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TMJ - Temporo-Mandibular Joint Dysfunction

The temporo-mandibular joint is the joint where the lower jaw (mandible) joins the skull, immediately in front of the ear on each side of the head. Each time your child chews, talks, or swallows, the TMJ moves. It is one of the most frequently used joints in the body.

You can locate that joint by putting your finger on the triangular structure in front of your child's ear (see picture). Then move your finger just slightly forward and press firmly while your child opens and closes his/her jaw all the way. The motion you feel is in the TMJ. You can also feel the joint motion if you put your little finger down into your child's ear canal with the fingernail backwards. Then press forward as your child opens and closes the jaw again.

These maneuvers can cause discomfort to a patient who is having TMJ trouble, and your doctor may use these maneuvers to make a diagnosis of TMJ dysfunction (see last page for picture describing this test).

Is TMJ Dysfunction Serious In Children?

TMJ dysfunction is not a serious problem in children. It may resolve without any treatment and tends not to be a recurring problem. It explains why your child may complain of ear pain on and off without having an ear infection.

How Does the TMJ Work?

When your child bites down forcefully, not only is forced placed on the object between the teeth, but also on the joint. In terms of physics, the jaw is the lever and the TMJ is the fulcrum. More force is applied (per square inch) to the joint surface than to whatever is between your teeth. To accommodate for such forces, and to prevent too much wear and tear from occurring in one spot within the joint space, the joint was designed to be a sliding joint, rather than the usual ball-and-socket type joint, (such as the hip and shoulder).

Therefore, the forces of chewing can be distributed over a wider surface in the joint space, which lessens the wear and tear and allows healing to rapidly occur in between chewing times.

Joints are lined with cartilage ("gristle") that is a rubbery, slippery material that allows for smooth motion.

What Causes TMJ?

If your child clenches or grinds his/her teeth, the cartilage lining the joint becomes irritated. Chewing gum can cause increased wear. If your child chews only on one side of the mouth, all the pressure is concentrated on one side rather than equally on both sides, and too much wear occurs on the joint of that side. This may occur if there is a cavity on one side that prevents your child from chewing on that side.

Teeth that do not fit together properly are often at fault. This is called an improper "bite." Imagine how much extra pressure the TMJ must endure during each chew when teeth on one side come together before those on the opposite side do.

In each of the above circumstances, a faulty chewing pattern takes place that creates one focus of wear in the cartilage lining of the joint space. This may result in TMJ pain.

How Do I Know If My Child Has TMJ Dysfunction?

- Your child complains of sharp pain when swallowing, yawning, talking or chewing. The usual focus of pain is over the joint, immediately in front of the ear, but pain can also radiate elsewhere. The pain often causes spasm in the adjacent muscles that are attached to the bones of the skull, face, and jaws.
- Your child complains of ear pain that comes and goes. This pain is not associated with cold symptoms or fever. TMJ dysfunction can only be diagnosed when your child is examined and no ear infection is found.
- Your child complains of recurring headaches on the side of the head (the temple), the cheek, the lower jaw, and the teeth.
- Your child complains of ringing, hissing, or buzzing in the ears.
- Your child is not able to fully open or close the jaw when eating, speaking or yawning.
- A popping, clicking or grinding sound occurs when your child's jaws are opened widely.
- Your child has any of the above complaints and is undergoing orthodontic therapy (braces). During orthodontic manipulation of the teeth and jaws, some children will experience TMJ pain. This pain usually resolves without having to stop the orthodontic treatment.

How Is TMJ Dysfunction Treated?

If the TMJ pain is mild, it will probably respond to the following:

- Apply heating pad or hot compresses for 10-15 minutes 3-4 times per day. Encourage your child to open and close his/her mouth 20-30 times after using the hot compresses. This helps to lessen the spasms of the muscles attached to the TMJ.
- Ibuprofen (Motrin and Advil) and acetaminophen (Tylenol) are very effective for reducing pain and inflammation in TMJ.
- Your child's dentist can fit your child with a night brace to open the bite and decrease bruxism (grinding teeth while sleeping.)

Can TMJ Dysfunction Be Prevented?

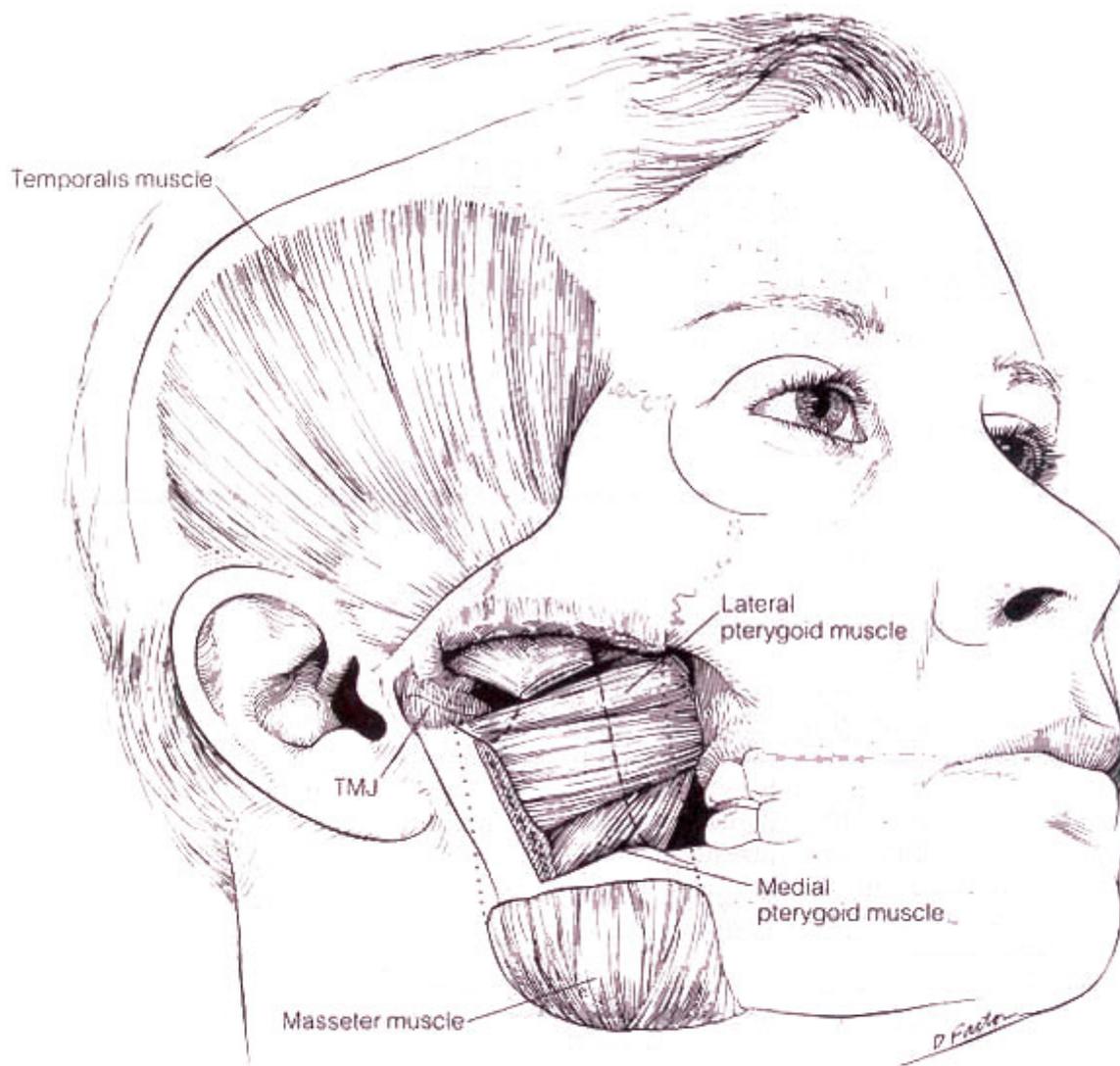
- Check to see if your child is chewing evenly (top & bottom back teeth are touching at same time).
- Teach your child to stop clenching, gritting or grinding teeth.
- Decrease chewing gum or ice.
- Avoid hard chewy foods.
- Do not bite nails, pens, pencils or other hard objects.

- Where possible, eliminate obvious stresses for your child.
- Minimize childhood trauma to the joint by ensuring that appropriate safety gear is worn when playing sports (helmet, face mask, and mouthguards)
- Have your child see a pediatric dentist regularly.

Adapted from article from American Academy of Otolaryngology-Head and Neck Surgery

The following picture displays the normal Temporo-Mandibular Joint

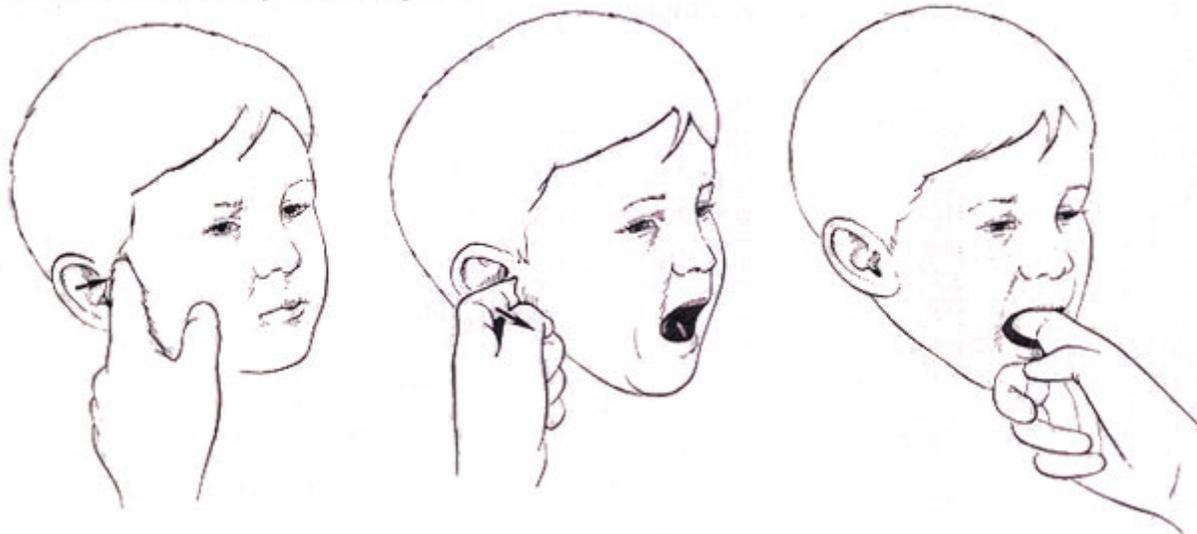
The anatomy of TMJ dysfunction



The temporomandibular joint, which attaches the mandible to the skull, also comprises the outer portion of the anterior external ear canal. Pain is referred to the ear when spasms of the masticatory or pterygoid muscles occur.

The following tests can be used to determine if your child is having TMJ pain. When your child's TMJ is not sore, these tests will not cause any discomfort.

Three tests to reproduce pain



The pain associated with TMJ dysfunction can be reproduced in three ways; the preauricular exam (above left), palpating the left and right preauricular areas over the TMJs; inraotic manipulation (above middle), inserting a fingertip in each ear and pulling as the patient opens and closes his mouth; and intraoral examination (above right), inserting the index finger and moving it along the cheek to palpate the pterygoid muscles at the rear of the mouth, where the maxilla connects to the mandable. These patients experience intermittent ear pain but have normal otologic exams.

This information should not be used as substitute for the medical care and advice of your child's physician. Health related topics found on the Andorra Pediatrics web site should not be used for diagnosing purposes or be substituted for medical advice. As with any new or ongoing treatment, always consult your professional healthcare provider before making any changes in treatment or beginning any new treatment. If you have any questions or concerns, please call our office.