been shown to improve "pursing of lips and mouth closure.
• Children do tire and initial tape is worn for a maximum of 45 minutes, with time gradually increased.



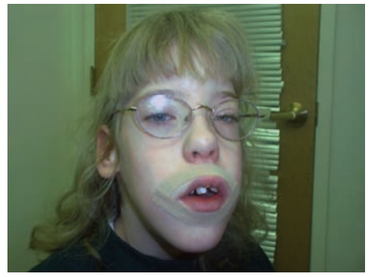
Oribularis Oris Taping Results:

• One four-year-old boy with cerebral palsy drooled a great deal, requiring wiping of his mouth a minimum of 12 times a session.
• With tape applied to the orbicularis oris, drooling during the session decreased, with minimal drooling, requiring wiping of his mouth only once a session.
• After 45 to 60 minutes, he seemed to tire and tolerance of tape decreased.
• Time in tape was gradually increased to a few hours, to include mealtimes at home.

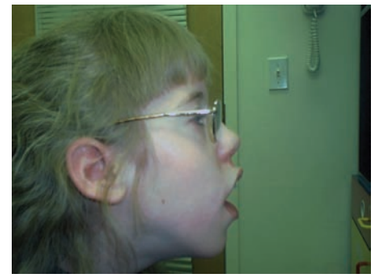
Prior to taping

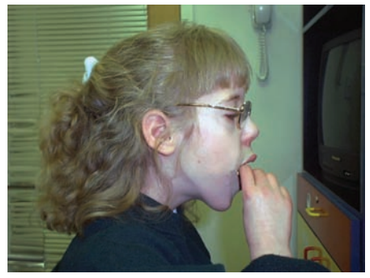


Orbicularis Oris taping applied



This nine-year-old girl with cerebral palsy and dysarthria had a significant decrease in drooling at rest, and during eating she showed improved tongue lateralization as well. She was also able to produce bilabial sounds, including "b", "m", and "t" much more accurately. The mechanism of impact may be primarily sensory, due to input directly over the orbicularis oris or may involve facilitation of the orbicularis oris muscle itself.





Taping for Mouth Closure

Taping for lip closure may not only decrease drooling, but may improve tongue lateralization as evidenced by the production of bilabial sounds ("b", "m", "p").

Jaw Stability Taping:

Children with neuromuscular involvement often have decreased jaw stability and difficulty grading movement of the jaw for chewing. Kinesio® Tex Tape can be applied to assist in improving jaw control and stability for speech and eating.

This technique is usually done bilaterally, for symmetrical jaw stabilization.

Jaw Stability Taping Technique:

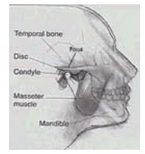
• One piece of tape, 1.5 to 2 inches wide, "Y" cut with superior tail shorter than inferior.
• Anchor tape proximal to TMJ joint.

• Apply superior tail with "paper-off" tension diagonally along upper jaw toward lower cheek.

• Instruct client to open mouth, but observe to be sure jaw does not sublux or retract.
• Apply inferior tail with paper-off tension along lower jaw.

Jaw Stability Taping Results:

• Improved jaw stability at rest.
• Improved jaw stability during eating, with decreased excursion of mandible in opening mouth
• Improved grading of mandibular movements.

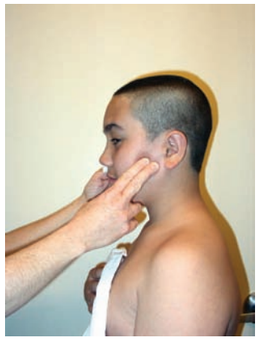


Temporomandibular Joint Taping:

TMJ Anatomy
• The temporomandibular joint, or TMJ, is the articulation between the condyle of the mandible and the squamous portion of the temporal bone.
• The condyle is elliptically shaped with its long axis oriented mediolaterally.

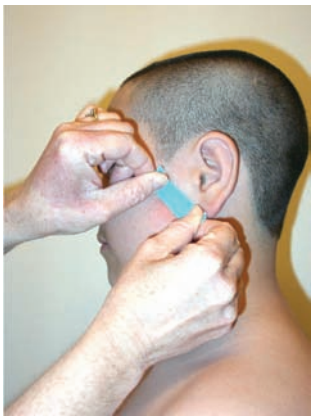
Temporomandibular Joint Taping Technique:

• Locate TMJ joints and feel movement
• Identify which, if any, is hypermobile.
• Painful joint may be hypermobile, hypomobile, or pain may be a variety of other reasons.

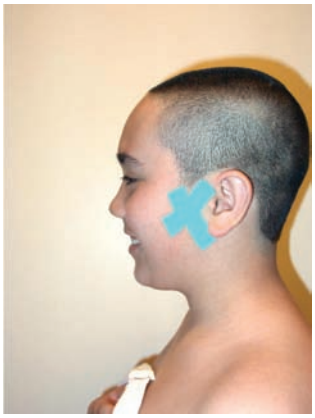


Temporomandibular Joint

• Cut two "T" tapes, one inch wide and about two inches long.
• Tear backing down center and fold back.
• Pull to full tension from center and place diagonally over TMJ joint.



• Place second piece diagonally over first, to form an "X" over the joint.
• This may be done bilaterally to improve jaw stability.
• "X" may be extended forward toward mouth.



TMJ Taping Concerns:

• TMJ involvement may cause headaches, difficulty chewing, bruxism (teeth grinding), and pain.
• Taping a hypermobile joint should follow only after a complete assessment, with instructions to remove tape with any concerns or increase in symptoms.

TMJ Taping Results:

On one child with asymmetrical TMJ mobility, the hypermobile joint was taped to limit hypermobility and more symmetrical jaw movement was observed. Two 1" pieces were cut and used in an "X" as a corrective technique over the TMJ.

Thorough evaluation of TMJ movement is essential, as potential to cause increased pain is posssible. Decreased drooling and improved jaw stability have been observed. Decreased bruxism has also been reported in some cases. Improved symmetry of jaw movements is often a result.

CONCLUSION

The use of Kinesio Taping in pediatrics to improve lip closure, jaw stability and oral motor control in pediatrics needs to be further explored. Kinesio Tape provides another tool for use in the therapeutic treatment.

Trish Martin, P.T.
Licensed physical therapist working in pediatrics over 20 years, Using taping techniques for the past ten years, Using Kinesio® Tex Tape for the past six years, Studied the effects of Kinesio® Tex Tape on oral motor control for the past year, with physical, occupational, and speech therapists at Cleveland Clinic Children's Hospital, Shaker Campus.

For more information contact KTA at 888-320-TAPE