



# Children's First Dental Visit: Attitudes and Practices of US Pediatricians and Family Physicians

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## Abstract

**Purpose:** The aim of the present study was to survey the recommendations and practices regarding the first dental visit by young children, as reported by family physicians and pediatricians in the United States.

**Methods:** A representative sample of family physicians and pediatricians was surveyed in the year 2000. The initial survey was mailed out to 1,500 family physicians and 1,000 pediatricians who were selected from the AMA Masterfile. After the first mailing, 3 follow-up questionnaires and a postcard reminder were mailed to the nonresponders within a period of 3 months. The questionnaire described case scenarios of 2, 12-month-old children, one with low caries-risk and the other at high risk with noticeable cavitation of the maxillary front teeth.

**Results:** The response rate to the survey was 43% (622 out of 1,439) for family physicians and 52% (493 out of 957) for pediatricians. When the case scenario of a child with high caries risk was presented, more than 90% of the respondents recommended that the child see a dentist as soon as possible. For the child with low caries-risk, the proportion of respondents recommending early dental visit was significantly lower: only about 19% of family physicians and 14% of pediatricians. For a child at low risk for dental caries, about 40% of family physicians and 63% of pediatricians recommended the first dental visit around the third birthday. The majority of the respondents (pediatricians=91% and family physicians=77%) reported frequent screening for gross tooth decay. However, only a minority of them (pediatricians=33% and family physicians=19%) frequently checked for early signs of tooth decay as part of their regular practice.

**Conclusions:** US physicians can decide on referral patterns based on the risk status of a child. However, the majority of respondents do not regularly screen for early signs of early childhood caries. (*Pediatr Dent.* 2003;25:425-430)

**KEYWORDS:** DENTAL SCREENING, DENTAL DECISION-MAKING, FAMILY PHYSICIAN, INFANT ORAL HEALTH, PEDIATRICIAN, TOOTH DECAY

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The oral and dental health of young children is still a concern especially in low-income, urban, and minority populations. Early childhood caries (ECC) is a major health problem that can cause significant pain and psychological trauma to young children. To promote early detection and referral of ECC, the American Academy of Pediatric Dentistry (AAPD)<sup>1</sup> and the American Dental Association (ADA)<sup>2</sup> have advocated that children should see a dentist by 1 year of age for dental

screenings. They further advocate that the dentist should advise parents how to prevent dental and oral diseases and harmful habits such as thumb-sucking as well as how to detect early signs of child abuse.<sup>3</sup> In contrast, the American Academy of Pediatrics (AAP) still recommends that children see a dentist by the age of 3 years.<sup>4</sup> Pediatricians and family physicians are the primary care providers who usually see children during the ages when ECC may develop (the first 3 years of life). Hence, early detection of

signs of ECC may prevent the detrimental burden of pain and restorative work that is usually provided under sedation for young children.

However, neither pediatricians nor family physicians have been trained to conduct screenings for the early signs of ECC and to advise parents how to prevent the initiation of this condition. The authors contend that a policy recommending that every child see a dentist by the age of 1 year cannot easily be implemented because of the limited access to dental care by the families whose children are most vulnerable to ECC.

These contrasting positions between the 2 leading academies of pediatrics and pediatric dentistry, have led us to investigate the attitudes and knowledge level of US pediatricians and family physicians regarding the age of the first dental visit and screening for ECC. The main problem cited for the low interest or willingness to provide dental screenings in pediatric practices is the lack of training in this area.<sup>5</sup>

A recent nationwide survey of pediatricians found that one-half of the respondents had had no previous training in dental health issues during medical school or residency.<sup>5</sup> Therefore, it was not surprising that the survey reported that only 1 in 10 respondents possessed full knowledge of all the questions that were asked regarding caries prevention therapies.<sup>5</sup>

The objectives of the present study were to assess the range of recommendations with regard to young children's first dental visit, as reported by family physicians and pediatricians in the United States, and also to evaluate their dental health screening practices.

## Methods

Data were derived from a survey conducted by the School of Dentistry, University of Michigan. The survey was sponsored by the Centers for Disease Control and Prevention and the Association of Teachers of Preventive Medicine.

Simple random samples of 1,500 family physicians and 1,000 pediatricians were selected from the American Medical Association Physician Masterfile that included the names, addresses, telephone numbers, specialty status, gender, year of birth, and year of graduation of 77,624 family physicians and 50,656 pediatricians. The first mailing was carried out in June 2000. Nonresponders received a second mailing 10 days later. A third mailing was sent 2 weeks after the second mailing, and a reminder card was mailed 3 weeks after the third mailing. A final mailing was sent to the nonresponders 3 months from the first one.

The questionnaire was developed and modified following the input from a focus group that consisted of a cognitive psychologist, 4 public health dentists, 3 pediatric dentists, 5 pediatricians, and 6 family physicians. The questionnaire was then pretested with 50 family physicians and 50 pediatricians practicing in Toledo, Ohio and southeastern Michigan. The questions on practice behaviors regarding dental referrals and screening had a Cronbach's alpha of .65.

The questionnaire included 2 case scenarios describing the oral condition (with photographs) and the general health status of 2, 12-month-old children. Case A was described as a healthy 12-month-old girl seen regularly by the practitioner since birth. This child, from a nonfluoridated area, belonged to a high socioeconomic status family. She had both unremarkable birth history as well as past medical history. Her physical examination was normal and she had a healthy dentition with no signs of early childhood tooth decay. She was described as follows:

Leah is a healthy 12-month-old girl whom you have seen regularly since her birth. Her birth history and past medical history are unremarkable. Her mother is a vice-president of a small company. Her physical examination is normal. She has healthy dentition with no signs of early childhood tooth decay. Leah lives in an area with nonfluoridated municipal drinking water.

Case B was described as a 12-month-old boy being seen by a physician for the first time. This child from an area with trace levels of fluoride in the drinking water had presented with his second episode of acute otitis media. The child was from a low socioeconomic status family with both parents unemployed. The child had prescription coverage from Medicaid, and the practitioner prescribed antibiotics for resolution of the acute condition. The child was seen at a follow-up visit 2 weeks later when the practitioner noticed cavities on his front teeth. This description was supplemented with a colored photograph of the maxillary anterior teeth showing dental caries lesions. He was described as follows:

Mark is a 12-month-old boy who visits you for the first time. This is his second episode of acute otitis media. His parents are unemployed, and he is on Medicaid (has prescription coverage). You prescribe antibiotics and see Mark for follow-up 2 weeks later. At the follow-up visit, the otitis media has resolved, but you notice cavities in his front teeth. Mark lives in an area with trace levels of fluoride in the drinking water.

For the purpose of this study, Case A was designated as a child at low risk for dental caries, while Case B was denoted to be a child with high risk for dental caries. However, these designations were not revealed to the respondents in the survey questionnaire.

The respondents were asked to decide on the need and frequency for dental referrals for each case scenario.

In addition to the 2 case scenarios described above, a series of questions evaluated dental screening and referral practices, including:

1. whether as part of regular practice the respondent screened for gross tooth decay in toddlers;
2. whether as part of regular practice the respondent checked for white chalky lines (early tooth decay) parallel to the gum line on the teeth of toddlers;
3. whether as part of regular practice the respondent assessed the potential for infants and toddlers to develop tooth decay;

**Table 1. Recommendations for Dental Referral of the High Caries-risk Child**

Refer to a dentist	Family physicians (%±SE)	Pediatricians (%±SE)
As soon as possible	91.3±1.4	91.5±1.4
Within 6 mo	5.8±1.2	5.7±1.1
Around 2nd birthday	1.3±0.6	1.0±0.5
Around 3rd birthday	1.1±0.5	1.9±0.7
Just before starting primary grade or kindergarten	0	0
Sometime after having started school	0	0
No opinion	0.5 ± 0.4	0

**Table 2. Recommendations for Dental Referral of the Low Caries-risk Child**

Refer to a dentist	Family physicians (%±SE)	Pediatricians (%±SE)
As soon as possible	7.1±1.3	6.2±1.2
Within 6 mo	11.9±1.7	7.9±1.3
Around 2nd birthday	33±2.4	22.4±2
Around 3rd birthday	39.8±2.5	62.5±2.4
Just before starting primary grade or kindergarten	4.5±1.1	0.7±0.4
Sometime after having started school	0.5±0.4	0
No opinion	3.2±0.9	0.2±0.2

- the respondent's rating of agreement with the statement that family physicians and pediatricians should screen children for dental problems; and
- the age at which the respondent routinely recommended that children should visit a dentist for their first preventive dental examination.

This project was reviewed and approved annually by the Health Sciences Institutional Review Board of the University of Michigan.

## Results

Of the 1,500 envelopes mailed to family physicians, 61 envelopes were returned because of wrong addresses. Of the 1,439 sampled family physicians with valid addresses, 622 responded (response rate=43%). Of those, 8 reported that they had retired, 7 returned the questionnaire unanswered, and 224 reported that they did not provide care for infants and toddlers. Of the 1,207 eligible family physicians, 383 answered the questionnaire (32%).

Of the 1,000 envelopes mailed to pediatricians, 43 were returned because of wrong addresses. Of the 957 pediatricians with valid addresses, 493 responded (response rate=52%). Of those, 9 had retired and 61 reported that they did not see infants and children (surgical specialties or administrators). Of the 887 eligible pediatricians, 423 answered the questionnaire (48%).

A comparison between respondents and nonrespondents using information included in the AMA Masterfile found that among family physicians, a significantly higher percentage of respondents were females. Among pediatricians, the mean age and mean number of years since graduation were slightly lower in respondents than nonrespondents. There were no differences in the response rates by practice type and median household income where the sampled family physicians or pediatricians practiced.

The responding family physicians represented 4 regions of the United States: Midwest (31%), Northeast (21%), South (26%), and West (21%). The distribution of the responding pediatricians was as follows: Midwest (21%),

Northeast (24%), South (33%), and West (22%). Seventy-four percent of the responding family physicians were males, compared with 51% of the responding pediatricians. The mean ages of the responding family physician and pediatricians were 49 and 47 years, respectively. On average, all respondents had around 20 years of experience and worked in areas with a median household income of around \$35,000.

More than 9 out of 10 family physicians as well as pediatricians recommended that the child at high caries-risk see a dentist as soon as possible (Table 1). For the child at low risk for caries, two fifths of the family physicians recommended a dental visit around the third birthday, while another one third recommended dental visit around the second birthday (Table 2). About two thirds of the pediatricians recommended that the low caries-risk child visit a dentist around the third birthday while another one fifth recommended dental visit around the second birthday (Table 2).

Almost all of the respondents, both family physicians as well as pediatricians, agreed or strongly agreed that they should screen children for dental caries (Table 3). More than 9 out of 10 pediatricians and three fourths of the family physicians reported frequently screening for gross tooth decay (Table 4). However, only one third of the pediatri-

**Table 3. Physicians' Opinions on Dental Screening for Children**

Statement: Family physicians and pediatricians should screen children for dental problems		
Responses	Family physicians (%±SE)	Pediatricians (%±SE)
Strongly agree	57.1±2.5	67.9±2.3
Agree	40±2.5	31±2.3
Not sure	1.6±0.6	0
Disagree	0.5±0.4	0.5±0.3
Strongly disagree	0.8±0.5	0.7±0.4

**Table 4. Current Screening Practices of Physicians for Dental Caries in Young Children**

Do you	Responses	Family physicians (%±SE)	Pediatricians (%±SE)
Screen for gross tooth decay?	Frequently	76.8±2.2	91.4±1.4
	Sometimes	20.4±2.1	8.1±1.3
	Never	2.9±0.9	0.5±0.3
Check for early tooth decay?	Frequently	19.1±2	32.9±2.3
	Sometimes	36.7±2.5	34.8±2.3
	Never	44.2±2.5	32.4±2.3
Assess the potential for developing tooth decay?	Frequently	45.4±2.6	71.5±2.2
	Sometimes	45.2±2.5	25.9±2.1
	Never	9.4±1.5	2.6±0.8

cians and one fifth of the family physicians frequently checked for early tooth decay (white chalky lines parallel to the gum line on the teeth of toddlers) as part of their regular practice. Further, two fifths of the family physicians and one third of the pediatricians reported never checking for early tooth decay (Table 4).

Three fourths of the pediatricians and two fifths of the family physicians frequently assessed the child's potential for developing tooth decay (Table 4). Another two fifths of the family physicians and one quarter of the pediatricians sometimes assessed the child's potential for developing tooth decay. The proportion of pediatricians who frequently assessed the child's potential for developing dental caries and screened for signs of gross dental caries and early childhood caries was significantly higher as compared to family physicians ( $P<.01$ ).

Ninety-four percent of the family physicians and 99% of the pediatricians routinely recommend that young children visit the dentist for a preventive dental assessment. The mean age of referral for the first dental assessment was 2.5 years (range=0.5-6.5 for family physicians and 0.8-4.5 for pediatricians).

## Discussion

The US Surgeon General's report on oral health, entitled "Oral Health in America," highlighted the fact that "dental caries is the single most common chronic childhood disease—5 times more common than asthma and 7 times more common than hay fever."<sup>6</sup> The Third National Health and Nutrition Examination Survey (1988-1994) showed that 1 in 5 children between the ages of 2 and 5 years had decayed teeth.<sup>7</sup> More ominously, 71% of the decayed primary teeth had not been restored in these 2- to 5-year-old children.<sup>7</sup>

Almost all of the physicians, both pediatricians as well as family physicians, surveyed in the present study recommended that a child visit the dentist for his/her first preventive dental examination at a mean age of 2.5 years.

This is in accordance with the AAP recommendation that "children should get regular dental checkups after age 3 or when all 20 baby teeth have come in."<sup>4</sup> These professional recommendations appear to be followed by mothers and/or primary caretakers as demonstrated by the 2002 American Academy of Pediatric Dentistry Foundation and Oral-B Checkup on Children's Oral Health Study.<sup>8</sup> Seven out of 10 mothers/caretakers in this national sample reported that their child first went to the dentist

between the ages of 2 and 4 years.<sup>8</sup>

The observed reluctance of physicians to refer a well child for an early dental referral as per the dental organizations' stand is not unique to the present study. A nationwide survey of pediatricians has reported that only 1 in 6 respondents noted that a well child should be referred to a dentist by 12 months of age, the current recommendation of the AAPD and the ADA.<sup>5</sup> Even among pediatric dentists, only 1 in 2 suggest that an asymptomatic child should be seen for her/his first dental evaluation by 12 months of age.<sup>9</sup>

Some pediatric dentists have been critical of the stand of the dental organizations on infant oral health with its emphasis on having every child receive a dental examination by their first birthday.<sup>10</sup> A 1996 survey of the AAPD membership found that almost 30% of them disagreed with their organizations' policy on infant oral health.<sup>9</sup> Therefore, it is likely that some physicians might encounter difficulty in implementing a dental referral for infants by their first birthday. The 1996 AAPD Survey also reported that 1 in 5 pediatric dentists do not perform infant evaluations.<sup>9</sup> The policy of the dental organizations on the first dental visit, though laudatory in concept, does not seem pragmatic if physicians find it difficult to locate dentists to whom they could refer infants by their first birthday.

Two case scenarios were described in the present study, one detailing a child at high risk for dental caries and another detailing a child at low risk for caries. These 2 cases were selected from several other cases after considering the time limits that the potential respondents may have due to their busy schedules. The 2 cases present 2 contrasting scenarios. While ostensibly such an approach may bias the respondents, the authors found that the response on the recommendations to prescribe fluoride supplements was not affected by the caries risk status of the children. This indicates that the scenarios were potentially measuring real practice approaches of the respondents. Another limitation



of this study is the relatively low response rate, which is now common in all surveys of health care providers.

More than 90% of family physicians and pediatricians in the present study correctly recommended that the child at high caries-risk see a dentist as soon as possible. This is in agreement with the recommendations of the AAP for preventive pediatric health care suggesting a dental referral some time between 1 to 3 years of age with the caveat that "earlier initial dental examinations may be appropriate for some children."<sup>11</sup> However, this uniformity of response amongst pediatricians and family physicians was not seen in the recommendation for a dental referral for the child at low risk for dental caries.

About two thirds of the pediatricians in the present study recommended that the low caries-risk child visit a dentist only around the third birthday. This was similar to the finding from Alabama where two thirds of pediatricians and family physicians considered that children should visit the dentist for the first time only by 3 years of age, though the study did not specifically ascertain recommendation by caries-risk stratification.<sup>12</sup> However, in the present study, one third of the family physicians recommended a dental visit for the low caries-risk child around the second birthday while another 40% recommended a dental visit around the third birthday. This finding may reflect the additional training of pediatricians compared with family physicians in managing the dental health of infants. For example, a sample of pediatricians from Alabama reported receiving more preventive oral health education than family physicians.<sup>12</sup>

Screening for dental diseases at the age of 3 years may not help those children who are prone to develop ECC. Hence, it is recommended that the AAP and the AAPD convene a consensus conference to develop a new policy that focuses on early screening of children for early signs of tooth decay. As well, the new policy should define the preventive advice that primary care providers should provide to parents as well as define a system for referral of children with potential dental problems to dentists to receive dental care.

Another issue that bears consideration is whether primary care physicians possessed adequate dental knowledge, and if they routinely provided dental examinations and oral anticipatory guidance.<sup>5,13</sup> Most of the respondents in the present study reported frequently screening for gross tooth decay. However, only one third of the pediatricians and one fifth of the family physicians frequently checked for early tooth decay exemplified by white chalky lines parallel to the gum line on the teeth of toddlers as part of their regular practice. Early detection of ECC is an area that requires attention in the training programs for primary care physicians. There is, therefore, a need to increase the dental knowledge of physicians enabling them to provide adequate dental screening and referral for children less than 3 years old.

Two thirds of the pediatricians and one half of the family physicians in the present study reported frequently assessing the child's potential for developing tooth decay. Again, this is similar to the findings of another survey of pediatricians where many of them reported routinely providing anticipatory guidance on oral health in their well child care visits.<sup>5</sup> Despite these findings, it is prudent to be cognizant of the reality as it has been reported that pediatricians do not provide counsel on all recommended preventive health topics during well care/routine checkup visits partly due to time restrictions.<sup>14</sup> It has been noted that during the well care/routine checkup visits, pediatricians were expected to not only "counsel about preventive topics, but also to take a medical history, perform physical examinations, conduct relevant screening procedures, give immunizations, and address appropriate psychological issues."<sup>14</sup>

## Conclusions

The findings of this nationwide survey confirm that while primary care physicians in the United States can adequately triage the dental needs of young children, they are not properly screening children for early signs of tooth decay. The present survey also found that, when presented with case scenarios, pediatricians and family physicians can assess the caries-risk of a child and refer to a dentist when needed.

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## ABSTRACT OF THE SCIENTIFIC LITERATURE



### THE ROLE OF COMMUNITY DENTAL FACILITATOR IN IMPROVING ACCESS TO DENTAL CARE

There are many reported factors that contribute to inadequate access to dental care for young children. They include, but are not limited to: (1) inadequate numbers of dentists treating Medicaid-eligible children; (2) knowledge and attitudes concerning oral health; and (3) other difficulties reaching culturally diverse populations and issues inherent to the Medicaid program. A recent study reported that the use of community dental facilitators improved access to dental care. The community dental facilitators were layworkers hired from the community's predominant ethnic groups. Over 71% of children who used community dental facilitators completed treatment at the end of 1 year.

**Comments:** There are many challenges to the access to care problem for low-income children. These challenges go beyond just economics. A community dental facilitator model or the use of lay health advisors can increase delivery of adequate and appropriate oral health services for children. **JYL**

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