



# Oral and Dental Aspects of Child Abuse and Neglect

Susan A. Fisher-Owens, MD, MPH, FAAP,<sup>a</sup> James L. Lukefahr, MD, FAAP,<sup>b</sup> Anupama Rao Tate, DMD, MPH,<sup>c</sup> AMERICAN ACADEMY OF PEDIATRICS, SECTION ON ORAL HEALTH, COMMITTEE ON CHILD ABUSE AND NEGLECT, AMERICAN ACADEMY OF PEDIATRIC DENTISTRY, COUNCIL ON CLINICAL AFFAIRS, COUNCIL ON SCIENTIFIC AFFAIRS, AD HOC WORK GROUP ON CHILD ABUSE AND NEGLECT

In all 50 states, health care providers (including dentists) are mandated to report suspected cases of abuse and neglect to social service or law enforcement agencies. The purpose of this report is to review the oral and dental aspects of physical and sexual abuse and dental neglect in children and the role of pediatric care providers and dental providers in evaluating such conditions. This report addresses the evaluation of bite marks as well as perioral and intraoral injuries, infections, and diseases that may raise suspicion for child abuse or neglect. Oral health issues can also be associated with bullying and are commonly seen in human trafficking victims. Some medical providers may receive less education pertaining to oral health and dental injury and disease and may not detect the mouth and gum findings that are related to abuse or neglect as readily as they detect those involving other areas of the body. Therefore, pediatric care providers and dental providers are encouraged to collaborate to increase the prevention, detection, and treatment of these conditions in children.

Children may be exposed to multiple kinds of maltreatment that manifest in the mouth, so health care professionals (including dental providers) need to be aware of how to evaluate and address these concerns. Maltreatment includes physical and sexual abuse and can include evidence of bite marks and dental neglect. Bullying and the human trafficking of children also occur and can have serious long-term effects. These issues may be the presenting problem, noticed during a physical examination, or children or adolescents may disclose information about experiencing abuse or neglect. It is important for all health care providers (including dental providers) to be alert to and knowledgeable about signs and symptoms of child abuse and neglect and to know how to respond. Because different communities have different resources, not all providers of a certain job specification may be available everywhere, and thus, job roles may sometimes overlap.

## abstract

Departments of <sup>a</sup>Pediatrics and Preventive and Restorative Dental Sciences, University of California, San Francisco, San Francisco, California; <sup>b</sup>Department of Pediatrics, University of Texas Health Science Center at San Antonio, San Antonio, Texas; and <sup>c</sup>Department of Pediatrics, The George Washington University School of Medicine and Division of Oral Health, Children's National Medical Center, Washington, DC

*Drs Fisher-Owens, Lukefahr, and Tate were each responsible for all aspects of writing and editing the document and reviewing and responding to questions and comments from reviewers and the Board of Directors.*

*This document is copyrighted and is property of the American Academy of Pediatrics and its Board of Directors. All authors have filed conflict of interest statements with the American Academy of Pediatrics. Any conflicts have been resolved through a process approved by the Board of Directors. The American Academy of Pediatrics has neither solicited nor accepted any commercial involvement in the development of the content of this publication.*

*Clinical reports from the American Academy of Pediatrics benefit from expertise and resources of liaisons and internal (AAP) and external reviewers. However, clinical reports from the American Academy of Pediatrics may not reflect the views of the liaisons or the organizations or government agencies that they represent.*

*The guidance in this report does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.*

*All clinical reports from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.*

*This report is being published concurrently in Pediatric Dentistry August 2017. The articles are identical. Either citation can be used when citing this report.*

**To cite:** Fisher-Owens SA, Lukefahr JL, Tate AR, AAP AMERICAN ACADEMY OF PEDIATRICS, SECTION ON ORAL HEALTH COMMITTEE ON CHILD ABUSE AND NEGLECT, AMERICAN ACADEMY OF PEDIATRIC DENTISTRY, COUNCIL ON CLINICAL AFFAIRS, COUNCIL ON SCIENTIFIC AFFAIRS, AD HOC WORK GROUP ON CHILD ABUSE AND NEGLECT. Oral and Dental Aspects of Child Abuse and Neglect. *Pediatrics*. 2017;140(2):e20171487

## PHYSICAL ABUSE

Craniofacial, head, face, and neck injuries occur in more than half of child abuse cases.<sup>1-6</sup> All suspected victims of abuse or neglect, including children in state custody or foster care, should be examined carefully by the appropriate provider at some point during the course of the evaluation for signs of oral trauma, caries, gingivitis, and other oral health problems, which are more prevalent in maltreated children than in the general pediatric population.<sup>7</sup>

Some authorities believe that the oral cavity may be a central focus for physical abuse because of its significance in communication and nutrition.<sup>8</sup> Oral injuries may be inflicted with instruments such as eating utensils or a bottle during forced feedings, hands, fingers, scalding liquids, or caustic substances. This form of abuse may result in contusions; burns or lacerations of the tongue, lips, buccal mucosa, palate (soft and hard), gingiva, alveolar mucosa, or frenum; fractured, displaced, or avulsed teeth; or facial bone and jaw fractures. Naidoo<sup>9</sup> cited the lips as the most common site for inflicted oral injuries (54%) followed by the oral mucosa, teeth, gingiva, and tongue. Lacerations to the oral frenum in premobile infants are often the result of physical abuse and are frequently associated with other findings of serious physical abuse.<sup>10</sup> Trauma to the teeth may result in pulpal necrosis, leaving the teeth gray and discolored.<sup>11,12</sup> Gags applied to the mouth may result in bruises, lichenification, or scarring at the corners of the mouth.<sup>13</sup> Some serious injuries of the oral cavity, including posterior pharyngeal injuries and retropharyngeal abscesses, may be inflicted by caregivers who fabricate illness in a child<sup>14</sup> to simulate hemoptysis or other symptoms requiring medical care. All findings in cases in which there is reasonable suspicion of abuse or neglect,

regardless of mechanism, should be reported for further investigation. Unintentional or accidental injuries to the mouth are common and can be distinguished from abuse by judging whether the history (including the timing and mechanism of the injury) is consistent with the characteristics of the injury and the child's developmental capabilities. Multiple injuries, injuries in different stages of healing, or a discrepant history should arouse suspicion for abuse. Consultation with or referral to a knowledgeable dentist or child abuse pediatrician may be helpful. The clinical report from the American Academy of Pediatrics (AAP) entitled "The Evaluation of Suspected Child Physical Abuse" provides additional guidance.<sup>15</sup>

## SEXUAL ABUSE

Although the oral cavity is a frequent site of sexual abuse in children,<sup>16</sup> visible oral injuries or infections are rare. When oral-genital contact is suspected, referral to specialized clinical settings equipped to conduct comprehensive examinations is recommended. The AAP clinical report entitled "The Evaluation of Children in the Primary Care Setting When Sexual Abuse Is Suspected"<sup>17</sup> provides information regarding these examinations as does the "Updated Guidelines for the Medical Assessment and Care of Children Who May Have Been Sexually Abused."<sup>18</sup>

When oral-genital contact is confirmed by history or examination findings, universal testing for sexually transmitted infections within the oral cavity is controversial; the clinician may consider risk factors (eg, chronic abuse or a perpetrator with a known sexually transmitted infection) and the child's clinical presentation when deciding whether to conduct such testing. Accuracy to diagnose sexually transmitted infections of the oral cavity is increased if evidence is

collected within 24 hours of exposure in prepubertal children<sup>19</sup> and within 72 hours in adolescents. Evidence collection should be repeated as clinically indicated. Oral and perioral gonorrhea in prepubertal children (which is diagnosed with appropriate culture techniques and confirmatory testing) is pathognomonic of sexual abuse but is rare.<sup>20,21</sup> Rates are higher in sexually abused adolescents (12% with gonorrhea; 14% with *Chlamydia*).<sup>22</sup> Pharyngeal gonorrhea frequently is asymptomatic.<sup>23</sup> Although culture has been considered the gold standard, nucleic acid amplification tests are more commonly used now<sup>24</sup> because they are more sensitive, less invasive, and less expensive.<sup>25</sup> Although they have not been approved by the US Food and Drug Administration for the prepubertal age group or for rectal or oropharyngeal swab specimens, the Centers for Disease Control and Prevention does cite nucleic acid amplification tests on vaginal swab specimens or urine as an alternative to cultures in girls. However, culture remains the preferred method for testing urethral swab specimens or urine for boys and for extragenital swab specimens (pharynx and rectum) for all children.<sup>26,27</sup> Although human papillomavirus infection may result in oral or perioral warts, the mode of transmission remains uncertain. Human papillomavirus infections may be transmitted sexually through oral-genital contact, vertically from mother to infant during birth, or horizontally through nonsexual contact from a child or caregiver's hand to the genitals or mouth.<sup>28,29</sup>

Unexplained injury or petechiae of the palate, particularly at the junction of the hard and soft palate, may result from forced oral sex.<sup>30</sup> As with all suspected child abuse or neglect, when sexual abuse is suspected or diagnosed in a child, the case must be reported to child protective services and/or law enforcement agencies for

investigation.<sup>31–34</sup> A multidisciplinary child abuse evaluation for the child and family is preferred when available.

Children who present acutely with a recent history of sexual abuse may require specialized forensic testing for semen and other foreign materials resulting from assault. Specialized hospitals and child protection clinics equipped with protocols and experienced personnel are best suited for collecting such specimens and maintaining a chain of evidence necessary for investigations. If a victim provides a history for oral-penile contact, the buccal mucosa and tongue can be swabbed with a sterile, cotton-tipped applicator; the swab can be air dried and packaged appropriately for laboratory analysis.

## **BITE MARKS**

Acute or healed bite marks may indicate abuse. Dentists trained as forensic odontologists can assist health care providers in the detection and evaluation of bite marks related to physical and sexual abuse.<sup>35</sup> Bite marks should be suspected when ecchymoses, abrasions, or lacerations are found in an elliptical, horseshoe-shaped, or ovoid pattern.<sup>36</sup> Bite marks may have a central area of ecchymoses (contusions) caused by the following 2 possible phenomena: (1) positive pressure from the closing of the teeth with disruption of small vessels or (2) negative pressure caused by suction and tongue thrusting. Bites produced by dogs and other carnivorous animals tend to tear flesh, whereas human bites compress flesh and can cause abrasions, contusions, and lacerations but rarely avulsions of tissue. An intercanine distance (ie, the linear distance between the central point of the cuspid tips) measuring more than 3.0 cm is suspicious for an adult human bite.<sup>37</sup> Bite marks found on human skin are challenging to interpret because

of the distortion presented and the time elapsed between the injury and the analysis.<sup>36</sup> Recent investigations have led to questions about the scientific validity of forensic patterned evidence (bite mark analysis in particular) and its role in legal proceedings.<sup>38</sup> The pattern, size, contour, and color of a bite mark ideally can be evaluated by a forensic odontologist; a forensic pathologist can be consulted if a forensic odontologist is not available. If neither specialist is available, a medical provider or dental provider experienced in identifying the patterns of child abuse injuries may examine and document the bite mark characteristics photographically with an identification tag and scale marker (eg, ruler) in the photograph. The photograph should be taken such that the angle of the camera lens is directly over the bite and in the same plane of the bite to avoid distortion.<sup>39</sup> A special photographic scale was developed by the American Board of Forensic Odontology (ABFO) for this purpose as well as for documenting other patterned injuries (ABFO No. 2 Reference Scale). ABFO-certified odontologists and the ABFO bite mark analysis flow sheet can be found on the ABFO Web site ([www.abfo.org](http://www.abfo.org)). In addition to photographic evidence, every bite mark that shows indentations ideally will have a polyvinyl siloxane impression made immediately after swabbing the bite mark for secretions containing DNA. This impression will help provide a three-dimensional model of the bite mark. Written observations and photographs should be repeated at intervals to best document the evolution of the bite.<sup>39</sup> Because each person has a characteristic bite pattern, a forensic odontologist may be able to match dental models (casts) of a suspected abuser's teeth with impressions or photographs of the bite. (This is the responsibility of the police and not the health care provider.)

DNA is present in oral epithelial cells and may be deposited in bites. Even if saliva and cells have dried, they can be collected by using the double-swab technique. First, a sterile cotton swab moistened with distilled water is used to wipe the area in question, then dried and placed in a specimen tube. A second control sample is collected by swabbing the victim's buccal mucosa to distinguish his or her DNA from that of the perpetrator.<sup>39</sup> All evidence should be collected, documented, and labeled according to standards with a clear chain of custody and submitted for forensic analysis.<sup>39</sup> Questions regarding the evidentiary procedure should be directed to a law enforcement agency.

## **BULLYING**

Thirty percent of children in the sixth to 10th grades report having been bullied and/or having bullied others.<sup>40</sup> Children with orofacial or dental abnormalities (including malocclusion) are frequently subjected to bullying<sup>41,42</sup> and, as a result, may suffer serious psychological consequences, including depression and suicidal ideation.<sup>43–45</sup> Children who reported physical abuse, intimate partner violence, forced sex, and bullying were found to also report poor oral health.<sup>46</sup> Also of great concern are the more subtle psychosocial consequences that can be associated with bullying behavior. Health care providers (including dental providers) can ask patients about bullying and advocate for antibullying programs in schools and other community settings.<sup>44</sup> Health care providers can become familiar with “Connected Kids: Safe, Strong, Secure,” the primary care violence prevention protocol from the AAP that offers preventive education, screening for risk, and linkages to community-based counseling and treatment resources (<https://>

patiented.solutions.aap.org/Handout-Collection.aspx?categoryid=32034).<sup>47</sup>

## HUMAN TRAFFICKING

Human trafficking is a serious child health issue involving medical and dental ramifications, among others, but it is just beginning to be addressed in the United States. The US Department of State defines human trafficking as “[T]he recruitment, harboring, transportation, provision, or obtaining of a person for labor or services through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery” ([22 USC §7102(9)]).<sup>48</sup> Of these, children most commonly experience sex trafficking, “in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age” ([22 USC §7102(9)]). Sex trafficking is considered “commercial sexual exploitation of children” as are pornography and survival sex (defined as the exchange of sexual activity for basic necessities such as shelter, food, or money).<sup>49,50</sup>

Precise numbers of children experiencing human or sex trafficking are difficult to obtain because of the complicated nature of these definitions and underreporting. However, it is estimated that >100 000 children are victims of prostitution each year in the United States<sup>51</sup>; see the AAP Clinical Report entitled “Child Sex Trafficking and Commercial Sexual Exploitation: Health Care Needs of Victims” for more information on identifying and serving these patients.<sup>50</sup> The average age of children who are exploited for sex is 12 years old, and children as young as 6 years old are targeted.<sup>46,51</sup> Children who are or have been in foster care,<sup>49</sup> are homeless,<sup>52</sup> are runaways,<sup>50</sup> or are incarcerated in juvenile detention facilities<sup>50</sup> are

more likely to be victims of human trafficking (particularly if they are experiencing survival sex); this can include international abduction, although geographical dislocation is not required in the definition of trafficking.<sup>52</sup>

Although children who are victims of human trafficking are often disenfranchised from most of society, more than one-quarter of them still will see a health care professional while in captivity.<sup>53</sup> Victims of trafficking have complex psychosocial and physical challenges that affect how they perceive and respond to a given situation. Rescued victims often have complex health needs, including infectious diseases, reproductive health problems, substance abuse, and mental health problems. Dental problems also rank high in this list: for trafficked women and adolescents in Europe, 58% reported tooth pain.<sup>54</sup> In the United States, more than half (54.3%) of women and adolescents reported dental problems, the most common being tooth loss (42.9%).<sup>55</sup> Child trafficking victims have twice the risk for dental problems because they “often suffer from inadequate nutrition leading to retarded growth and poorly formed teeth, as well as dental caries, infections and tooth loss.”<sup>56</sup> For older children, dental problems may trace back to their situations of origin, with limited access to or poor quality of care. Dental problems may also come from being in a trafficking situation, during which time children may have had unattended problems in addition to forgone preventive care or, even worse, physical abuse or torture to the head.<sup>54,57</sup>

Human trafficking is not a problem exclusive to girls and women. As many as 50% of victims may be boys or men,<sup>58</sup> although they are not discussed as much in the literature. For both sexes, a commonality is a history of child abuse.

## DENTAL NEGLECT

Dental neglect, as defined by the American Academy of Pediatric Dentistry, is the “willful failure of parent or guardian, despite adequate access to care, to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection.”<sup>59</sup> Dental caries, periodontal diseases, and other oral conditions can lead to pain, infection, loss of function, and worse if left untreated. These undesirable outcomes can adversely affect learning, communication, nutrition, and other activities necessary for normal growth and development.<sup>4,60</sup> Some children who first present for dental care have severe early childhood caries (formerly termed “infant bottle” or “nursing” caries). Caregivers with adequate knowledge and willful failure to seek care must be differentiated from caregivers without knowledge or awareness of a child’s need for dental care when determining the need to report such cases to child protective services. Several factors are considered necessary for the diagnosis of neglect<sup>61</sup>:

- a child is harmed or at risk for harm because of lack of dental health care;
- the recommended dental care offers significant net benefit to the child;
- the anticipated benefit of the dental treatment is significantly greater than its morbidity, so parents would choose treatment over nontreatment;
- access to health care is available but not used; and
- the parent understands the dental advice given.

Failure to seek or obtain proper dental care may result from factors such as family isolation, lack of finances, transportation difficulty, parental ignorance, or lack of



perceived value of oral health.<sup>62-64</sup> The point at which to consider a parent negligent and begin intervention occurs after the parent has been properly alerted by a health care provider about the nature and extent of the child's condition, the specific treatment needed, and the mechanism of accessing that treatment.<sup>62</sup> Because many families face challenges in accessing dental care or insurance for their children, the health care provider (including the dental provider) will evaluate whether dental services are readily available and accessible to the child when considering whether negligence has occurred. A child's social, emotional, and medical ability to undergo treatment also should be considered when determining dental neglect.<sup>64</sup>

To the best of his or her ability, the health care provider should be certain that the caregiver understands the explanation of the disease and its implications and, when barriers to the needed care exist, attempt to assist the family in finding financial aid, transportation, or public facilities for needed services. Risks and benefits of dental treatment should be explained, and parents should be told that appropriate analgesic and anesthetic procedures will be used to ensure the child's comfort during dental procedures. If, despite these efforts, the parent fails to obtain therapy, the case should be reported to the appropriate child protective services agency.<sup>62</sup>

## CONCLUSIONS

It is important for health care providers (including dental providers) to be aware that physical or sexual abuse may result in oral or dental injuries or conditions. Health care providers should be aware of when and how to document suspicious injuries and how to obtain laboratory evidence, photo

documentation, and/or consultation with experts when appropriate. Furthermore, injuries that are inflicted by a perpetrator's mouth or teeth may leave clues regarding the timing and nature of the injury as well as his or her identity. Health care providers should be knowledgeable about such findings, their significance, and how to meticulously observe and document them. When questions arise or consultation is needed, a pediatric dentist or a dentist with formal training in forensic odontology can ensure appropriate testing, diagnosis, and treatment.

Pediatric dentists and oral and maxillofacial surgeons, whose advanced education programs include a mandated child abuse curriculum, can provide valuable information and assistance to other health care providers about oral and dental aspects of child abuse and neglect. The Prevent Abuse and Neglect through Dental Awareness<sup>65</sup> coalition (<http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/PANDA.aspx>), which has trained thousands of physicians, nurses, teachers, child care providers, dentists, and other dental providers, is another resource for physicians seeking information on this issue. Physician members of multidisciplinary child abuse and neglect teams are encouraged to identify such dental providers in their communities to serve as consultants for these teams. In addition, medical providers with experience or expertise in child abuse and neglect can make themselves available to dentists and dental organizations as consultants and educators. Such efforts will strengthen our ability to prevent and detect child abuse and neglect and enhance our ability to care for and protect children.

## Recommendations

1. Health care providers (including dental providers) are required to

report injuries that are concerning for abuse or neglect to child protective services in accordance with local or state legal requirements. Abusive injuries frequently involve the face and oral cavity and, thus, may be first encountered by dental providers.

2. Similarly, sexual abuse may involve the mouth, even without overt signs, and thus, health care providers (including dental providers) should know how to collect a history to elicit this information as well as how to appropriately collect laboratory tests to support forensic investigations. The general provider is encouraged to become aware of and consult with appropriate specialists in his or her area for specialized forensic interviews and specimen collection.
3. Bite marks found on human skin are challenging to interpret because of the distortion presented and the time elapsed between the injury and the analysis. Ideally, the pattern, size, contour, and color of the bite mark should be evaluated by a forensic odontologist when one is available.
4. Health care providers (including dental providers) are encouraged to ask their patients about bullying and advocate for antibullying programs in schools and other community settings.
5. Health care providers (including dental providers) should be aware of the risk factors for human trafficking, identify these in their patients (both girls and boys), safely connect the patients to resources, and advocate for antitrafficking efforts.
6. If parents fail to obtain therapy after barriers to care have been addressed, the case should be reported to the appropriate child

protective services agency as concerning for dental neglect.

7. Providers are encouraged to work with colleagues (including psychological and educational resources) to provide support to families if any of the aforementioned maltreatment has occurred.

#### LEAD AUTHORS

Susan A. Fisher-Owens, MD, MPH, FAAP  
James L. Lukefahr, MD, FAAP  
Anupama Rao Tate, DMD, MPH

#### AAP SECTION ON ORAL HEALTH EXECUTIVE COMMITTEE, 2015–2016

David Krol, MD, MPH, FAAP, Chairperson  
Patricia Braun, MD, MPH, FAAP  
Susan A. Fisher-Owens, MD, MPH, FAAP  
Rani Gereige, MD, FAAP  
Lisa Jacob, DDS

Jeffrey Karp, DMD

#### LIAISONS

Amr Moursi, DDS, PhD, *American Academy of Pediatric Dentistry*  
Anne Clancy, RDH, MS, *American Dental Association*

#### STAFF

Lauren Barone, MPH

#### AAP COMMITTEE ON CHILD ABUSE AND NEGLECT, 2015–2016

Emalee G. Flaherty, MD, FAAP, Chairperson  
Sheila M. Idzerda, MD, FAAP  
Lori A. Legano, MD, FAAP  
John M. Leventhal, MD, FAAP  
James L. Lukefahr, MD, FAAP  
Robert D. Sege, MD, PhD, FAAP

#### LIAISONS

Beverly Fortson, PhD, *Centers for Disease Control and Prevention*

Harriet MacMillan, MD, *American Academy of Child and Adolescent Psychiatry*  
Elaine Stedt, MSW, *Office on Child Abuse and Neglect, Administration for Children, Youth and Families*

#### STAFF

Tammy Piazza Hurley

#### AMERICAN ACADEMY OF PEDIATRIC DENTISTRY

Council on Clinical Affairs  
Council on Scientific Affairs  
Ad Hoc Work Group on Child Abuse and Neglect

#### ABBREVIATIONS

AAP: American Academy of Pediatrics

ABFO: American Board of Forensic Odontology

**DOI:** <https://doi.org/10.1542/peds.2017-1487>

Address correspondence to Susan A. Fischer-Owens, MD, MPH, FAAP. E-mail: [susan.fisher-owens@ucsf.edu](mailto:susan.fisher-owens@ucsf.edu)

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2017 by the American Academy of Pediatrics and American Academy of Pediatric Dentistry.

**FINANCIAL DISCLOSURE:** The authors have indicated they have no financial relationships relevant to this article to disclose.

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** The authors have indicated they have no potential conflicts of interest to disclose.

#### REFERENCES

1. Cairns AM, Mok JY, Welbury RR. Injuries to the head, face, mouth and neck in physically abused children in a community setting. *Int J Paediatr Dent.* 2005;15(5):310–318
2. Crouse CD, Faust RA. Child abuse and the otolaryngologist: part II. *Otolaryngol Head Neck Surg.* 2003;128(3):311–317
3. Cavalcanti AL. Prevalence and characteristics of injuries to the head and orofacial region in physically abused children and adolescents—a retrospective study in a city of the Northeast of Brazil. *Dent Traumatol.* 2010;26(2):149–153
4. da Fonseca MA, Feigal RJ, ten Bensel RW. Dental aspects of 1248 cases of child maltreatment on file at a major county hospital. *Pediatr Dent.* 1992;14(3):152–157
5. Sheets LK, Leach ME, Koszewski IJ, Lessmeier AM, Nugent M, Simpson P. Sentinel injuries in infants evaluated for child physical abuse. *Pediatrics.* 2013;131(4):701–707
6. Jessee SA. Physical manifestations of child abuse to the head, face and mouth: a hospital survey. *ASDC J Dent Child.* 1995;62(4):245–249
7. Valencia-Rojas N, Lawrence HP, Goodman D. Prevalence of early childhood caries in a population of children with history of maltreatment. *J Public Health Dent.* 2008;68(2):94–101
8. Thompson LA, Tavares M, Ferguson-Young D, Ogle O, Halpern LR. Violence and abuse: core competencies for identification and access to care. *Dent Clin North Am.* 2013;57(2):281–299
9. Naidoo S. A profile of the orofacial injuries in child physical abuse at a children’s hospital. *Child Abuse Negl.* 2000;24(4):521–534
10. Maguire S, Hunter B, Hunter L, Sibert JR, Mann M, Kemp AM; Welsh Child Protection Systematic Review Group. Diagnosing abuse: a systematic review of torn frenum and other intra-oral injuries [published correction appears in *Arch Dis Child.* 2008;93(5):453]. *Arch Dis Child.* 2007;92(12):1113–1117
11. Kittle PE, Richardson DS, Parker JW. Two child abuse/child neglect examinations for the dentist. *ASDC J Dent Child.* 1981;48(3):175–180

12. Blain SM, Winegarden T, Barber TK, Sognaes RF. Child abuse and neglect, II. Dentistry's role [abstract]. *J Dent Res*. 1979;58(1 suppl 1):367
13. McNeese MC, Hebler JR. The abused child: a clinical approach to identification and management. *Clin Symp*. 1977;29(5):1–36
14. Levin AV. Otorhinolaryngologic manifestations. In: Levin AV, Sheridan MS, eds. *Munchausen Syndrome by Proxy: Issues in Diagnosis and Treatment*. New York, NY: Lexington Books; 1995:219–230
15. Christian CW; Committee on Child Abuse and Neglect, American Academy of Pediatrics. The evaluation of suspected child physical abuse. *Pediatrics*. 2015;135(5). Available at: [www.pediatrics.org/cgi/content/full/135/5/e1337](http://www.pediatrics.org/cgi/content/full/135/5/e1337)
16. Folland DS, Burke RE, Hinman AR, Schaffner W. Gonorrhea in preadolescent children: an inquiry into source of infection and mode of transmission. *Pediatrics*. 1977;60(2):153–156
17. Jenny C, Crawford-Jakubiak JE; Committee on Child Abuse and Neglect; American Academy of Pediatrics. The evaluation of children in the primary care setting when sexual abuse is suspected. *Pediatrics*. 2013;132(2). Available at: [www.pediatrics.org/cgi/content/full/132/2/e558](http://www.pediatrics.org/cgi/content/full/132/2/e558)
18. Adams JA, Kellogg ND, Farst KJ, et al. Updated guidelines for the medical assessment and care of children who may have been sexually abused. *J Pediatr Adolesc Gynecol*. 2016;29(2):81–87
19. Girardet R, Bolton K, Lahoti S, et al. Collection of forensic evidence from pediatric victims of sexual assault. *Pediatrics*. 2011;128(2):233–238
20. De Jong AR. Sexually transmitted diseases in sexually abused children. *Sex Transm Dis*. 1986;13(3):123–126
21. Everett VD, Ingram DL, Flick LAR, Russell TA, Tropez-Sims ST, McFadden AY. A comparison of sexually transmitted diseases (STDs) found in a total of 696 boys and 2973 girls evaluated for sexual abuse [abstract]. *Pediatr Res*. 1998;43(4, pt 2):91A
22. Dattel BJ, Landers DV, Coulter K, Hinton J, Sweet RL, Schachter J. Isolation of *Chlamydia trachomatis* from sexually abused female adolescents. *Obstet Gynecol*. 1988;72(2):240–242
23. Nelson JD, Mohs E, Dajani AS, Plotkin SA. Gonorrhea in preschool- and school-aged children. Report of the prepubertal gonorrhea cooperative study group. *JAMA*. 1976;236(12):1359–1364
24. Hammerschlag MR, Gaydos CA. Guidelines for the use of molecular biological methods to detect sexually transmitted pathogens in cases of suspected sexual abuse in children. *Methods Mol Biol*. 2012;903:307–317
25. Black CM, Driebe EM, Howard LA, et al. Multicenter study of nucleic acid amplification tests for detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in children being evaluated for sexual abuse. *Pediatr Infect Dis J*. 2009;28(7):608–613
26. Workowski KA, Bolan GA; Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep*. 2015;64(RR-03):1–137
27. Centers for Disease Control and Prevention. Recommendations for the laboratory-based detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae*—2014. *MMWR Recomm Rep*. 2014;63(RR-02):1–19
28. Stevens-Simon C, Nelligan D, Breese P, Jenny C, Douglas JM Jr. The prevalence of genital human papillomavirus infections in abused and nonabused preadolescent girls. *Pediatrics*. 2000;106(4):645–649
29. Bussen S, Sütterlin M, Schmidt U, Bussen D. Anogenital warts in childhood – always a marker for sexual abuse? *Geburtshilfe Frauenheilkd*. 2012;72(1):43–48
30. Schlesinger SL, Borbotsina J, O'Neill L. Petechial hemorrhages of the soft palate secondary to fellatio. *Oral Surg Oral Med Oral Pathol*. 1975;40(3):376–378
31. Mouden LD, Bross DC. Legal issues affecting dentistry's role in preventing child abuse and neglect. *J Am Dent Assoc*. 1995;126(8):1173–1180
32. Schwartz S, Woolridge E, Stege D. The role of the dentist in child abuse. *Quintessence Int Dent Dig*. 1976;7(10):79–81
33. Sognaes RF, Blain SM. Child abuse and neglect, I. Diagnostic criteria of special interest to dentists [abstract]. *J Dent Res*. 1979;58(1 suppl 1):367
34. Donly KJ, Nowak AJ. Maxillofacial, neck, and dental lesions of child abuse. In: Reece RM, ed. *Child Abuse: Medical Diagnosis and Management*. Philadelphia, PA: Lea & Febiger; 1994:150–166
35. Sperber ND. Bite marks, oral and facial injuries—harbingers of severe child abuse? *Paediatricon*. 1989;16(3–4):207–211
36. Silva RHA, de Oliveira Musse J, Melani RFH, Oliveira RN. Human bite mark identification and DNA technology in forensic dentistry. *Braz J Oral Sci*. 2006;5(19):1193–1197
37. Wagner GN. Bitemark identification in child abuse cases. *Pediatr Dent*. 1986;8(1 Spec No):96–100
38. Golden GS. Bite-mark and pattern injury analysis: a brief status overview. *J Calif Dent Assoc*. 2015;43(6):309–314
39. Hinchliffe J. Forensic odontology, part 4. Human bite marks. *Br Dent J*. 2011;210(8):363–368
40. Committee on Injury, Violence, and Poison Prevention. Policy statement—role of the pediatrician in youth violence prevention. *Pediatrics*. 2009;124(1):393–402
41. Seehra J, Fleming PS, Newton T, DiBiase AT. Bullying in orthodontic patients and its relationship to malocclusion, self-esteem and oral health-related quality of life. *J Orthod*. 2011;38(4):247–256, quiz 294
42. Al-Bitar ZB, Al-Omari IK, Sonbol HN, Al-Ahmad HT, Cunningham SJ. Bullying among Jordanian schoolchildren, its effects on school performance, and the contribution of general physical and dentofacial features. *Am J Orthod Dentofacial Orthop*. 2013;144(6):872–878
43. Hunt O, Burden D, Hepper P, Stevenson M, Johnston C. Self-reports of psychosocial functioning among

- children and young adults with cleft lip and palate. *Cleft Palate Craniofac J*. 2006;43(5):598–605
44. Al-Omari IK, Al-Bitar ZB, Sonbol HN, Al-Ahmad HT, Cunningham SJ, Al-Omiri M. Impact of bullying due to dentofacial features on oral health-related quality of life. *Am J Orthod Dentofacial Orthop*. 2014;146(6):734–739
  45. Seehra J, Newton JT, DiBiase AT. Bullying in schoolchildren - its relationship to dental appearance and psychosocial implications: an update for GPs. *Br Dent J*. 2011;210(9):411–415
  46. Kvist T, Annerbäck EM, Sahlqvist L, Flodmark O, Dahllöf G. Association between adolescents' self-perceived oral health and self-reported experiences of abuse. *Eur J Oral Sci*. 2013;121(6):594–599
  47. American Academy of Pediatrics. Connected kids: safe, strong, secure. Available at: <https://patiented.solutions.aap.org/Handout-Collection.aspx?categoryid=32034>. Accessed May 13, 2016
  48. US Department of State. Trafficking in persons report. 2007. Available at: [www.state.gov/j/tip/rls/tiprpt/2007/](http://www.state.gov/j/tip/rls/tiprpt/2007/). Accessed May 23, 2016
  49. US Department of Education. Human trafficking of children in the United States: a fact sheet for schools. Available at: <http://www2.ed.gov/about/offices/list/osdfs/factsheet.pdf>. Updated June 26, 2007. Accessed May 18, 2016
  50. Greenbaum J, Crawford-Jakubiak JE; Committee on Child Abuse and Neglect. Child sex trafficking and commercial sexual exploitation: health care needs of victims. *Pediatrics*. 2015;135(3):566–574
  51. Smith LA, Vardaman SH, Snow MA. The National Report on Domestic Minor Sex Trafficking: America's Prostituted Children. Vancouver, WA: Shared Hope International; 2009. Available at: [http://sharedhope.org/wp-content/uploads/2012/09/SHI\\_National\\_Report\\_on\\_DMST\\_2009.pdf](http://sharedhope.org/wp-content/uploads/2012/09/SHI_National_Report_on_DMST_2009.pdf). Accessed May 23, 2016
  52. National Alliance to End Homelessness. Issue brief: commercial sexual exploitation of children and youth homelessness. Available at: [www.endhomelessness.org/library/entry/commercial-sexual-exploitation-of-children-cesc-and-youth-homelessness](http://www.endhomelessness.org/library/entry/commercial-sexual-exploitation-of-children-cesc-and-youth-homelessness). Accessed May 23, 2016
  53. Family Violence Prevention Fund. Turning pain in to power: trafficking survivors' perspectives on early intervention strategies. Available at: <https://www.futureswithoutviolence.org/userfiles/file/ImmigrantWomen/Turning%20Pain%20intoPower.pdf>. Accessed May 23, 2016
  54. Zimmerman C, Hossain M, Yun K, et al. The health of trafficked women: a survey of women entering posttrafficking services in Europe. *Am J Public Health*. 2008;98(1):55–59
  55. Lederer LJ, Wetzel CA. The health consequences of sex trafficking and their implications for identifying victims in healthcare facilities. *Ann Health Law*. 2014;23(1):61–91
  56. Crane PA, Moreno M. Human trafficking: what is the role of the health care provider? *J Appl Res Child*. 2011;2(1):7. Available at: <http://digitalcommons.library.tmc.edu/childrenatrisk/vol2/iss1/7>. Accessed May 23, 2016
  57. Dovydaitis T. Human trafficking: the role of the health care provider. *J Midwifery Womens Health*. 2010;55(5):462–467
  58. Curtis R, Terry K, Dank M, Dombrowski K, Khan B. Commercial Sexual Exploitation of Children in New York City. Volume One. The CSEC Population in New York City: Size, Characteristics, and Needs. New York, NY: Center for Court Innovation; 2008. Available at: <https://www.ncjrs.gov/pdffiles1/nij/grants/225083.pdf>. Accessed May 23, 2016
  59. American Academy of Pediatric Dentistry. Definition of dental neglect. Available at: [www.aapd.org/policies/](http://www.aapd.org/policies/). Accessed May 23, 2016
  60. Sanger RG, Bross DC. *Clinical Management of Child Abuse and Neglect: A Guide for the Dental Profession*. Chicago, IL: Quintessence Publishing Company; 1984
  61. Dubowitz H, Black M. Neglect of children's health. In: Berliner L, Briere J, Jenny C, Hendrix CT, Reid TA, Myers JEB, eds. *The APSAC Handbook on Child Maltreatment*. 2nd ed. Thousand Oaks, CA: Sage Publications; 2002:269–292
  62. California Society of Pediatric Dentists. Dental neglect: when to report. *California Pediatrician*. 1989;Fall:31–32
  63. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R. World Report on Violence and Health. Geneva: World Health Organization; 2002. Available at: [www.who.int/violence\\_injury\\_prevention/violence/world\\_report/](http://www.who.int/violence_injury_prevention/violence/world_report/). Accessed May 23, 2016
  64. Bhatia SK, Maguire SA, Chadwick BL, et al. Characteristics of child dental neglect: a systematic review. *J Dent*. 2014;42(3):229–239
  65. Arkansas Department of Health. Prevent abuse and neglect through dental awareness: the P.A.N.D.A. coalition. Available at: [www.healthy.arkansas.gov/programsServices/oralhealth/Pages/PANDA.aspx](http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/PANDA.aspx). Accessed May 13, 2016



## Oral and Dental Aspects of Child Abuse and Neglect

Susan A. Fisher-Owens, James L. Lukefahr, Anupama Rao Tate, AMERICAN ACADEMY OF PEDIATRICS, SECTION ON ORAL HEALTH, COMMITTEE ON CHILD ABUSE AND NEGLECT, AMERICAN ACADEMY OF PEDIATRIC DENTISTRY, COUNCIL ON CLINICAL AFFAIRS, COUNCIL ON SCIENTIFIC AFFAIRS and AD HOC WORK GROUP ON CHILD ABUSE AND NEGLECT  
*Pediatrics* 2017;140;; originally published online July 31, 2017;  
DOI: 10.1542/peds.2017-1487

<b>Updated Information &amp; Services</b>	including high resolution figures, can be found at: <a href="/content/140/2/e20171487.full.html">/content/140/2/e20171487.full.html</a>
<b>References</b>	This article cites 51 articles, 11 of which can be accessed free at: <a href="/content/140/2/e20171487.full.html#ref-list-1">/content/140/2/e20171487.full.html#ref-list-1</a>
<b>Subspecialty Collections</b>	This article, along with others on similar topics, appears in the following collection(s): <b>Dentistry/Oral Health</b> <a href="/cgi/collection/dentistry:oral_health_sub">/cgi/collection/dentistry:oral_health_sub</a>
<b>Permissions &amp; Licensing</b>	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="/site/misc/Permissions.xhtml">/site/misc/Permissions.xhtml</a>
<b>Reprints</b>	Information about ordering reprints can be found online: <a href="/site/misc/reprints.xhtml">/site/misc/reprints.xhtml</a>

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2017 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



# PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

## **Oral and Dental Aspects of Child Abuse and Neglect**

Susan A. Fisher-Owens, James L. Lukefahr, Anupama Rao Tate, AMERICAN ACADEMY OF PEDIATRICS, SECTION ON ORAL HEALTH, COMMITTEE ON CHILD ABUSE AND NEGLECT, AMERICAN ACADEMY OF PEDIATRIC DENTISTRY, COUNCIL ON CLINICAL AFFAIRS, COUNCIL ON SCIENTIFIC AFFAIRS and AD HOC WORK GROUP ON CHILD ABUSE AND NEGLECT

*Pediatrics* 2017;140;; originally published online July 31, 2017;

DOI: 10.1542/peds.2017-1487

The online version of this article, along with updated information and services, is located on the World Wide Web at:  
</content/140/2/e20171487.full.html>

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2017 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

