Guideline on Acquired Temporomandibular Disorders in Infants, Children, and Adolescents

Originating Committee
Clinical Affairs Committee – Temporomandibular Joint Problems in Children Subcommittee

Review Council
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Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes that disorders of the temporomandibular joint occasionally occur in infants, children, and adolescents. This guideline is intended to assist the practitioner in the recognition and diagnosis of temporomandibular disorders (TMD) and to identify possible treatment options. It is beyond the scope of this document to recommend the use of specific treatment modalities.

Methods

This guideline was developed following the AAPD's 1989 symposium on TMD in children and adolescents.[1] This revision is based upon a review of current dental and medical literature related to TMD in children and adolescents. A MEDLINE search was conducted using the terms "temporomandibular disorder", "adolescent", and "children".

Background

All comprehensive dental examinations should include a screening evaluation of the temporomandibular joint (TMJ) and surrounding area.[2-4] Diagnosis of TMD is based upon a combination of historical information, clinical examination, and/or craniocervical and TMJ imaging.[5-6] The findings are classified as symptoms (those reported by the child or parent) and signs (those identified by the dentist during the examination).[2] The reported prevalence of TMD in infants, children, and adolescents varies widely in the literature.[7-10] Prevalence of signs and symptoms increases with age. One study of the primary dentition reported 34% with signs and/or symptoms of TMD.[11] An epidemiological study of 440 children aged 7-14 reported 36% with symptoms (15% of those having recurrent headaches and 13% clicking sounds).[12] More than half of the children (64%) claimed pain upon palpation of the TMJ muscles.[12] In a study of 285 17 year-olds, 62% had either signs or symptoms of dysfunction, with fatigue in the jaw, TMJ sounds, and tenderness in the lateral pterygoid muscle as the most common findings.[13] Controversy surrounds the significance of signs and symptoms in this age group, the value of certain diagnostic procedures, and what constitutes appropriate therapy. It is not clear whether these signs and symptoms constitute normal variation, preclinical features, or manifestations of a disease state.

Temporomandibular disorders have multiple etiological factors.[14] Many studies show a poor correlation between any single etiological factor and resulting signs and symptoms.[14] Research is insufficient to predict reliably which patient will or will not develop TMD. Etiologic factors suggested as contributing to the development of TMD are:

1. Head and neck trauma: Trauma to the chin, a common occurrence in childhood because of a fall, is reported to be a factor in the development of TMD in pediatric patients.[15,16] Unilateral and bilateral intracapsular or subcondylar fractures are the most common mandibular fractures in children.[17,18] Closed reduction and prolonged immobilization can result in ankylosis.[19]
2. Occlusal factors: There is a relatively low association of occlusal factors and the development of temporomandibular disorders.[20,21] However, several occlusal features characterize diagnostic groups[22]:
   - skeletal anterior open bite;
   - overjet greater than 6 to 7 mm;
   - retrocuspal position (centric relation) to intercuspal position (centric occlusion) slides greater than 4 mm;
   - unilateral lingual cross bite;
   - 5 or more missing posterior teeth.
3. Parafunctional habits: The literature on the association between parafunction and TMD in pediatric patients is contradictory.[23]
4. Posture: Craniocervical posture has been associated with occlusion and with dysfunction of the TMJ, including abnormalities of the mandibular fossa, condyle, ramus, and disc.[24-26]
5. Orthodontic treatment: Current literature does not support that the development of TMD is caused by orthodontic treatment.[27,28]

Certain medical conditions are reported to mimic TMD occasionally. Among them are trigeminal neuralgia, cen-

tral nervous system lesions, odontogenic pain, sinus pain, otological pain, developmental abnormalities, neoplasias, parotid diseases, vascular diseases, myofascial pain, cervical muscle dysfunction, and Eagle's syndrome. Other common medical conditions (eg, otitis media, allergies, airway congestion, rheumatoid arthritis) can cause symptoms similar to TMD. [29]

Few studies document success or failure of specific treatment modalities for TMD in infants, children, and adolescents on a long-term basis. These suggest that simple, conservative, and reversible types of therapy are effective in reducing most TMD symptoms in children. [30,31] Reversible therapies include patient education, physical therapy, behavioral therapy (eg, eliminating chewing gum), medications, and occlusal splints. Irreversible therapies can include occlusal adjustment, mandibular repositioning, and orthodontics.

Recommendations

Every comprehensive dental history and examination should include a TMJ history and assessment. The history should include questions concerning the presence of head and neck pain and mandibular dysfunction, previous orofacial trauma, and history of present illness with an account of current symptoms. In the presence of a positive history and/or signs and symptoms of TMD, the examination should include palpation of masticatory and associated muscles and the TMJ's, documentation of joint sounds, occlusal analysis, and assessment of range of mandibular movements including maximum opening, protrusion, and lateral excursions.

Joint imaging is indicated on a selected basis for joint sounds in the absence of other TMD signs and symptoms. For example, the presence of crepitus may indicate degenerative change that is not yet painful.

Therapeutic modalities to prevent TMD in the pediatric population are yet to be supported by controlled studies. For children and adolescents with signs and symptoms of TMD, reversible therapies should be considered. Because of inadequate data regarding their usefulness, irreversible therapies should be avoided. [32]

Referral to a medical specialist may be indicated when otitis media, allergies, abnormal posture, airway congestion, rheumatoid arthritis, or other medical conditions are suspected.

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