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Conscious sedation practices in pediatric dentistry: a survey of members of the American Board of Pediatric Dentistry College of Diplomates

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Members of the College of Diplomates of the American Board of Pediatric Dentistry were surveyed in January, 1988, to establish current trends in the use of conscious sedation and to relate these trends to certain demographic data and circumstances of contemporary pediatric dentistry practice. Several questions were restatements of the 1980 Association of Pedodontic Diplomates *Survey of attitudes and practices in behavior management* (Pediatr Dent 3:246-50, 1981) and provided comparison data. The 1980 survey was also important in establishing the Diplomates as a valid sample of American Academy of Pediatric Dentistry members at large. Of 479 questionnaires sent in 1988, 369 were returned, 363 of which were usable (76%) vs. 75% in 1980 and 77% in a similar survey of Diplomates in 1971.

Significant findings of the current survey include:

1. The average member of the College has been in pediatric dental practice between 11 and 20 years.
2. Forty-five per cent trained in a program located in District IV (northern Midwest); the next highest percentage (13.8%) came from programs in District V (southern Midwest).
3. The highest proportion of College members (20.4%) practice in District I (Northeast), closely followed by District IV (northern Midwest) at 19.8% and District III (Southeast) at 18.0%.
4. Private practitioners constitute 79.3% compared to 61% in the 1980 survey, while 12.2% are in academics and 5.1% are hospital based.
5. Respondents practicing in communities between 10,000 and 100,000 population were 34.6% of the total. The second largest group (28.5%) practice in communities between 250,000 and 1,000,000. Only 1.6% practice in communities of less than 10,000.
6. "Conscious sedation" as defined by the Academy* is used by 7.9% for "more than 75%" of their patients; 68.5% use it for "selected patients", and 23.6% "never employ" conscious sedation. In the 1971 survey 86% "used premedication", in the 1980 survey 83% used premedication, and in this survey 77.4% did so.
7. Nitrous oxide-oxygen is used by 28.7% for "more than 75%" of their patients; 58.9% use nitrous oxide-oxygen for "selected patients"; and 12.4% "never use" nitrous oxide-oxygen for patients. Combining the first two groups yields a total of 87.6% who employ nitrous oxide-oxygen in their practices. This is a dramatic increase from only 35% using nitrous oxide-oxygen in 1971 and 65% in 1980.
8. When asked about the most significant changes in utilizing conscious sedation during the immediate past two years, 37.1% reported the most changes in "protocol" (e.g., monitoring methods, personnel duties, consent and permission forms). "No significant changes" were reported by 29.5%. "Fewer agents administered" per sedation was the third most frequent response at 23%.
9. Only 0.2% reported increasing their use of conscious sedation (with agents in addition to nitrous oxide) in 1987 vs. the previous year. Only 6.3% reported increasing their use of sedation "more than 10%." Sedation use "remained the same" for 64.4%. A decreased use of "more than 10%" was reported by 10.2%, and 18.9% reported that their use of conscious sedation during the past year had "decreased more

* A minimally depressed level of consciousness that retains the patient's ability to maintain a patent airway independently and continuously, and respond appropriately to physical stimulation and/or verbal command, e.g., "open your eyes." (For the very young or handicapped individual, incapable of the usually expected verbal responses, a minimally depressed level of consciousness for that individual should be maintained.) The caveat that loss of consciousness should be unlikely is a particularly important part of the definition of conscious sedation and the drugs and techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely.

than 25%." Respondents reporting increased use of sedation (0.2% + 6.3% = 6.5%) were asked to indicate the reasons for the increased use (Table 1). The 29.1% (10.2% + 18.9%) of Diplomates reporting decreased use of conscious sedation provided their reasons for this change (Table 2).

In summary, significant changes are occurring in the utilization of conscious sedation by the pediatric dentist. Nitrous oxide-oxygen use is increasing; the administration of other agents is decreasing. The changes seem to result primarily from the increased cost of professional liability insurance and concerns with maintaining currently accepted protocols for the administration of sedative agents. The third factor, that the pediatric dentist perceives an improved "ability to manage the difficult child without conscious sedation" may reflect a greater reliance on restraint and physical behavior modification. In view of other recent litigation in several states which may limit the use of physical restraint techniques and HOM, the pediatric dentist may be forced to utilize general anesthesia in a hospital or surgicenter more frequently than is now deemed appropriate. It would seem that a significant erosion of the pediatric dentist's behavior management hierarchy is occurring. Alternative remedies for this acute problem may be efforts to control the cost of professional liability insurance, a different political climate for litigation, and continued strong efforts to provide continuing education aimed at enabling compliance with accepted guidelines for the use of conscious sedation.

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TABLE 1.

The two most important reasons for my increased use of conscious sedation are (check 2): (6.5% of total respondents)

	% Response
I am treating more children who are difficult to manage.	54.5
"Economic" pressures to provide more efficient care.	31.8
I am now better prepared to provide conscious sedation.	9.1
The American Academy of Pediatric Dentistry *Guidelines for the Elective Use of Conscious Sedation, Deep Sedation, and General Anesthesia in Pediatric Patients* (Pediatr Dent 7:334-37, 1985) have made the use of conscious sedation more feasible in my practice.	0.0
I now find it more difficult to admit patients to the hospital for general anesthesia as a result of increased costs, limited access, or other problems.	59.1
State "Practice-Act" legislation has made it easier to provide conscious sedation.	0.0
I can state no particular reason.	0.0
Other	27.3

TABLE 2.

The two most important reasons for my decreased use of conscious sedation are (check 2): (29.1% of total respondents)

	% Response
I am treating fewer children who are difficult to manage.	19.6
I find I now am able to manage more of the difficult children effectively without conscious sedation.	29.9
Increased cost of professional liability insurance ("malpractice insurance")	33.0
Problems with obtaining parental acceptance/informed consent for conscious sedation from parents/guardians	8.2
Difficulty in achieving compliance with American Academy of Pediatric Dentistry *Guidelines for the Elective Use of Conscious Sedation, Deep Sedation, and General Anesthesia in Pediatric Patients* (Pediatr Dent 7:334-37, 1985), e.g., monitoring techniques, need for two persons, or more training	39.2
Improved access to an ambulatory general anesthesia facility (i.e., surgicenter)	17.5
I now find it easier to admit patients to the hospital for general anesthesia.	14.4
State "Practice-Act" legislation has made it more difficult for me to provide conscious sedation.	14.4
I can state no particular reason.	1.0
Other	24.7