

Adolescent Oral Health Care

Latest Revision

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Abstract

This best practice presents general recommendations for managing the distinct oral health care needs of adolescents. Accurate medical, dental, and social histories are necessary for safe and effective care. Health history forms should allow youth to provide information on topics such as gender, diet, piercings, and risk-taking behaviors (eg, tobacco, alcohol, and drug use; sexual activity). The age and stage of adolescence (early, middle, or late) will impact diagnostic, preventive, restorative, and surgical treatment decisions. Each adolescent oral health topic (caries, fluoride use, oral hygiene, diet management, sealants, professional preventive treatment, restorative dentistry, periodontal disease, malocclusions, third molars, temporomandibular joint disorders, congenitally missing teeth, ectopic eruption, traumatic injuries, and esthetic concerns) has specific recommendations. Additional considerations, including psychosocial development, external influences on behavior and mental health, are discussed. Assent is an important aspect of adolescent oral health care that can foster the patient's emerging independence. Due to the complexity of their unique needs and psychosocial influences, creating and maintaining trust and confidentiality are important when providing oral health care for adolescents. Transition to adult dental care should be discussed as the patient approaches the age of majority and implemented at a time agreed upon by the patient, parent, and practitioner.

This document was developed through a collaborative effort of the American Academy of Pediatric Dentistry Councils on Clinical Affairs and Scientific Affairs to offer updated information and recommendations regarding the management of oral health care for adolescents.

KEYWORDS: PSYCHOSOCIAL DEVELOPMENT; HEALTH BEHAVIORS; MALOCCLUSION; OROFACIAL TRAUMA; MENTAL HEALTH; TRANSITION TO ADULT CARE

Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes that the adolescent patient has unique needs. This best practice addresses these needs and proposes general recommendations for their management. This best practice serves as a summary document; more detailed information regarding these topics is provided in referenced AAPD oral health policies, best practices, and clinical practice guidelines.

Methods

This best practice was developed by the Clinical Affairs Committee, adopted in 1986,¹ and last revised by the Council on Clinical Affairs in 2020.² This update includes an electronic search of PubMed/MEDLINE using the terms: (*evidence based dentistry* [Majr] OR *dental care for children* [Majr] OR *pediatric dentistry* [Majr] OR *general dentistry* [Tiab] OR *dentistry* [Majr]) AND (*gingivitis* [Majr] OR *oral pierc** [Tiab] OR *pit and fissure sealants* [Majr] OR *dental caries* [Majr] OR *tobacco use* [Majr] OR *tobacco, smokeless* [MeSH] OR *dental trauma* [Tiab] OR *orofacial trauma* [Tiab] OR *periodontics* [Majr] OR *dental esthetics* [Tiab] OR *bullying* [Majr] OR *mental health* [Majr] OR *social media* [Majr] OR *self-esteem* [Tiab] OR *gender identity* [Majr] OR *feeding and eating disorders* [Majr] OR *diet* [Tiab] OR *nutrition* [Tiab] OR *adolescent* [Majr] OR *teen** [Tiab]); fields: all; limits: humans, English, last 5 years. One thousand eight hundred fifty-seven articles met the defined criteria. Papers for review were chosen from a list of titles

generated from the search, references within selected articles, and updates of previously cited publications. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background

Adolescence refers to the period of accelerated biological growth, changes, and social role transitions that bridges the gap from childhood to adulthood.³ The definition of adolescence has changed due to accelerated onset of puberty, delayed timing of role transitions (eg, completion of education, marriage, parenthood), and the effect of unprecedented social forces such as social media.³ Rather than age 10-19 years, it has been defined as the period between 10 and up to 24 years.³ The American Academy of Pediatrics divides adolescence into 3 age groups including early (ages 11-14), middle (ages 15-17), and late (ages 18-21 and beyond).⁴

The adolescent patient is recognized as having distinctive oral health challenges⁵ including heightened risk for dental caries,^{6(p257),7} periodontal disease,^{6(pp257,258),7} traumatic dental

ABBREVIATIONS

AAPD: American Academy of Pediatric Dentistry. **HPV:** Human papilloma virus. **Majr:** MeSH major topic. **MeSH:** Medical subject heading. **NaF:** Sodium fluoride. **OHRQoL:** Oral health-related quality of life. **SHCN:** Special health care needs. **STI:** Sexually transmitted infections. **Tiab:** Title and abstract. **TMJ:** Temporomandibular joint.

* Used in the PubMed search to identify all terms that begin with this truncated base.

injuries,^{6(p257)-8} pathologic lesions,⁹ and oral manifestations¹⁰ of mental health disorders. Considerations for dental management of adolescents includes an understanding of unique social, behavioral, and psychological factors such as oral hygiene practices; nutritional habits^{6(p257),7}; access to routine dental services^{6(p257),11}; increased esthetic desire and awareness⁷; dental anxiety or phobia⁷; use of tobacco, nicotine, alcohol, or other recreational drugs^{6(p257),7}; desire for oral piercings¹²; risk for pregnancy and sexually transmitted infections^{6(p257),7,13}; and mental health^{7,10} (eg, eating disorders, depression).

Treatment of the adolescent patient can be multifaceted and complex. Accurate, comprehensive, and up-to-date medical, dental, and social histories are necessary for correct diagnosis and effective treatment planning. Familiarity with the patient's medical history is essential for decreasing the risk of aggravating a medical condition while rendering dental care. In some cases, the parent or family members are unaware of certain conditions (eg, use of contraceptives, pregnancy, mental health disorders) affecting/facing the adolescent patient. Privacy and consent laws for adolescent patients vary by state and affect what health information may be shared with parents.¹⁴ The dental practitioner needs to assure the adolescent patient of trust and confidentiality and can encourage disclosure of sensitive health information by giving the patient the opportunity to complete the health history forms privately. If the parent is unable to supply adequate details regarding a patient's medical history, consultation with the medical health care provider may be indicated.^{15,16}

Recommendations

Caries

Adolescence marks a period of significant caries activity for many individuals. Research suggests that the overall caries rate is declining, yet remains highest during adolescence.^{17,18} Immature permanent tooth enamel,¹⁹ a total increase in susceptible tooth surfaces, and environmental factors such as diet,²⁰ independence to seek care or avoid it,²¹ a low priority for oral hygiene,²⁰ and additional social factors²²⁻²⁷ also may contribute to the upward slope of caries during adolescence. Untreated dental caries and missing teeth have been shown to have a negative impact on oral health-related quality of life (OHRQoL); however, restored teeth were not associated with worse OHRQoL.^{28,29} The practitioner's emphasis on the positive effects of fluoridation, professional topical fluoride treatment, routine professional care, patient education, and personal hygiene can counteract the risk of caries in the adolescent population.^{7,11,30}

Management of caries

Primary prevention

Fluoride: Fluoridation has proven to be safe and highly effective in prevention and control of caries.³¹ The adolescent can benefit from fluoride throughout the teenage years and into early adulthood.⁷ Although the systemic benefit of fluoride incorporation into developing enamel is not considered necessary

past 16 years of age, topical benefits can be obtained throughout life through optimally-fluoridated water, professionally-applied and prescribed compounds, and fluoridated dentifrices.^{32,33}

Recommendation: The adolescent should receive maximum fluoride benefit dependent on risk assessment.^{33,34} Brushing teeth twice a day with a fluoridated dentifrice is recommended to provide continuing topical benefits.³¹ Professionally-applied fluoride treatments should be based on the individual patient's caries-risk assessment, as determined by the patient's dental provider.^{31,33} Home-applied prescription-strength topical fluoride products (eg, 0.4% stannous fluoride gel, 0.5% fluoride gel or paste, 0.2% sodium fluoride [NaF] rinse) may be used when indicated by an individual's caries pattern or caries-risk status.^{31,32} Systemic fluoride intake via optimal fluoridation of drinking water is recommended for all individuals. Prescription fluoride supplements may be considered until at least 16 years of age for high caries-risk individuals who do not consume optimally-fluoridated drinking water. Supplements should be given only after all other sources of fluoride have been evaluated.³¹

Oral hygiene: Adolescence can be a time of heightened caries activity and periodontal disease due to an increased intake of cariogenic substances and inattention to oral hygiene procedures.^{20,22} Adolescents become more independent, and toothbrushing may become less of a priority. Adolescent patients need encouragement and motivation to brush with fluoridated toothpaste and floss regularly. Discussions regarding oral hygiene can highlight the benefits of topical fluoride and the importance of plaque removal to reduce caries risk, decrease halitosis, and improve esthetics.^{7,20}

Recommendations: Oral health care professionals should educate and motivate adolescents to maintain personal oral hygiene through daily plaque removal, including flossing, with the frequency and technique based on the individual's disease pattern and oral hygiene needs.²⁰ Professional removal of plaque and calculus is highly recommended for the adolescent, with the frequency of such intervention based on the individual's assessed risk for caries and periodontal disease as determined by the patient's dental professional.^{20,35,36}

Diet management: Many adolescents are exposed to and consume high quantities of refined carbohydrates and acidic beverages in the form of snack foods, soda, coffee, energy drinks, and sports drinks.^{7,23-25,29,37-39} The adolescent can benefit from diet analysis and modification.

Recommendation: Diet analysis, along with professionally determined recommendations for maximal general and dental health, should be part of an adolescent's oral health management.^{40,41}

Sealants: Sealant placement is an effective caries-preventive technique that may be considered on an individual basis. Sealants have been recommended for any tooth, primary or

permanent, that is judged to be at risk for pit and fissure caries.^{11,25,42-44} Caries risk may increase due to changes in patient habits, oral microflora, or physical condition, and unsealed teeth subsequently might benefit from sealant applications.³⁵

Recommendations: Adolescents at risk for caries should have sealants placed. Because an individual's caries risk may change over time, reassessment of sealant need should be performed periodically throughout adolescence.³⁵

Secondary prevention

Professional preventive care: Professional preventive dental care, on a routine basis, may prevent oral disease or disclose existing disease in its early stages. An adolescent patient whose oral health has not been monitored routinely by a dentist may have advanced caries, periodontal conditions, or other oral involvement urgently in need of professional evaluation and extensive treatment.

Recommendations: Timing of periodic oral examinations should take into consideration the individual's needs and risk indicators to determine the most cost-effective, disease-preventive benefit to the adolescent.^{34,36} Initial and periodic radiographic examination should be part of a clinical evaluation. The type, number, and frequency of radiographs should be determined only after an oral examination and history taking. Previous images should be available, whenever possible, for comparison. Currently accepted recommendations for radiographic exposures (ie, selection of imaging based upon medical history, caries risk, history of periodontal disease, and growth and development assessments) should be followed.⁴⁵

Restorative dentistry: Evidence has demonstrated that use of sealants, 5% sodium fluoride varnish, 1.23% acidulated phosphate fluoride (APF) gel, and 5000 ppm fluoride toothpaste for noncavitated caries lesions at specific sites in primary and permanent teeth and use of silver diammine fluoride (SDF) in advanced cavitated caries lesions on primary teeth can arrest or reverse those lesions.⁴⁶⁻⁴⁸ When remineralization of demineralized tooth surfaces is not successful, as demonstrated by progression of caries lesions clinically or radiographically, dental restorations become necessary. Preservation of tooth structure, esthetics, and each individual patient's needs are considerations in selecting restorative materials.⁴⁹ For example, molars with extensive caries or malformed, hypoplastic, or hypomineralized enamel may be vulnerable to breakdown and require full coverage restorations to optimize oral health.^{50,51} Small noncavitated interproximal caries lesions and post-orthodontic white spot lesions may be treated by resin infiltration.^{46,51-54}

Recommendations: Each adolescent patient and restoration must be evaluated on an individual basis. Preservation of non-carious tooth structure is desirable, although hypomineralized tooth structure may require more extensive restorative treatment. Referral should be made when treatment needs are beyond the treating dentist's scope of practice.⁵⁵

Periodontal diseases

Adolescence can be a critical period for one's periodontal health. Epidemiologic and immunologic data suggest that irreversible tissue damage from periodontal disease begins in late adolescence and early adulthood.^{6(p40)} Gingival disease becomes prevalent in adolescence.^{36,56(p371)} Dental caries, mouth breathing, dental crowding, and eruption of teeth predispose adolescents to gingivitis.^{36,56(p371)} Hormonal changes during adolescence are suspected to be a cause of the increased prevalence.^{56(p371)} Studies have suggested an increase in sex hormones during puberty affects the composition of the subgingival microflora and causes exaggerated gingival inflammation, even in the presence of a small amount of plaque.⁵⁷ Other studies suggest circulating sex hormones may alter capillary permeability and increase fluid accumulation in the gingival tissues⁵⁸; this inflammatory gingivitis is believed to be transient as the body acclimates to the ongoing presence of the sex hormones.⁵⁹ Hormonal fluctuations due to pregnancy or gender-affirming care may have periodontal implications. An increasing number of transgender and gender diverse youth are seeking medical care^{60,61} that may include puberty blockers or other hormonal therapies.⁶² Further studies are needed to determine the effects of hormone regimens on the periodontium of adolescents.

Conditions affecting the adolescent include, but are not limited to, dental plaque/biofilm gingivitis, non-dental plaque-induced gingival disease, periodontitis (formerly categorized as chronic or aggressive), necrotizing periodontitis, periodontitis as a manifestation of systemic disease, periodontal abscess, endodontic-periodontal lesions, mucogingival deformities (ie, gingival recession), occlusal trauma, and peri-implant diseases.^{36,56(pp371-377)} The severity of periodontal conditions are assessed by clinical and radiographic examination and can be further characterized by staging and grading the clinical presentation.⁶³ Early diagnosis of periodontal disease in children is important, especially when there are systemic risk factors (eg, poorly-controlled diabetes, leukemia, smoking, malnutrition). Refer to the AAPD's *Periodontal Conditions in Pediatric Dental Patients*³⁶ for further information. Personal oral hygiene and regular professional intervention can help minimize the occurrence of these conditions and prevent irreversible damage.

Recommendations: The adolescent will benefit from an individualized preventive dental health program, which includes the following items aimed specifically at periodontal health.

- Patient education emphasizing the etiology, characteristics, and prevention of periodontal diseases as well as self-hygiene skills.^{64,65}
- A personal, age-appropriate oral hygiene program including plaque removal, oral health self-assessment, and diet. Sulcular brushing and flossing should be included in plaque removal, and frequent follow-up to determine adequacy of plaque removal and improvement of gingival health should be considered.^{36,65}
- Periodontal assessment during initial and routine dental examinations with professional intervention, the frequency and extent of which should be based

on individual needs. Periodontal assessments should include evaluation of personal oral hygiene success, periodontal status, and potential complicating factors such as malocclusion, medical/systemic conditions, or habits that predispose to periodontal disease.

- Basic simplified periodontal examination using 6 index teeth (permanent first molars, maxillary right central incisor, mandibular left central incisor).³⁶ Assessment should include gingival topography, periodontal pocket depths, recession, attachment levels, signs of inflammation (ie, bleeding on probing, suppuration), furcation involvement, presence and degree of plaque and calculus, and plaque retention factors, and mobility of teeth. Radiographic assessment is important for determining presence of subgingival calculus, alveolar bone height, and bony architecture. All findings should be documented as part of the patient's comprehensive dental record.
- Determination of need for procedures (eg, tooth exposure,^{66(p512)} frenectomy,^{66(p517)} fiberotomy,⁶⁷ gingival augmentation,³⁶ implant placement³⁶) to facilitate orthodontic treatment.

Patients with progressive periodontal disease should be referred when the treatment needs are beyond the treating dentist's scope of practice.^{36,65}

Occlusal considerations

The need to address malocclusion increases during adolescence, as environmental and/or genetic contributors to malocclusion become more readily apparent by this stage of development. Numerous methods exist to treat malocclusions and associated orofacial esthetic concerns, temporomandibular joint dysfunction, and periodontal conditions. Third molar malposition and temporomandibular disorders require special attention to avoid long-term problems. Congenitally missing teeth present complex problems for the adolescent and often require combined orthodontic, restorative, and prosthodontic care for satisfactory resolution.

Malocclusion: Any tooth/jaw positional problems that present significant esthetic, functional, physiological, or emotional dysfunction are potential hardships that can impact an adolescent's OHRQoL.^{28,68-72} These can include single or multiple tooth malpositioning, tooth/jaw size discrepancies, and craniofacial disfigurements. Adolescents with Class II and III malocclusions or anterior overjet greater than 6 mm reported a significant impact on their OHRQoL.⁶⁸⁻⁷¹

Recommendations: Malposition of teeth, malrelationship of teeth to jaws, tooth/jaw size discrepancy, skeletal malrelationship, or craniofacial malformation or disfigurement that presents functional, esthetic, physiological, or emotional problems for the adolescent should be referred for evaluation when the treatment needs are beyond the treating dentist's scope of practice. Treatment of malocclusion by a dentist should be

based on professional diagnosis, available treatment options, patient motivation and readiness, and other factors to maximize progress.⁷³ Optimal oral hygiene and routine dental examinations are important to prevent demineralization during orthodontic treatment.

Third molars: Third molars can present acute and chronic problems for the adolescent. Impaction or malposition leading to such problems as pericoronitis, caries, cysts, or periodontal problems merits evaluation for removal.^{74,75} Considerations for extraction also include the functional role of the third molar for each individual patient.

Recommendations: Evaluation of third molars, including radiographic diagnostic aids, should be an integral part of the dental examination of the adolescent.⁷⁶ Refer to the AAPD's *Management Considerations for Pediatric Oral Surgery*⁷⁴ for further discussion. Referral should be made if treatment needs are beyond the treating dentist's scope of practice.

Temporomandibular joint (TMJ) problems: Disorders of the TMJ can occur at any age, but symptoms appear more prevalent in adolescence than in childhood.⁷⁷ A recent systematic review reported that adolescent females had more TMJ disorders than males.⁷⁷

Recommendations: Evaluation of the TMJ and related structures should be a part of the examination of the adolescent.^{78,79} An adolescent comprehensive dental examination should incorporate a screening evaluation of the TMJ and surrounding area that includes a history of symptoms, assessment of jaw movements and, if indicated, radiographic imaging. Referral should be made when the diagnostic and/or treatment needs are beyond the treating dentist's scope of practice.^{74,80,81}

Congenitally missing teeth: The impact of a congenitally missing permanent tooth on the developing dentition can be significant.⁸² When treating adolescent patients who are congenitally missing teeth, considerations include many factors such as esthetics, patient age, growth potential, and orthodontic, periodontal, and oral surgical needs.^{73,82-85}

Recommendations: Treatment planning for patients who are congenitally missing permanent teeth should include both immediate and long-term management. Referral should be made when the treatment needs are beyond the treating dentist's scope of practice. Due to the complexity of the growing adolescent, a team approach may be indicated.^{76,82}

Ectopic eruption: Abnormal eruption patterns of the adolescent's permanent teeth can contribute to root resorption, bone loss, gingival defects, space loss, and esthetic concerns. Early diagnosis, including an individualized radiographic examination,⁴⁵ is important and can result in a healthier and more esthetic dentition. Prevention and treatment may include extraction of deciduous teeth, surgical intervention, and/or endodontic, orthodontic, periodontal, and/or restorative care.⁸⁶⁻⁸⁸

Recommendations: The dentist should be proactive in diagnosing and treating ectopic eruption and impacted teeth in the young adolescent.⁷⁴ Referral should be made when the treatment needs are beyond the treating dentist's scope of practice.⁷⁶

Traumatic injuries

Up to 25% of children and up to 33% of adults have experienced dental trauma.⁸⁹ Potential for traumatic dental injuries is heightened during adolescence due to increased risk of motor vehicle collisions and physical assault.⁹⁰ Other common causes of dental trauma include sports, accidents, violence, or recreational activities.⁹¹⁻⁹⁵ Males are more frequently injured across all age groups.⁹⁴ The administrators of youth, high school, and college organized sports have demonstrated that dental and facial injuries can be reduced significantly by introducing mandatory protective equipment such as face guards and mouthguards.⁹⁶⁻⁹⁸ Additionally, youth participating in leisure activities such as skateboarding, roller skating, trampolining, and bicycling also benefit from appropriate use of mouthguards and protective equipment.^{7,96,99} Implementation of a comprehensive trauma prevention program in dental practices may help reduce the incidence of traumatic injury to the adolescent dentition. This prevention plan can include assessment of the patient's sport or activity, including level and frequency of activity.⁹⁶⁻⁹⁸ The extent of dental traumatic injuries cannot always be determined without radiographs, and dental injuries require clinical and radiographic monitoring of outcomes.¹⁰⁰ Long-term sequelae of traumatic injuries can affect well-being, speech, need for complex care, and OHRQoL.⁷

Recommendations: Timely management of traumatic dental injuries is critical to improve prognosis and optimize treatment outcomes. Prior to the dental trauma assessment, clinicians should verify their patient's immunization status and obtain a thorough medical history. Athletes will benefit from the recommendation and fabrication of an age-appropriate, sport-specific, and properly-fitted mouthguard/faceguard.⁹⁶⁻⁹⁸ Patients with sports guards should be warned that altering the protective equipment may disrupt the fit and retention of the appliance. In addition, players and parents must be informed that injury may occur even with properly-fitted protective equipment.⁹⁶⁻⁹⁸

Additional considerations in oral/health care of the adolescent

The adolescent can present particular psychosocial characteristics that impact the health status of the oral cavity, care seeking, and compliance. The development of self-concept,¹⁰¹ emergence of independence,²¹ and sense of coherence (ie, perception of the world as meaningful and manageable)³⁰ are several of the psychodynamic factors impacting dental health during this period. Peer influences can have both positive and negative effects on adolescent health behaviors and are mediated by culture, environment, and other factors.¹⁰²⁻¹⁰⁴

Relatedly, social media has greatly changed the ways in which adolescents receive, process, and respond to health information.¹⁰⁵ Oral health promotion via social media can positively influence oral health behaviors and knowledge among teenagers.¹⁰⁶⁻¹⁰⁸ Social media influencers may be effective in building trust and promoting health among followers but may spread misinformation when they lack subject-matter expertise.¹⁰⁵

Ways in which adolescent autonomy, peer influences, and social media affect oral health attitudes and behaviors include

- dietary choices (eg, fads, freedom to snack, access to carbohydrates, increased energy needs).
- use of tobacco, alcohol, and drugs.
- sexual health-risky behaviors.
- motivation for maintenance of good oral hygiene (eg, esthetics, reduce risk of halitosis).
- adolescent as responsible for care.

Seeking assent from adolescents for treatment can foster the moral growth and development of autonomy in young patients.¹⁰⁹ Refer to the AAPD's *Informed Consent*¹¹⁰ for further information.

Esthetic concerns: Adolescents may prioritize esthetics among their oral health concerns. Self-perceptions of dental appearance can impact self-esteem.¹¹¹⁻¹¹³ Malocclusions, malpositioned teeth, tooth discoloration, and other esthetic concerns can make youth susceptible to bullying.¹¹⁴⁻¹¹⁶ Bullying can have detrimental effects on the mental health of children and adolescents, including lowered self-esteem and depression.^{117,118} Orthodontic treatment can positively impact self-esteem and OHRQoL in children and adolescents.¹¹⁹

Adolescents may desire to improve esthetics of the dentition by tooth whitening and removal of stained areas or defects. Indications for the appropriate use of tooth-whitening methods and products are dependent upon correct diagnosis and consideration of eruption pattern of the permanent dentition.¹²⁰ Bleaching agents, microabrasion, esthetic restorations, or a combination of treatments all can be considered.¹²¹⁻¹²⁴

Recommendations: Dentists should inquire about and address the esthetic concerns voiced by adolescent patients. For the adolescent patient, judicious use of bleaching can be considered part of a comprehensive, sequenced treatment plan that takes into consideration the patient's dental developmental stage, oral hygiene, and caries status. A dentist should monitor the bleaching process, ensuring the least invasive, most effective treatment method. Dental professionals also should consider possible side effects when contemplating dental bleaching for adolescent patients.^{121,122}

Tobacco, nicotine, alcohol, and recreational drug use: Significant oral, dental, and systemic health consequences and death are associated with all current forms of tobacco use. These include the use of products such as cigars, cigarettes, snuff, hookahs, smokeless tobacco, pipes, bidis, kreteks, dissolvable tobacco, pouches, and electronic cigarettes.^{125,126} Smoking and smokeless

tobacco use primarily are initiated and established during adolescence.¹²⁷⁻¹³⁰ Use of tobacco products, electronic cigarettes, alcohol, and recreational drugs increases risk of certain cancers,^{131,132} cardiovascular disease,^{133,134} and stroke¹³⁴. Oral effects of cannabis use can include dry mouth, heightened caries risk, pathologic lesions (eg, leukoedema, erythroplakia), stomatitis, and candidiasis.^{135,136} The developing adolescent brain is susceptible to changes in neural reward pathways, and opioids prescribed for dental procedures may lead to persistent misuse by patients.^{137,138}

Recommendations: Oral health care professionals should ask adolescent patients about their use of tobacco, alcohol, cannabis and other substances.¹³⁹ The oral and systemic consequences of substance use should be part of each patient's oral health education.¹⁴⁰⁻¹⁴² Dental practices should implement protocols to assist those in need of further referrals and interventions, including appropriate educational and counseling services.^{129,143} Oral lesions associated with substance use should be addressed, and patients should be referred to other specialists (eg, oral surgeons, oral pathologists) if the treatment needs are beyond the treating dentist's scope of practice. Clinical findings and management pathways are further discussed in the AAPD's policies on tobacco use, electronic nicotine delivery systems, and substance misuse.¹⁴⁰⁻¹⁴²

Oral piercing: Intraoral and perioral piercing can have local and systemic adverse effects.^{12,144} Risks include, but are not limited to, pain, bleeding, swelling, hematoma, delayed healing, nerve damage, abscess, blood-borne infections (eg, hepatitis B or C, human immunodeficiency virus [HIV], Epstein-Barr virus [EBV], tetanus, tuberculosis), endocarditis, metal hypersensitivity, choking from loose jewelry, enamel fractures, gingival trauma, periodontal recession, speech impediment, and swallowing difficulties or aspiration.^{7,12,145}

Recommendations: Piercing and the use of jewelry on intraoral and perioral tissues should be discouraged due to potential for pathologic conditions and sequelae.¹² Prevention of complications begins with oral health education regarding these adverse effects.¹⁴⁶

Pregnancy: The pregnant adolescent can be affected by physiological changes to the oral cavity (eg, gingivitis, pregnancy-associated dry mouth, pyogenic granuloma).¹⁴⁷

Recommendations: A thorough medical history of the adolescent female patient includes current pregnancy status. Comprehensive care during pregnancy should involve assessment of caries and periodontal disease risks along with discussion of the importance of a healthy diet, fluoride, and oral hygiene.¹⁴⁷

Sexually transmitted infections: The prevalence of sexually transmitted infections (STI) in adolescents, specifically in the ages of 15-19 years, continues to rise.¹³ Examination for oral signs of STI and management or referral by the provider will help minimize health consequences and spread. Because

human papilloma virus (HPV) has shown a relationship with oral and oropharyngeal cancers, dentists are in a unique position to discuss the HPV vaccination with patients and their parents.⁹

Recommendations: Examination for oral signs of STI should be part of comprehensive care delivered to the adolescent patient. The examination should include identifying oral manifestations of STI as well as education on the risk of transmission during unprotected oral sex and adoption of barrier techniques (eg, condoms, dental dams) for prevention; referral for counseling and treatment is recommended when indicated.¹³ Patients also should be educated on HPV and available vaccination to prevent risk of infection.⁹

Behavioral considerations: Adolescents may exhibit a wide range of behaviors in the dental setting due to pain, anxiety, phobia, sensory triggers, past traumatic events, intellectual disability, or otherwise.²² As with younger children, individualized behavior guidance will help to allay fears, build trust, and instill a positive attitude toward dental care among adolescent patients.¹⁴⁸

Recommendations: Oral health care professionals should approach all patients with compassion and empathy, utilizing behavior guidance strategies that will enable successful completion of treatment. Ways to increase patient comfort may range from nonpharmacologic techniques (eg, breathing relaxation, biofeedback, desensitization, sensory adaptations) to use of anxiolytic and sedative agents.¹⁴⁸

Mental health considerations: Mental health disorders among children and adolescents continue to be a significant public health concern in the US.¹⁴⁹ Depressive disorders can affect oral hygiene, leading to increased risk for caries, avoidance of dental visits, and lowered self-esteem.¹⁰ Patients with eating disorders may present with oral manifestations^{150,151} (eg, perimyolysis/severe enamel erosion in patients with bulimia) that benefit from additional dental interventions.

Recommendations: Dental professionals should obtain a thorough medical history for their patients, including psychiatric diagnoses and relevant medications, to better understand the impact of mental health on the oral health of their adolescent patients. In cases in which a patient discloses psychiatric concerns that have not yet been addressed by a mental health care provider, the dentist may help the patient family obtain needed counseling through outreach and referral networks.

Transitioning to adult care: As adolescent patients approach the age of majority, the patient and parent will benefit from discussion with their oral health care professional about transitioning to a dentist who is knowledgeable in adult oral health care. The adult's oral health needs may go beyond the scope of the pediatric dentist's training. The transitioning adolescent should continue professional oral health care in an environment sensitive to his/her individual needs. Many adolescent patients independently will choose the time to seek care from

a general dentist and may elect to seek treatment from a parent's primary care provider. In some instances, however, the treating pediatric dentist will be required to suggest transfer to adult care.

Pediatric dentists are concerned about limited access to oral health care for individuals with special health care needs⁵⁵ as they reach the age of majority. Pediatric hospitals, by imposing age restrictions, can create a barrier to care for these patients. Transitioning to a dentist who is knowledgeable and comfortable with adult oral health care needs is important and, in some instances, difficult due to a lack of trained providers willing to accept this responsibility. Successful transitioning from pediatric to adult special-needs dentistry involves the patient and his caregiver(s), adequate preparation, and understanding of the complex situations relating to care.⁵⁵

Recommendations: At a time agreed upon by the patient, parent, and pediatric dentist, the patient should be transitioned to a dentist knowledgeable and comfortable with managing that patient's specific oral care needs. For the patient with special health care needs, in cases where it is not possible or desired to transition to another practitioner, the dental home can remain with the pediatric dentist and referrals for specialized dental care should be recommended when needed.⁵⁵

References

1. American Academy of Pedodontics. Guidelines for dental health of the adolescent. American Academy of Pediatric Dentistry Reference Manual 1991-1992. Chicago, IL: American Academy of Pediatric Dentistry; 1991:43-6.
2. American Academy of Pediatric Dentistry. Adolescent oral health care. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2020:323-32.
3. Sawyer SM, Azzopardi PS, Wickremarathne D, Patton GC. The age of adolescence. *Lancet Child Adolesc Health* 2018;2(3):223-8.
4. American Academy of Pediatrics. Stages of Adolescence. Last update April 29, 2024. Available at: "https://www.healthychildren.org/English/ages-stages/teen/Pages/Stages-of-Adolescence.aspx". Accessed August 8, 2025.
5. Studen-Pavlovich D, Vieira AM. Part 5: Adolescence: The dynamics of change. In: Nowak AJ, Christensen JR, Mabry, TR, Townsend JA, Wells MH, eds. *Pediatric Dentistry: Infancy Through Adolescence*. 6th ed. St. Louis, MO: Elsevier; 2019:555.
6. US Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General—Executive Summary. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000:40,257-8.
7. Silk H, Kwok A. Addressing adolescent oral health: A review. *Pediatr Rev* 2017;38(2):61-8.
8. American Academy of Pediatric Dentistry. Policy on prevention of sports-related orofacial injuries. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:130-5.
9. American Academy of Pediatric Dentistry. Policy on human papilloma virus vaccinations. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:149-51.
10. American Academy of Pediatric Dentistry. Policy on care for vulnerable populations in a pediatric dental setting. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025: 52-60.
11. Yu SM, Bellamy HA, Schwalberg RH, Drum MA. Factors associated with use of preventive dental and health services among U.S. adolescents. *J Adolesc Health* 2001; 29(6):395-405.
12. American Academy of Pediatric Dentistry. Policy on oral piercing and oral jewelry/accessories. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:152-4.
13. Shannon CL, Klausner JD. The growing epidemic of sexually transmitted infections in adolescents: A neglected population. *Curr Opin Pediatr* 2018;30(1):137-43.
14. Sharko M, Jameson R, Ancker JS, et al. State-by-state variability in adolescent privacy laws. *Pediatrics* 2022; 149(6):e2021053458.
15. Chung RJ, Lee JB, Hackell JM, Alderman EM; Committee on Adolescence; Committee on Practice & Ambulatory Medicine. Confidentiality in the care of adolescents: Policy statement. *Pediatrics* 2024;153(5):e2024066326.
16. Ford C, English A, Sigman G. Confidential health care for adolescents: Position paper of the Society for Adolescent Medicine. *J Adolesc Health* 2004;35(1):1-8.
17. Centers for Disease Control and Prevention. Oral Health Surveillance Report: Trends in dental caries and sealants, tooth retention, and edentulism, United States, 1999-2004 to 2011-2016. Atlanta, GA, USA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2019. Available at: "https://stacks.cdc.gov/view/cdc/82756/cdc_82756_DS1.pdf". Accessed August 8, 2025.
18. Fleming E, Afful J. Prevalence of total and untreated dental caries among youth: United States, 2015-2016. NCHS Data Brief, no 307. Hyattsville, MD: National Center for Health Statistics. 2018.
19. Lynch RJ. The primary and mixed dentition, post-eruptive enamel maturation and dental caries: A review. *Int Dent J* 2013;63(Suppl 2):3-13.
20. Dean JA, Hughes CV. Mechanical and chemotherapeutic home oral hygiene. In: Dean JA, ed. *McDonald and Avery's Dentistry for the Child and Adolescent*. 11th ed. St. Louis, MO: Elsevier; 2022:177.
21. Schuiteman S, Chua KP, Plegue MA, Ilyas O, Chang T. Self-management of health care among youth: Implications for policies on transitions of care. *J Adolesc Health* 2020;66(5):616-22.

22. American Psychological Association. *Developing Adolescents: A Reference for Professionals*. Washington, DC: American Psychological Association; 2002.
23. Hasselkvist A, Johansson A, Johansson AK. Association between soft drink consumption, oral health, and some lifestyle factors in Swedish adolescents. *Acta Odontol Scand* 2014;72(8):1039-46.
24. Laurence B, Farmer-Dixon CM, Southwell A, et al. Sugar-sweetened beverage consumption and caries prevalence in underserved Black adolescents. *Pediatr Dent* 2021;43(5):363-70.
25. Majewski RF. Dental caries in adolescents associated with caffeinated carbonated beverages. *Pediatr Dent* 2001;23(3):198-203.
26. Marshall TA, Curtis AM, Cavanaugh JE, Warren JJ, Levy SM. Beverage intakes and toothbrushing during childhood are associated with caries at age 17 years. *J Acad Nutr Diet* 2021;121(2):253-60.
27. US Department of Health and Human Services, Office of Population Affairs. *Adolescent Development Explained*. Washington, DC: US Government Printing Office; November 2018.
28. Alvarez-Azaustre MP, Greco R, Llena C. Oral health-related quality of life in adolescents as measured with the Child-OIDP Questionnaire: A systematic review. *Int J Environ Res Public Health* 2021;18(24):12995.
29. Feldens CA, Ardenghi TM, Dullius AIDS, Vargas-Ferreira F, Hernandez PAG, Kramer PF. Clarifying the impact of untreated and treated dental caries on oral health-related quality of life among adolescents. *Caries Res* 2016;50(4):414-21.
30. Baker SR, Mat A, Robinson PG. What psychosocial factors influence adolescents' oral health? *J Dent Res* 2010;89(11):1230-5.
31. American Academy of Pediatric Dentistry. *Fluoride therapy*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:372-8.
32. Centers for Disease Control and Prevention. *Recommendations for using fluoride to prevent and control dental caries in the United States*. MMWR Recomm Rep 2001; 50(RR14):1-42.
33. Weyant RJ, Tracy SL, Anselmo TT, et al. Topical fluoride for caries prevention: Executive summary of the updated clinical recommendations and supporting systematic review. *J Am Dent Assoc* 2013;144(11):1279-91.
34. American Academy of Pediatric Dentistry. *Caries-risk assessment and management in infants, children, and adolescents*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:325-31.
35. American Academy of Pediatric Dentistry. *Periodicity of examination, preventive dental services, anticipatory guidance, and oral treatment for children*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:311-24.
36. American Academy of Pediatric Dentistry. *Periodontal conditions in pediatric dental patients*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:527-44.
37. Bailey RL, Fulgoni VL, Cowan AE, Gaine PC. Sources of added sugars in young children, adolescents, and adults with low and high intakes of added sugars. *Nutrients* 2018;10(1):102.
38. Chi DL, Scott JM. Added sugar and dental caries in children: A scientific update and future steps. *Dent Clin North Am* 2019;63(1):17-33.
39. Lott M, Reed L, Deuman K, Story M, Craddock A, Patel AI. *Healthy Beverage Consumption in School-Age Children and Adolescents: Recommendations from Key National Health and Nutrition Organizations*. Consensus Statement. Durham, NC: Healthy Eating Research; 2025. Available at: "https://healthyeatingresearch.org/wp-content/uploads/2024/11/HER_ConsensusStatement_FINAL.pdf". Accessed August 8, 2025.
40. American Academy of Pediatric Dentistry. *Policy on dietary recommendations for infants, children, and adolescents*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:118-22.
41. US Department of Agriculture. *Life Stages: Teens*. Available at: "<https://www.myplate.gov/life-stages/teens#:~:text=a%20healthcare%20provider.,Eat%20a%20Variety%20of%20Foods,fortified%20soy%20alternatives—every%20day>". Accessed August 8, 2025.
42. Chou R, Bougatsos C, Griffin J, et al. Screening, referral, behavioral counseling, and preventive interventions for oral health in children and adolescents aged 5 to 17 years: A systematic review for the US Preventive Services Task Force. *JAMA* 2023;330(17):1674-86.
43. de Amorim RG, Frencken JE, Raggio DP, Chen X, Hu X, Leal SC. Survival percentages of atraumatic restorative treatment (ART) restorations and sealants in posterior teeth: An updated systematic review and meta-analysis. *Clin Oral Investig* 2018;22(8):2703-25.
44. Wright JT, Crall JJ, Fontana M, et al. Evidence-based clinical practice guideline for the use of pit-and-fissure sealants. American Academy of Pediatric Dentistry, American Dental Association. *Pediatr Dent* 2016;38(5):E120-E36.
45. American Academy of Pediatric Dentistry. *Prescribing dental radiographs for infants, children, adolescents, and persons with special health care needs*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:332-6.
46. American Academy of Pediatric Dentistry. *Policy on minimally invasive dentistry*. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:107-9.

References continued on the next page.

47. American Academy of Pediatric Dentistry. Policy on the use of silver diammine fluoride for pediatric dental patients. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:113-5.
48. Slayton RL, Urquhart O, Araujo MWB, et al. Evidence-based clinical practice guideline on nonrestorative treatments for carious lesions. *J Am Dent Assoc* 2018;149(10):837-9.
49. Donly K. Pediatric Restorative Dentistry Consensus Conference April 15-16, 2002, San Antonio, Texas. *Pediatr Dent* 2002;24(5):374-6.
50. American Academy of Pediatric Dentistry. Molar-incisor hypomineralization. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:465-72.
51. American Academy of Pediatric Dentistry. Pediatric restorative dentistry. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric; 2025:473-86.
52. Cebula M, Göstemeyer G, Krois J, et al. Resin infiltration of non-cavitated proximal caries lesions in primary and permanent teeth: A systematic review and scenario analysis of randomized controlled trials. *J Clin Med* 2023;12(2):727.
53. Puleio F, Fiorillo L, Gorassini F, et al. Systematic review on white spot lesions treatments. *Eur J Dent* 2022;16(1):41-8.
54. Senestraro SV, Crowe JJ, Wang M, et al. Minimally invasive resin infiltration of arrested white-spot lesions. *J Am Dent Assoc* 2013;144(9):997-1005.
55. American Academy of Pediatric Dentistry. Policy on transitioning from a pediatric to an adult dental home for individuals with special health care needs. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:185-8.
56. Stenberg WV. Periodontal problems in children and adolescents. In: Nowak AJ, Christensen JR, Mabry TR, Townsend JA, Wells MH, eds. *Pediatric Dentistry: Infancy through Adolescence*. 6th ed. St. Louis, MO: Elsevier; 2019:371-8.
57. Murakami S, Mealey BL, Mariotti A, Chapple ILC. Dental plaque-induced gingival conditions. *J Periodontol* 2018;89(Suppl 1):S17-S27.
58. Vogt M, Sallum AW, Cecatti JG, Morais SS. Factors associated with the prevalence of periodontal disease in low-risk pregnant women. *Reprod Health* 2012;9:3.
59. Cole E, Ray-Chaudhuri A, Vaidyanathan M, Johnson J, Sood S. Simplified basic periodontal examination (BPE) in children and adolescents: A guide for general dental practitioners. *Dent Update* 2014;41(4):328-30, 332-4, 337.
60. Kaltiala-Heino R, Bergman H, Tyolajarvi M, Frisen L. Gender dysphoria in adolescence: Current perspectives. *Adolesc Health Med Ther* 2018;2(9):31-41.
61. Rafferty J; Committee on Psychosocial Aspects of Child and Family Health; Committee on Adolescence, Section on Lesbian, Gay, Bisexual and Transgender Health and Wellness. Ensuring comprehensive care and support for transgender and gender-diverse children and adolescents. *Pediatrics* 2018;142(4):e20182162.
62. Lee JY, Rosenthal SM. Gender-affirming care of transgender and gender-diverse youth: Current concepts. *Annu Rev Med* 2023;74:107-16.
63. Tonetti MS, Greenwell H, Kornman KS. Staging and grading of periodontitis: Framework and proposal of a new classification and case definition. *J Periodontol* 2018;89(Suppl 1):S159-S172.
64. Marchetti E, Pizzolante T, Americo LM, Bizzarro S, Quinzi V, Mummolo S. Periodontology Part 4: Periodontal disease in children and adolescents. *Eur J Paediatr Dent* 2022;23(4):332-5.
65. Modeer T, Wondimu B. Periodontal diseases in children and adolescents. *Dent Clin North Am* 2000;44(3):633-58.
66. Proffit WR, Larson BE. Comprehensive treatment in adolescents: Alignment and vertical problems. In: Proffit WR, Fields HW Jr., Larson BE, and Sarver DM, eds. *Contemporary Orthodontics*, 6th ed. Philadelphia, PA: Elsevier; 2019:512-7.
67. Proffit WR, Larson BE. Comprehensive treatment: Finishing. In: Proffit WR, Fields HW Jr., Larson BE, and Sarver DM, eds. *Contemporary Orthodontics*, 6th ed. Philadelphia, PA: Elsevier; 2019:569.
68. Bernabe E, Sheiham A, de Oliveira CM. Condition-specific impacts on quality of life attributed to malocclusion by adolescents with normal occlusion and Class I, II and III malocclusion. *Angle Orthod* 2008;78(6):977-82.
69. Fabian S, Gelbrich B, Hiemisch A, Kiess W, Hirsch C. Impact of overbite and overjet on oral health-related quality of life of children and adolescents. *J Orofac Orthop* 2018;79(1):29-38.
70. Healey DL, Gauld RD, Thomson WM. Treatment-associated changes in malocclusion and oral health-related quality of life: A 4-year cohort study. *Am J Orthod Dentofacial Orthop* 2016;150(5):811-7.
71. Kunz F, Platte P, Keß S, et al. Impact of specific orthodontic parameters on the oral health-related quality of life in children and adolescents: A prospective interdisciplinary, multicentre, cohort study. *J Orofac Orthop* 2019;80(4):174-83.
72. Göransson E, Sonesson M, Naimi-Akbar A, Dimberg L. Malocclusions and quality of life among adolescents: A systematic review and meta-analysis. *Eur J Orthod* 2023;45(3):295-307.
73. Richardson G, Russell KA. Congenitally missing maxillary incisors and orthodontic treatment considerations for the single tooth implant. *J Can Dent Assoc* 2001;67(1):25-8.

74. American Academy of Pediatric Dentistry. Management considerations for pediatric oral surgery. *The Reference Manual of Pediatric Dentistry*, Chicago, IL: American Academy of Pediatric Dentistry; 2025:551-8.
75. Ye ZX, Qian WH, Wu YB, Yang C. Pathologies associated with the mandibular third molar impaction. *Sci Prog* 2021;104(2):368504211013247.
76. American Academy of Pediatric Dentistry. Management of the developing dentition and occlusion in pediatric dentistry. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:497-515.
77. Minervini G, Franco R, Marrapodi MM, et al. Prevalence of temporomandibular disorders in children and adolescents evaluated with Diagnostic Criteria for Temporomandibular Disorders: A systematic review with meta-analysis. *J Oral Rehabil* 2023;50(6):522-30.
78. Mélou C, Sixou JL, Sinquin C, Chauvel-Lebret D. Temporomandibular disorders in children and adolescents: A review. *Arch Pediatr* 2023;30(5):335-42.
79. Rongo R, Ekberg E, Nilsson IM, et al. Diagnostic criteria for temporomandibular disorders (DC/TMD) for children and adolescents: An international Delphi study-Part 1-Development of Axis I. *J Oral Rehabil* 2021;48(7):836-45.
80. American Academy of Orofacial Pain. Introduction to orofacial pain. In: de Leeuw R de, Klasser GD, eds. *Orofacial Pain: Guidelines for Assessment, Diagnosis, and Management*. 6th ed. Chicago, IL: Quintessence Publishing Co. Inc.; 2018:2.
81. Christidis N, Lindström Ndanshau E, Sandberg A, Tsilingaridis G. Prevalence and treatment strategies regarding temporomandibular disorders in children and adolescents –A systematic review. *J Oral Rehabil* 2019;46(3):291-301.
82. Behr M, Driemel O, Mertins V, et al. Concepts for the treatment of adolescent patients with missing teeth. *Oral Maxillofac Surg* 2008;12(2):49-60.
83. Elagib MFA, Alqaysi MAH, Almushayt MOS, Nagate RR, Gokhale ST, Chaturvedi S. Dental implants in growing patients: A systematic review and meta-analysis. *Technol Health Care* 2023;31(3):1051-64.
84. Elsherif N, Rodriguez J, Ahmed F. Prevalence and management of patients with hypodontia: A cross-sectional study. *J Orthod* 2022;49(3):332-7.
85. Swarnalatha C, Paruchuri U, Babu JS, et al. Prevalence of congenitally missing upper lateral incisors in an orthodontic adolescent population. *J Orthod Sci* 2020;9:15.
86. Alemam AA, Abu Alhaija ES, Mortaja K, AlTawachi A. Incisor root resorption associated with palatally displaced maxillary canines: Analysis and prediction using discriminant function analysis. *Am J Orthod Dentofacial Orthop* 2020;157(1):80-90.
87. Almasoud NN. Extraction of primary canines for interceptive orthodontic treatment of palatally displaced permanent canines: A systematic review. *Angle Orthod* 2017;87(6):878-85.
88. Mathews DP. Surgical and orthodontic management of the ectopic, labially impacted, maxillary canines: A case series. *Int J Periodontics Restorative Dent* 2022;42(6):713-20.
89. Levin L, O'Connell AC, Tewari N, et al. The International Association of Dental Traumatology (IADT) and the Academy for Sports Dentistry (ASD) guidelines for prevention of traumatic dental injuries: Part 1: General introduction. *Dent Traumatol* 2024;40(Suppl 1):1-3.
90. O'Connell AC, Abbott PV, Tewari N, et al. The International Association of Dental Traumatology (IADT) and the Academy for Sports Dentistry (ASD) guidelines for prevention of traumatic dental injuries: Part 2: Primary prevention of dental trauma across the life course. *Dent Traumatol* 2024;40(Suppl 1):4-6.
91. Gassner R, Tuli T, Hächl O, Moreira R, Ulmer H. Cranio-maxillofacial trauma in children: A review of 3,385 cases with 6,060 injuries in 10 years. *J Oral Maxillofac Surg* 2004;62(4):399-407.
92. Gassner R, Tuli T, Hächl O, Rudisch A, Ulmer H. Craniomaxillofacial trauma: A 10 year review of 9,543 cases with 21,067 injuries. *J Craniomaxillofac Surg* 2003;31(1):51-61.
93. Lam R. Epidemiology and outcomes of traumatic dental injuries: A review of the literature. *Aust Dent J* 2016;61(1):4-20.
94. Ng L, Malandris M, Cheung W, Rossi-Fedele G. Traumatic dental injuries presenting to a paediatric emergency department in a tertiary children's hospital, Adelaide, Australia. *Dent Traumatol* 2020;36(4):360-70.
95. Stewart GB, Shields BJ, Fields S, Cronstock RD, Smith GA. Consumer products and activities associated with dental injuries to children treated in United States emergency departments, 1990-2003. *Dent Traumatol* 2009;25(4):399-405.
96. Abbott PV, Tewari N, O'Connell AC, et al. The International Association of Dental Traumatology (IADT) and the Academy for Sports Dentistry (ASD) guidelines for prevention of traumatic dental injuries: Part 3: Mouthguards for the prevention of dental and oral trauma. *Dent Traumatol* 2024;40(Suppl 1):7-9.
97. Abbott PV, Tewari N, Mills SC, et al. The International Association of Dental Traumatology (IADT) and the Academy for Sports Dentistry (ASD) guidelines for prevention of traumatic dental injuries: Part 4: Faceshields for the prevention of dental and oral trauma. *Dent Traumatol* 2024;40(Suppl 1):10-1.
98. Gould TE, Piland SG, Caswell SV, Ranalli D, et al. National Athletic Trainers' Association position statement: Preventing and managing sport-related dental and oral injuries. *J Athl Train* 2016;51(10):821-9.
99. Montero E, Kistangari S, Chounthirath T, Michaels NL, Zhu M, Smith GA. Pediatric sports- and recreation-related dental injuries treated in us emergency departments. *Clin Pediatr (Phila)* 2019;58(11-12):1262-70.

References continued on the next page.

100. Levin L, Day PF, Hicks L, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: General introduction. *Dent Traumatol* 2020;36(4):309-13.
101. Palenzuela-Luis N, Duarte-Clíments G, Gómez-Salgado J, Rodríguez-Gómez JÁ, Sánchez-Gómez MB. International comparison of self-concept, self-perception and lifestyle in adolescents: A systematic review. *Int J Public Health* 2022;67:1604954.
102. Gangrade N, St Fleur K, Leak TM. Factors that influence snacking behaviors of adolescents from urban communities: A qualitative study. *J Nutr Educ Behav* 2022;54(6):521-1.
103. Marziali ME, Levy NS, Martins SS. Perceptions of peer and parental attitudes toward substance use and actual adolescent substance use: The impact of adolescent-confidant relationships. *Subst Abus* 2022;43(1):1085-93.
104. Zhang J, Tong L, Lamberson PJ, Durazo-Arvizu RA, Luke A, Shoham DA. Leveraging social influence to address overweight and obesity using agent-based models: The role of adolescent social networks. *Soc Sci Med* 2015;125:203-13.
105. Engel E, Gell S, Heiss R, Karsay K. Social media influencers and adolescents' health: A scoping review of the research field. *Soc Sci Med* 2024;340:116387.
106. Chung A, Vieira D, Donley T, et al. Adolescent peer influence on eating behaviors via social media: Scoping review. *J Med Internet Res* 2021;23(6):e19697.
107. de Oliveira Júnior AJ, Oliveira JM, Bretz YP, Mialhe FL. Online social networks for prevention and promotion of oral health: A systematic review. *Can J Dent Hyg* 2023;57(2):83-97.
108. Farrokhi F, Ghorbani Z, Farrokhi F, Namdari M, Salavati S. Social media as a tool for oral health promotion: A systematic review. *PLoS One* 2023;18(12):e0296102.
109. Katz AL, Webb SA; American Academy of Pediatrics Committee on Bioethics. Technical report: Informed consent in decision-making in pediatric practice. *Pediatrics* 2016;138(2):e20161485.
110. American Academy of Pediatric Dentistry. Informed consent. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:580-4.
111. Akpasa IO, Yemitan TA, Ogunbanjo BO, Oyapero A. Impact of severity of malocclusion and self-perceived smile and dental aesthetics on self-esteem among adolescents. *J World Fed Orthod* 2022;11(4):120-4.
112. Gavic L, Budimir M, Tadin A. The association between self-esteem and aesthetic component of smile among adolescents. *Prog Orthod* 2024;25(1):9.
113. Recabarren NAG, Carneiro DPA, Valdrighi HC, Vedovello-Filho M, Menezes CC, Vedovello SAS. Relationship between aesthetic concern and self-esteem in adolescents with severe malocclusion. *Acta Odontol Scand* 2023;81(4):255-8.
114. Al-Bitar ZB, Sonbol HN, Al-Omari IK, et al. Self-harm, dentofacial features, and bullying. *Am J Orthod Dentofacial Orthop* 2022;162(1):80-92.
115. Tristão SKPC, Magno MB, Pintor AVB, et al. Is there a relationship between malocclusion and bullying? A systematic review. *Prog Orthod* 2020;21(1):26.
116. Veiga da Silva Siqueira D, Dos Santos IM, Pereira LL, et al. Impact of oral health and body image in school bullying. *Spec Care Dentist* 2019;39(4):375-9.
117. Fraguas D, Díaz-Caneja CM, Ayora M, et al. Assessment of school anti-bullying interventions: A meta-analysis of randomized clinical trials. *JAMA Pediatr* 2021;175(1):44-55.
118. Man X, Liu J, Xue Z. Effects of bullying forms on adolescent mental health and protective factors: A global cross-regional research based on 65 countries. *Int J Environ Res Public Health* 2022;19(4):2374.
119. Mandava P, Singaraju GS, Obili S, Nettam V, Vatturu S, Erugu S. Impact of self-esteem on the relationship between orthodontic treatment and the oral health-related quality of life in patients after orthodontic treatment—A systematic review. *Med Pharm Rep* 2021;94(2):158-69.
120. Lee SS, Zhang W, Lee DH, Li Y. Tooth whitening in children and adolescents: A literature review. *Pediatr Dent* 2005;27(5):362-8.
121. Alkahtani R, Stone S, German M, Waterhouse P. A review on dental whitening. *J Dent* 2020;100:103423.
122. American Academy of Pediatric Dentistry. Policy on use of dental bleaching for child and adolescent patients. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:136-40.
123. Bacaksiz A, Tulunoglu O, Tulunoglu I. Efficacy and stability of two in-office bleaching agents in adolescents: 12 months follow-up. *J Clin Pediatr Dent* 2016;40(4):269-73.
124. Donly KJ. The adolescent patient: Special whitening challenges. *Compend Contin Educ Dent* 2003;24(4A):390-6.
125. Jackson JM, Weke A, Holliday R. Nicotine pouches: A review for the dental team. *Br Dent J* 2023;235(8):643-6.
126. Johnston LD, Miech RA, Patrick ME, et al. Monitoring the Future national survey results on drug use 1975-2022: Overview, key findings on adolescent drug use. Ann Arbor, MI: University of Michigan Institute for Social Research; 2023.
127. Birdsey J, Cornelius M, Jamal A, et al. Tobacco product use among U.S. middle and high school students—National Youth Tobacco Survey, 2023. *MMWR Morb Mortal Wkly Rep* 2023;72(44):1173-82.
128. Campaign for Tobacco-Free Kids. The path to tobacco addiction starts at very young ages. Washington, DC: Campaign for Tobacco-Free Kids; 2015. Available at: "<http://www.tobaccofreekids.org/research/factsheets/pdf/0127.pdf>". Accessed August 31, 2024.

129. Centers for Disease Control and Prevention. Smoking and tobacco use: Youth and tobacco use. October 17, 2024. Available at: "https://www.cdc.gov/tobacco/php/data-statistics/youth-data-tobacco/?CDC_AAref_Val=https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm". Accessed February 17, 2025.
130. Cho J, Goldenson NI, Kirkpatrick MG, et al. Developmental patterns of tobacco product and cannabis use initiation in high school. *Addiction* 2021;116(2):382-93.
131. Mabry TR. Prevention of dental disease. In: Nowak AJ, Christensen JR, Mabry TR, Townsend JA, Wells MH, eds. *Pediatric Dentistry: Infancy through Adolescence*. 6th ed. St. Louis, MO: Elsevier; 2019:595.
132. National Cancer Institute at the National Institute of Health. Alcohol and Cancer Risk; 2021. Available at: "<https://www.cancer.gov/about-cancer/causes-prevention/risk/alcohol/alcohol-fact-sheet>". Accessed August 8, 2025.
133. Benowitz NL, Burbank AD. Cardiovascular toxicity of nicotine: Implications for electronic cigarette use. *Trends Cardiovasc Med* 2016;26(6):515-23.
134. Centers for Disease Control and Prevention. Tips from Former Smokers: Heart Disease, Stroke and Peripheral Artery Disease. Last reviewed February 5, 2024. Available at: "<https://www.cdc.gov/tobacco/campaign/tips/diseases/heart-disease-stroke.html>". Accessed August 8, 2025.
135. American Dental Association. Cannabis: Oral Health Effects. Last update October 26, 2023. Available at: "<https://www.ada.org/resources/ada-library/oral-health-topics/cannabis-oral-health-effects>". Accessed August 8, 2025.
136. Samman M, Scott T, Sohn W. The effect of marijuana-smoking on dental caries experience. *Int Dent J* 2024;74(4):862-7.
137. Harbaugh CM, Lee JS, Chua KP, et al. Association between long-term opioid use in family members and persistent opioid use after surgery among adolescents and young adults. *JAMA Surg* 2019;154(4):e185838.
138. Harbaugh CM, Nalliah RP, Hu HM, Englesbe MJ, Waljee JF, Brummett CM. Persistent opioid use after wisdom tooth extraction. *JAMA* 2018;320(5):504-6.
139. American Academy of Pediatric Dentistry. Pediatric medical history. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:689-91.
140. American Academy of Pediatric Dentistry. Policy on electronic nicotine delivery systems (ENDS). *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:160-4.
141. American Academy of Pediatric Dentistry. Policy on substance misuse in adolescent patients. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:165-9.
142. American Academy of Pediatric Dentistry. Policy on tobacco use. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:155-9.
143. American Academy of Pediatrics. Addressing Pediatric Tobacco and Nicotine Use: Considerations for Clinicians. May 2024. Available at: "<https://www.aap.org/en/patient-care/tobacco-control-and-prevention/youth-tobacco-cessation/tobacco-use-considerations-for-clinicians/>". Accessed August 12, 2025.
144. Janssen KM, Cooper BR. Oral piercing: An overview. *Internet J Allied Health Sci Pract* 2008;6(3):1-3. Available at: "<https://nsuworks.nova.edu/ijahsp/vol6/iss3/6/>". Accessed August 31, 2024.
145. Breuner CC, Levine DA; AAP Committee on Adolescence. Adolescent and young adult tattooing, piercing, and scarification. *Pediatrics* 2017;140(4):e20163494. Correction: *Pediatrics* 2018;141(2):e20173630.
146. Junco P, Barrios R, Ruiz MJ, Bravo M. Educational intervention about oral piercing knowledge among dental students and adolescents at schools. *Int Dent J* 2017;67(5):294-8.
147. American Academy of Pediatric Dentistry. Oral health care for the pregnant pediatric dental patient. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:354-63.
148. American Academy of Pediatric Dentistry. Behavior guidance for the pediatric dental patient. *The Reference Manual of Pediatric Dentistry*. Chicago, IL: American Academy of Pediatric Dentistry; 2025:379-99.
149. Bitsko RH, Claussen AH, Lichstein J, et al. Mental health surveillance among children—United States, 2013-2019. *MMWR Suppl* 2022;71(Suppl 2):1-42.
150. Christensen GJ. Oral care for patients with bulimia. *J Am Dent Assoc* 2002;133(12):1689-91.
151. Stamu-O'Brien C, Shivakumar S, Messas T, Kroumpouzou G. Through the looking glass: Skin signs that help diagnose eating disorders. *Clin Dermatol* 2023;41(1):67-74.