

AMERICAN ACADEMY OF PEDIATRICS

Committee on Child Abuse and Neglect

AMERICAN ACADEMY OF PEDIATRIC DENTISTRY

Ad Hoc Work Group on Child Abuse and Neglect

Oral and Dental Aspects of Child Abuse and Neglect

JOINT STATEMENT OF THE AMERICAN ACADEMY OF PEDIATRICS AND THE AMERICAN ACADEMY OF PEDIATRIC DENTISTRY

ABSTRACT. In all states, physicians and dentists recognize their responsibility to report suspected cases of abuse and neglect. The purpose of this statement is to review the oral and dental aspects of physical and sexual abuse and dental neglect and the role of physicians and dentists in evaluating such conditions. This statement also addresses the oral manifestations of sexually transmitted diseases and bite marks, including the collection of evidence and laboratory documentation of these injuries.

ABBREVIATION. ABFO, American Board of Forensic Odontology.

In all 50 states, physicians and dentists are required to report suspected cases of child abuse and neglect to social service or law enforcement agencies.¹⁻⁴ Physicians receive minimal training in oral health and dental injury and disease and thus may not detect dental aspects of abuse or neglect as readily as they do child abuse and neglect involving other areas of the body. Therefore, physicians and dentists should collaborate to increase the prevention, detection, and treatment of these conditions.

PHYSICAL ABUSE

Craniofacial, head, face, and neck injuries occur in more than half of the cases of child abuse.⁵⁻¹⁴ Careful intraoral and perioral examination is necessary in all cases of suspected abuse. Some authorities believe that the oral cavity may be a central focus for physical abuse because of its significance in communication and nutrition.¹⁵ The injuries most commonly are inflicted with blunt trauma with an instrument, eating utensils, hands, or fingers or by scalding liquids or caustic substances. The abuse may result in contusions; lacerations of the tongue, buccal mucosa, palate (soft and hard), gingiva alveolar mucosa or frenum; fractured, displaced, or avulsed teeth; facial

bone and jaw fractures; burns; or other injuries. These injuries, including a lacerated frenum, also can result from unintentional trauma. Discolored teeth, indicating pulpal necrosis, may result from previous trauma.^{16,17} Gags applied to the mouth may leave bruises, lichenification, or scarring at the corners of the mouth.¹⁸ Multiple injuries, injuries in different stages of healing, injuries inappropriate for the child's stage of development, or a discrepant history should arouse suspicion of abuse. Age-appropriate nonabusive injuries to the mouth are common and must be distinguished from abuse based on history, the circumstances of the injury and pattern of trauma, and the behavior of the child, caregiver, or both. Consultation with or referral to a pediatric dentist is appropriate.

SEXUAL ABUSE

The oral cavity is a frequent site of sexual abuse in children.¹⁹ The presence of oral and perioral gonorrhea or syphilis in prepubertal children is pathognomonic of sexual abuse.²⁰ When gonorrhea or syphilis is diagnosed in a child, the case must be reported to public health authorities for investigation of the source and other contacts. A multidisciplinary child abuse evaluation for the child and family should be initiated.²¹ Pharyngeal gonorrhea is frequently asymptomatic. Therefore, when a diagnosis of gonorrhea is suspected, lesions should be sought in the oral cavity, and appropriate cultures should be obtained even if no lesions are detected.²²⁻²⁶

When obtaining oral or pharyngeal cultures for *Neisseria gonorrhoeae*, the physician must specifically ask for culture media that will grow and differentiate this organism from *Neisseria meningitidis*, which normally inhabits the mouth and throat. Gonococci will not grow in routine throat cultures.²⁷ Even when selective media is used, nonpathogenic *Neisseria* species can be confused with *N. gonorrhoeae*. Laboratory confirmation using two different types of tests is needed to properly identify *N. gonorrhoeae*. Detection of semen in the oral cavity is possible for several days after exposure. Therefore, during examination of a child who is suspected of experiencing forced oral sex, cotton swabs should be used to swab the buccal mucosa and tongue, with the swabs preserved

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

This statement has been approved by the AAP Child and Adolescent Health Action Group.

PEDIATRICS (ISSN 0031 4005). Copyright © 1999 by the American Academy of Pediatrics.

appropriately for laboratory analysis of the presence of semen.

Unexplained erythema or petechiae of the palate, particularly at the junction of the hard and soft palate, may be evidence of forced oral sex.^{28,29} Although cases of syphilis are rare in the sexually abused child, oral lesions also should be sought and dark-field examinations performed. Oral or perioral condylomata acuminata, although probably most frequently caused by sexual contact, may be the result of contact with *verruca vulgaris* or self-inoculation.³⁰

BITE MARKS

Bite marks are lesions that may indicate abuse. Dentists trained as forensic odontologists may be of special help to physicians for the detection and evaluation of bite marks related to physical and sexual abuse.³¹ Bite marks should be suspected when ecchymoses, abrasions, or lacerations are found in an elliptical or ovoid pattern. Bite marks may have a central area of ecchymoses (contusion) caused by two 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. The normal distance between the maxillary canine teeth in adult humans is 2.5 to 4.0 cm, and the canine marks in a bite will be the most prominent or deep parts of the bite. 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. If the intercanine distance is <2.5 cm, the bite may have been caused by a child. If the intercanine distance is 2.5 to 3.0 cm, the bite was probably produced by a child or a small adult; if the distance is >3.0 cm, the bite was probably by an adult. The pattern, size, contour, and color(s) of the bite mark should be evaluated by a forensic odontologist or a forensic pathologist if an odontologist is not available. If neither specialist is available, a pediatrician or pediatric dentist experienced in the patterns of child abuse injuries should observe and document the bite mark characteristics photographically with an identification tag and scale marker in the photograph. The photograph should be taken at a right angle (perpendicular) to the bite. 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 and should be obtained in advance from the vendor (ABFO No. 2 reference scale. Available from Lightning Powder Co, Inc, 1230 Hoyt St SE, Salem, OR 97302-2121). Names and contact information for the ABFO certified odontologists may be obtained from their Web site (www.abfo.org). Written observations and photographs should be repeated daily for at least 3 days to document the evolution and age of the bite. 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.

Blood group substances can be secreted in saliva. DNA is present in epithelial cells from the mouth and may be deposited in bites. Even if saliva and

cells have dried, they should be collected on a sterile cotton swab moistened with distilled water, dried, and placed in a cardboard specimen tube or envelope. A control sample should be obtained from an uninvolved area of the child's skin. All samples should be sent to a certified forensic laboratory for prompt analysis.³² The chain of custody must be maintained on all samples submitted for forensic analysis. Questions of evidentiary procedure should be directed to a law enforcement agency.

DENTAL NEGLECT

Dental neglect, as defined by the American Academy of Pediatric Dentistry,³³ is "the willful failure of parent or guardian 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." Dental caries, periodontal diseases, and other oral conditions, if left untreated, can lead to pain, infection, and loss of function. These undesirable outcomes can adversely affect learning, communication, nutrition, and other activities necessary for normal growth and development.³³

Failure to seek or obtain proper dental care may result from factors such as family isolation, lack of finances, parental ignorance, or lack of perceived value of oral health.³⁴ The point at which to consider a parent negligent and to begin intervention occurs after the parent has been properly alerted by a health care professional about the nature and extent of the child's condition, the specific treatment needed, and the mechanism of accessing that treatment.³⁵

The physician or dentist should be certain that the caregivers understand the explanation of the disease and its implications and, when barriers to the needed care exist, attempt to assist the families in finding financial aid, transportation, or public facilities for needed services. Parents should be reassured that appropriate analgesic and anesthetic procedures will be used to assure the child's comfort during dental procedures. If, despite these efforts the parents fail to obtain therapy, the case should be reported to appropriate child protective services.^{33,35}

CONCLUSION

When a child has oral injuries or dental neglect is suspected, the child will benefit from the physician's consultation with a pediatric dentist or a dentist with formal training in forensic odontology.

Pediatric dentists and oral and maxillofacial surgeons, whose advanced education programs include a mandated child abuse curriculum, can provide valuable information and assistance to physicians about oral and dental aspects of child abuse and neglect. The Prevent Abuse and Neglect Through Dental Awareness (also known as PANDA) coalitions that have trained thousands of dentists and dental auxiliaries is another resource for physicians seeking information on this issue (telephone: 573/751-6247; e-mail: moudeL@mail.health.state.mo.us).

Physician members of multidisciplinary child abuse and neglect teams should identify such dentists in their communities to serve as consultants for these teams. In addition, physicians with experience

or expertise in child abuse and neglect should make themselves available to dentists and to 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.

COMMITTEE ON CHILD ABUSE AND NEGLECT,
1998–1999

Steven W. Kairys, MD, MPH, Chairperson
Randell C. Alexander, MD, PhD
Robert W. Block, MD
V. Denise Everett, MD
Lt Col Kent P. Hymel, MD
Charles F. Johnson, MD

LIAISON REPRESENTATIVES

Larry S. Goldman, MD American Medical Association
Gene Ann Shelley, PhD Centers for Disease Control and Prevention
Karen Dineen Wagner, MD, PhD American Academy of Child and Adolescent Psychiatry

SECTION LIAISON

Carole Jenny, MD Section on Child Abuse and Neglect

CONSULTANT

Robert A. Kirschner, MD

AMERICAN ACADEMY OF PEDIATRIC DENTISTRY AD
HOC WORK GROUP ON CHILD ABUSE AND NEGLECT

Stephen M. Blain, DDS, MS
Paul E. Kittle, Jr, DDS
John P. Kenney, DDS, MS
Robert J. Musselman, DDS, MSD
Howard L. Needleman, DMD
Lynn D. Mouden, DDS, MPH (PANDA Consultant)

REFERENCES

- Mouden LD, Bross DC. Legal issues affecting dentistry's role in preventing child abuse and neglect. *J Am Dent Assoc.* 1995;126:1173–1180
- Schwartz S, Woolridge E, Stege D. The role of the dentist in child abuse. *Quintessence Int.* 1976;7:79–81
- Sognnaes RF, Blain SM. Child abuse and neglect, I: diagnostic criteria of special interest to dentists, abstracted. *J Dent Res.* 1979;58:367
- 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:chap 7
- Baetz K, Sledziewski W, Margetts D, Koren L, Levy M, Pepper R. Recognition and management of the battered child syndrome. *J Dent Assoc S Afr.* 1977;32:13–18
- Becker DB, Needleman HL, Kotelchuck M. Child abuse and dentistry: orofacial trauma and its recognition by dentists. *J Am Dent Assoc.* 1978;97:24–28
- Cameron JM, Johnson HR, Camps FE. The battered child syndrome. *Med Sci Law.* 1966;6:2–21
- Jessee SA. Child abuse: physical manifestations of child abuse to the head, face and mouth: a hospital survey. *ASDC J Dent Child.* 1995;62:245–249
- Jessee SA, Rieger M. A study of age-related variables among physically abused children. *ASDC J Dent Child.* 1996;63:275–280
- Malecz RE. Child abuse, its relationship to pedodontics: a survey. *ASDC J Dent Child.* 1979;46:193–194
- Needleman HL. Orofacial trauma in child abuse: types, prevalence, management, and the dental profession's involvement. *Pediatr Dent.* 1986;8(Special Issue):71–80
- O'Neill JA Jr, Meacham WF, Griffin JP, Sawyers JL. Patterns of injury in the battered child syndrome. *J Trauma.* 1973;13:332–339
- Skinner AE, Castle RL. *78 Battered Children: A Retrospective Study.* London, England: National Society for the Prevention of Cruelty to Children; 1969
- Tate RJ. Facial injuries associated with the battered child syndrome. *Br J Oral Surg.* 1971;9:41–45
- Vadiakas G, Roberts MW, Dilley DC. Child abuse and neglect: ethical issues for dentistry. *J Mass Dent Soc.* 1991(Winter);40:13–15
- Kittle PE, Richardson DS, Parker JW. Two child abuse/child neglect examinations for the dentist. *ASDC J Dent Child.* 1981;48:175–180
- Blain SM, Winegarden T, Barber TK, et al. Child abuse and neglect, II: role of dentistry, abstracted. *J Dent Res.* 1979;58:367A
- McNeese MC, Hebler JR. The abused child: a clinical approach to identification and management. *Clin Symp.* 1977;29:1–36
- Kenney JP, Clark DH. Child abuse. In: Clark DH, ed. *Practical Forensic Odontology.* London, England: Wright; 1992
- Folland DS, Burke RE, Hinman AR, Schaffner W. Gonorrhea in preadolescent children: an inquiry into source of infection and mode of transmission. *Pediatrics.* 1977;60:153–156
- Chue PW. Gonorrhea: its natural history, oral manifestations, diagnosis, treatment, and prevention. *J Am Dent Assoc.* 1975;90:1297–1301
- Givan KF, Keyl A. The isolation of *Neisseria* species from unusual sites. *CMAJ.* 1974;111:1077–1079
- Jamsky RJ. Gonococcal tonsillitis: report of a case. *Oral Surg Oral Med Oral Pathol.* 1977;44:197–200
- Nelson JD, Mohs E, Dajani AS, et al. Gonorrhea in preschool- and school-aged children: report of the prepubertal gonorrhea cooperative study group. *JAMA.* 1976;236:1359–1364
- Silber TJ. Pharyngeal gonorrhea in children. *Pediatrics.* 1978;61:674
- Potterat JJ, Markewich GS, Rothenberg R. Prepubertal infections with *Neisseria gonorrhoeae*: clinical and epidemiologic significance. *Sex Transm Dis.* 1978;5:1–3
- Silber T, Controni G, Korin DE. Pharyngeal gonorrhea in children and adolescents. *Clin Prac.* 1977;33:79–81
- Giansanti JS, Cramer JR, Weathers DR. Palatal erythema: another etiologic factor. *Oral Surg Oral Med Oral Pathol.* 1975;40:379–381
- Schlesinger SL, Borbotsina J, O'Neill L. Petechial hemorrhages of the soft palate secondary to fellatio. *Oral Surg Oral Med Oral Pathol.* 1975;40:376–378
- Seidel J, Zonana J, Totten E. *Condylomata acuminata* as a sign of sexual abuse in children. *J Pediatr.* 1979;95:553–554
- Sperber ND. Bite marks, oral and facial injuries: harbingers of severe child abuse? *Pediatrician.* 1989;16:207–211
- National Research Council, Committee on DNA Technology in Forensic Science, Board of Biology, Commission on Life Sciences. *DNA Technology in Forensic Science.* Washington, DC: National Academy Press; 1992
- American Academy of Pediatric Dentistry. Pediatric dentistry: reference manual 1997–1998. *Pediatr Dent.* 1997;19:24
- Sanger RG, Bross DC, eds. *Clinical Management of Child Abuse and Neglect: A Guide for the Dental Professional.* Chicago, IL: Quintessence Publishing Co, Inc; 1984
- California Society of Pediatric Dentists. Dental neglect: when to report. *California Pediatrician.* 1989;(Fall):31–32