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

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

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Purpose

The diagnosis and treatment of acquired temporomandibular disorders in infants, children, and adolescents have received increased attention in the past few years.[1] There is controversy regarding the significance of signs and symptoms of temporomandibular disorders in this age group, the value of certain diagnostic procedures, and what constitutes appropriate therapy.

Background

The reported prevalence of temporomandibular disorders in infants, children, and adolescents varies widely in the literature.[2-5] Various signs and symptoms have been used to define temporomandibular conditions; however, it is not clear whether these signs and symptoms constitute normal variation, preclinical features, or manifestations of a disease state. Prevalence of signs and symptoms increases with age.

Temporomandibular disorders have multiple etiological factors.[6] Many studies show a poor correlation between any single etiological factor and resulting signs and symptoms. Inadequate research has been conducted to adequately predict which patient will or will not develop temporomandibular disorders.

Head and neck macrotrauma

Trauma to the head and neck is reported to be an etiological factor in pediatric patients.[7,8]

Occlusal factors

There is a relatively low association of occlusal factors and the development of temporomandibular disorders.[9,10] However, several occlusal features characterize diagnostic groups:

1. skeletal anterior open bite;
2. overjet greater than 6 to 7 mm;
3. retrocuspal position (centric relation) to intercuspal position (centric occlusion) slides greater than 4 mm;
4. unilateral lingual cross bite;
5. 5 or more missing posterior teeth.

Parafunctional habits/microtrauma

The literature on the association between parafunction and microtrauma and temporomandibular disorders in pediatric patients is contradictory.[11]

Orthodontic treatment

There is no evidence that orthodontic treatment causes the development of temporomandibular disorders.[12,13]

Diagnosis and management

Diagnosis includes a combination of historical information, clinical examination, and temporomandibular joint (TMJ) imaging.[14,15]

A screening history for temporomandibular disorders should be performed on all patients and include questions concerning the presence of head and neck pain and mandibular dysfunction. Positive findings indicate the need for a more comprehensive history and a thorough clinical examination.

The examination should include medical and dental histories, a history of present illness with an account of present symptoms, palpation of masticatory and associated muscles and the TMJs, recording of joint sounds, range of mandibular movements, and occlusal data.

Imaging can be a valuable adjunct, especially if uncertainty in the diagnosis and possible etiology exists. Joint imaging is indicated only on a selected basis for joint sounds in the absence of other temporomandibular disorders signs and symptoms. For example, the presence of significant crepitus may be indicative of degenerative change that is not yet painful.

Presently there are no controlled studies to support prophylactic modalities of therapy.

There are few studies that present data documenting success or failure of specific treatment modalities with the temporomandibular disorders 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 temporomandibular disorder symptoms in children.[16,17] Reversible therapies include patient education, physical therapy, behavioral therapy, medications, and occlusal splints. Presently, there is inadequate data suggesting that irreversible therapies are useful in the management of temporomandibular disorders in the pediatric population. Irreversible therapies include occlusal adjustment, mandibular repositioning, and orthodontics.

References

1. American Academy of Pediatric Dentistry. Temporomandibular disorders in children and adolescents symposium; September 1989; San Antonio, Tex.
2. Alamoudi N, Farsi N, Salako N, Feteih R. Temporomandibular disorders among school children. J Clin Pediatr Dent 1998; 22:323-329.
3. List T, Wahlund K, Wenneberg B, Dworkin SF. TMD in children and adolescents: Prevalence of pain, gender differences, and perceived treatment need. J Orofac Pain 1999;13:9-20.
4. Stockstill JW, Bowley JF, Dunning D, Spalding P, Stafford K, Erickson L. Prevalence of temporomandibular disorders in children based on physical signs. J Dent Child 1998;65:459-467.
5. Paesani D, Salas E, Martinez A, Isberg A. Prevalence of temporomandibular joint disk displacement in infants and young children. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1999;87:15-19.
6. Green CS. Etiology of temporomandibular disorders. Seminar Orthod 1995;1:222-228.
7. Pullinger AG, Seligman DA. Trauma history in diagnostic groups of temporomandibular disorders. Oral Surg Oral Med Oral Pathol 1991;71:529-534.
8. Greco CM, Rudy TE, Turk DC, Herlich A, Zaki HH. Traumatic onset of temporomandibular disorders: Positive effects of a standardized conservative treatment program. Clin J of Pain 1997;13:337-347.
9. Pullinger AG, Seligman DA, Gornbein JA. A multiple logistic regression analysis of the risk and relative odds of temporomandibular disorders as a function of common occlusal features. J Dent Res 1993;72:968-979.
10. McNamara JA Jr, Seligman DA, Okeson JP. Occlusion, orthodontic treatment, and temporomandibular disorders: A review. J Orofac Pain 1995;9:73-90.
11. Widmalm SE, Christiansen RL, Gunn SM. Oral parafunctions as temporomandibular disorder risk factors in children. Cranio 1995;13:244-246.
12. McNamara JA Jr, Turp JC. Orthodontic treatment and temporomandibular disorders: Is there a relationship? Part 1: Clinical studies. J Orofac Orthop 1997; 58:74-89.
13. Hirata RH, Heft MW, Hernandez B, King GJ. Longitudinal study of signs of temporomandibular disorders in orthodontically treated and nontreated groups. Am J Orthod Dentofacial Orthop 1992; 101:35-40.
14. American Academy of Orofacial Pain. Assessment of orofacial pain disorders. In: Okeson J, ed. *Orofacial Pain: Guidelines for Assessment, Diagnosis, and Management.* Carol Stream, Ill: Quintessence Publishing Co Inc; 1996.
15. Wahlund K, List T, Dworkin SF. Temporomandibular disorders in children and adolescents: Reliability of a questionnaire, clinical examination, and diagnosis. J Orofac Pain 1998;12:42-51.
16. Bodner L, Miller VJ. Temporomandibular joint dysfunction in children: Evaluation of treatment. Int J Pediatr Otorhinolaryngol 1998;44:133-137.
17. Skeppar J, Nilner M. Treatment of craniomandibular disorders in children and young adults. J Orofac Pain 1993;7:362-369.