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November 30, 2000

MMCD Policy Letter 00-05

TO:
[X] County Organized Health System Plan (COHS)
[X] Geographic Managed Care (GMC) Plans
[X] Prepaid Health Plans (PHP)
[X] Primary Care Case Management (PCCM) Plans
[X] Two-Plan Model Plans

SUBJECT: Dental Services--Anesthesia Coverage

**Purpose**

The purpose of this letter is to remind Medi-Cal managed care plans (Plans) of their contractual responsibilities to cover anesthesia services provided in conjunction with dental services offered to beneficiaries in dental offices or hospital or surgical settings.

**Background**

Dental services are currently excluded from health plan contracts but are provided to Medi-Cal beneficiaries on a Fee-For-Service (FFS) basis or through a dental plan. Plans are contractually required to cover medical services administered in connection with dental services provided to beneficiaries. COB Letter 88-10 clarified the distinction between dental and medical services and reminded Plans of their contractual obligations to cover the medical services component of dental services provided to Medi-Cal beneficiaries that are not provided by dentists or dental anesthetists. Covered medical services include prescription drugs, laboratory services, physical examinations required for admission to a medical facility, anesthesia services provided by individuals other than dental personnel, out-patient surgical center services and in-patient hospitalization services required for a dental procedure.

**Coverage of Anesthesia Services**

Medi-Cal patients enrolled in managed care programs are entitled to treatment under general anesthesia when medically necessary, or medically or clinically indicated for a dental procedure in a dental office or a hospital or surgery center. Plans may require dental providers to submit a request for prior authorization before approving coverage for anesthesia or any other medical services required in support of dental procedures

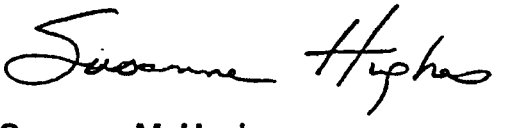
Several bills were enacted in 1998 to expand the coverage of dental-related anesthesia services to all health plans in the state:

AB 2003 (Chapter 790, Statues of 1998) required all health care service plan contracts to cover general anesthesia and associated facility charges for dental procedures rendered in a hospital or surgery center for enrollees who are under seven years of age, developmentally disabled or for whom general anesthesia is medically necessary. The clinical status or underlying medical condition of the patient must require general anesthesia for dental procedures that would not be ordinarily performed under general anesthesia. Plans may require prior authorization of general anesthesia and associated charges required for dental care procedures.

AB 745 (Chapter 505, Statues of 1998) created guidelines to allow physician-anesthesiologists to administer general anesthesia in an office of a licensed dentist who does not hold a general anesthesia permit. Anesthesiologists must obtain a general anesthesia permit from the Board of Dental Examiners before administering anesthesia on an outpatient basis.

Attached are documents released by the American Academy of Pediatric Dentistry for behavior management and the use of anesthesia for pediatric dental patients. Plans are encouraged to review these guidelines to assist them in determining medically necessary criteria for coverage of anesthesia services.

If you have any comments or questions regarding this letter, please contact your contract manager.



Susanne M. Hughes
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## Hospital Guidelines for Pediatric Dentistry

Revised May, 1991

### Introduction

The original Hospital Guidelines for Pediatric Dentistry was written in 1977 and revised in 1979. Dentistry in general and, more importantly, pediatric dentistry have undergone many changes over the last 10 years which have impacted upon both the ways in which we practice and how we relate to our medical colleagues. These changes have occurred in many areas — in our patient population, professional organizations, institutions, and the third-party agencies which reimburse us for our services — and have been used in updating this revision of the Guidelines. Shifting caries demographics have allowed us to focus more of our energy on other areas of the specialty such as growth and development, sedation and anesthesia, infant and adolescent care, the special patient, and hospital dentistry. These patient changes have caused increasing utilization of the hospital environment for children's oral health care services which, in turn, have increased the pediatric dentist's activity in hospital affairs. Ambulatory general anesthesia centers have been developed in hospitals and as free-standing facilities and have come under the regulation and supervision of outside accrediting agencies. Likewise, the treatment of the special patient, high-risk children from broken homes, HIV-positive infants and children, and babies born to drug abusing mothers need increasing dental care, many times in the hospital environment. For many of them, the hospital dental service is the only available provider of dental care and the department's members, both hospital and community based, must fully integrate with the institution in order to meet the patient's needs while providing the highest standards of professional practice.

The American Dental Association has become a corporate member of the Joint Commission on Accreditation of Health Care Organizations (JCAHO) and no longer issues standards for hospital dental services but does provide guidelines for hospital services. The standards for all hospital services including dental services are now issued by the JCAHO. This subtle change should be noted. Both the ADA's guidelines and the JCAHO's standards have been used in formulating our guidelines and the exact wording has been used where it is appropriate. Our own document is being published as a guideline for practice and not as standards of care. However, it may be used to establish standards by individual institutional departments.

It is now standard that hospitals are accountable for the quality of care rendered in their facility and for evaluating the credentials of the professionals who practice there. These responsibilities are being passed on to the individual departments whose members are increasingly varied in their training and background. In the past, oral surgeons had the major responsibility for representing dentistry in hospital affairs. However, with the increase in general practice residencies, hospital dental departments have become similar in makeup to the general dental population. Therefore, more general dental procedures are being performed in hospitals, which has caused the development of expanded quality assurance criteria and demand by third-party agencies for accountability. Our institutions also are demanding that dental services become financially self-supporting by increasing productivity and decreasing direct and indirect costs. To do this, services have had to create different funding mechanisms for both their patient services and the overhead associated with the operation of the department.

We have seen the erosion of control in determining reimbursement for dental care of children in a hospital environment. Third-party agencies are refusing payment of hospital services when the child is admitted for the treatment of dental caries under a general anesthetic. It is essential that these guidelines be used so that the dentist can admit a child for the treatment of dental caries much as the physician can admit the child for the treatment of otitis media. Dental caries, without qualifications, must be an admitting diagnosis.

In revising the earlier guidelines, the material has been reorganized into a different format. Eight distinct sections covering staff membership and privileges, scope of practice, medical records, quality assurance, reimbursement, references and appendices are presented. Each section identifies the appropriate ADA and JCAHO guidelines and standards and also addresses the changing conditions in many states where local regulations supersede those of national organizations.

The purpose of this document is to improve and maintain children's oral health care in a hospital environment. It also is intended to provide a reference source of information concerning the role and responsibility of the pediatric dentist as a member of a hospital staff and to be used by existing departments as a guideline of operation. It also may be used by those wishing to establish a pediatric department within an existing facility or to begin a new one.

In addition to utilizing these guidelines, the Joint Commission on Accreditation of Hospitals' Accreditation Manual for Hospitals should be reviewed. The Ad Hoc Committee that developed these guidelines had no intention of suggesting complete standardization of dental care for children in hospitals. It was not possible for the committee to address itself to all questions which might arise in individual hospitals and with individual pediatric dentists. The bibliography has been added to include references and additional sources.

This manual is intended to assist pediatric dentists in their interaction with medical staffs. This information has been prepared by an Ad Hoc Committee for the American Academy of Pediatric Dentistry which was composed of representatives who were selected geographically from around the United States so as to ensure the broadest possible scope. It is up to individual pediatric dentists to interpret and adapt these guidelines to conform to local hospital situations.

### Staff Membership and Privileges

Hospital privileges are sought by most pediatric dentists because of a sense of responsibility to the community and the comprehensive health care that the facility can offer. As a member of the medical staff, likewise, the pediatric dentist must assume a similar responsibility and participate in the affairs of the hospital and the medical staff if dentistry is to be an integral and respected service in the hospital health-care system. If a pediatric dentist does plan to participate with his/her division, he/she must become involved in the hospital governance and abide by guidelines and bylaws established by the hospital and the medical staff.

Most pediatric dentists find that their affiliation with and privileges in a hospital provide them the opportunity to render a more comprehensive service, safer and more humanely, for selected patients. Along with this privilege, there are many acquired responsibilities necessary to integrate dental services into other established medical hospital systems. The pediatric dentist must know the bylaws, rules, and regulations of the hospital of which he/

she is a member, assume certain responsibilities to the hospital and his/her division, understand protocol for fitting patients into the system, and have adequate training in and/or exposure to allied medical subspecialties with which he or she will have contact. Lastly, and probably most importantly, the pediatric dentist must be able to deliver quality service in the specialized area within the parameters of the specific hospital privileges for which he or she has been qualified by training and education.

It is important that the pediatric dentist understand the meaning and intent of the bylaws, rules, and regulations established by the hospital medical staff if he/she is to work effectively within the framework of the hospital. Since the medical staff is a self-governing body, these rules and guidelines establish parameters for personal conduct, help prevent or resolve medical staff conflicts, and aid in the proficient management of the hospital.

The JCAHO has listed under its standards certain obligations to the hospital that the medical staff must assume if the hospital is to meet the requirements of accreditation. Some of these obligations are defined in the following standards. (It is important to remember that the ADA no longer publishes standards for hospital dental services but instead issues guidelines for hospital dental services.) The JCAHO standard regarding the medical staff states:

> "There is a single organized medical staff that has overall responsibility for the quality of the professional services provided by individuals with clinical privileges, as well as the responsibility of accounting therefore to the governing body. There is a mechanism to assure that all individuals with clinical privileges provide services within the scope of individual clinical privileges granted."

The original ADA standard (now written as a guideline) adds that there should be a single medical staff which shall include physicians and dentists who shall be eligible for all categories of medical staff membership, have the right to vote and hold office and serve on all medical staff committees. Further, the ADA suggests that provisions be made to include within the medical staff bylaws and rules and regulations, assurance that all references to medical staff members be interpreted to include physicians and dentists. However, it must be pointed out that JCAHO standards, which have supplanted ADA standards, no longer specifically mention dentists but state that the medical staff includes fully licensed physicians and may (emphasis ours) include other licensed individuals permitted by law and by the hospital. It is no longer given that a dentist can be a member of a medical staff; the decision is left to the hospital and medical staff itself. It would appear however, that if dentists are members, they will be given full privileges as suggested by the ADA guidelines and stated in the JCAHO standards. The appointment to the medical staff must be made through a hospital-specific mechanism that is approved and implemented by the medical staff and the governing body, fully documented in the medical staff bylaws, rules and regulations and policies, and described to each applicant.

As a member of a hospital staff, the pediatric dentist has certain responsibilities which are both suggested in ADA guidelines and set forth in JCAHO standards. These responsibilities would include attending all required departmental and staff meetings, serving on committees within the hospital, taking emergency room call or being "on service" if required by the hospital or department, keeping medical records up to date and participating in the quality assurance program and in continuing education.

JCAHO states that requirements for frequency of and attendance at staff meetings are mandatory in order to maintain privileges. The staff must have frequent meetings for department heads and committees, the departments must have monthly meetings and there must be quarterly meetings for the full medical staff. The ADA guidelines suggest regularly scheduled meetings of the dental service to review activities of the dental service, review the performance of staff members, review care and treatment of patients and perform administrative functions. Minutes of these meetings shall be recorded and maintained and must include attendance, resultant recommendations, conclusions and actions. Administrative activity, education and the evaluation of patient care meetings may be scheduled on a concomitant basis.

These meetings are necessary to keep the members informed of changes in hospital protocols and staff responsibilities and to provide members with continuing education. In addition, there may be a requirement for attendance at and participation in special regulatory committee meetings. In order to maintain privileges, most hospitals require staff members to attend at least 50% of both departmental and hospital staff meetings. In many institutions, this is one of the criteria used for reappointment by the department head. By attending staff meetings, the dentist staff member will learn about advances in other subspecialties as well as provide knowledge and awareness of dentistry to physicians and other medical staff members.

The pediatric dentist on a medical staff should not only accept committee responsibilities, but should also actively seek these responsibilities. By a conscientious effort to serve the medical staff, the dental professional ultimately will have a better understanding of the role the hospital plays in total health-care delivery. By the same token, the presence of qualified dentists on the various committees will ensure that the rest of the medical staff will be better acquainted with hospital needs, desires, and goals of the dental profession. The importance that a hospital may place on dentistry usually is directly related to the activities, attitudes, and abilities of the dental staff. If the members conduct themselves in a professional and competent manner, they will attain respectability and stature equal to the other subspecialties.

In many institutions, active membership may include a requirement to take call in either the emergency room or participate in teaching or patient activities within the department. These activities usually help the department provide a service to the community but more importantly, they make each dentist part of the hospital teaching and service mission in partnership with other members of the health care team. In addition to active membership the pediatric dentist may elect to serve at the courtesy or consultant levels.

The medical record is an integral part of the patient's treatment and JCAHO standards mandate that complete, accurate and legible records be maintained for every patient receiving inpatient, outpatient, emergency, or consultative care. The dental records should be made a part of the patient's medical record in accordance with the standard procedure of the hospital. A separate section covering medical records appears later in this document, but the dentist's responsibility to the medical staff includes keeping medical records complete and up to date.

As part of the hospital's quality assurance program, the medical staff strives to assure the provision of quality patient care through the monitoring and evaluation of this care. Opportunities to improve patient care also must be addressed. Further, there must be a mechanism by which dentists shall review and evaluate the pattern and quality of clinical practice through quality assurance and this, too, will be discussed in a later section.

JCAHO standards state that all individuals with delineated clinical privileges participate in continuing education that relates, in part, to the privileges granted. Programs of continuing education including clinical pathologic conferences, seminars, journal clubs, lectures, and the findings of quality assurance activities should be sponsored at least monthly by the dental service. Each individual's participation in continuing education must be documented and considered at the time of reappointment to the medical staff and/or renewal or revision of individual clinical privileges.

### Delineation of Privileges

The JCAHO accreditation manual for hospitals addresses delineation of privileges in the medical staff section. In Standard One, which identifies the characteristics of the medical staff, it is stated that a required characteristic of the medical staff is that all members have delineated clinical privileges that allow them to provide patient care services independently within the scope of their clinical privileges and licensure. Appointment to the medical staff is made through a hospital-specific mechanism that is approved and implemented by the medical staff and the governing body, is fully documented in medical staff bylaws, rules, and regulations, and policies and is described to each applicant. Professional criteria specified in the medical staff bylaws and uniformly applied to all applicants or medical staff members constitute the basis for granting initial or continuing staff membership.

JCAHO Medical Staff Standard 4 states "A process for the delineation of clinical privileges is described in the medical staff bylaws and rules and regulations and is implemented by the medical staff." All individuals who are permitted by law and by the hospital to provide patient care services independently in the hospital have delineated clinical privileges, whether or not they are members of the medical staff. An individual's clinical privileges must be hospital specific. There also must be a mechanism to assure that all individuals with clinical privileges provide services within the scope of privileges granted.

Medical staff appointments, reappointments, and the assignment or curtailment of clinical privileges are granted by the governing body of the hospital. The governing body delegates to the medical staff the authority to evaluate the professional competence of staff members and applicants for staff privileges and holds the medical staff responsible for making recommendations to the governing body concerning initial staff appointments, reappointments, and the assignment or curtailment of privileges. As a part of this process, the dental department or service of the hospital provides the Credentials Committee of the medical staff with written recommendations concerning a dentist applicant's qualifications for medical staff membership and any clinical privileges requested.

Dentists who are fully licensed to practice dentistry in the particular state are eligible to apply for medical staff membership. Dentist members of the medical staff must be professionally and ethically qualified for the positions to which they are appointed and must abide by the Principles of Ethics of the American Dental Association. Clinical privileges granted to dentists, as to all other practitioners, should be based on education, training, experience, and demonstrated competence and judgment.

The scope and extent of clinical privileges for the pediatric dentist must be defined in accordance with his/her advanced education and must not conflict with provisions of the state's dental practice act and specialty license requirements of certain states. The scope and extent of surgical procedures that each pediatric dentist may perform must be specifically defined and recommended in the same manner as other surgical privileges.

Clinical privileges for the administration of local and general anesthesia and conscious sedation required for dental treatment should be consistent with the policies of the medical staff of the individual hospital and in conformance with state practice act policies.

Privilege delineation establishes the scope of practice in the sponsoring institution and one privilege a dentist may request is the ability to perform an admission history and physical examination. All patients admitted to a hospital have a right to receive the best health supervision the medical staff can provide. ADA guidelines state that dentist members of the medical staff shall be granted privileges to admit, manage, and discharge their patients in the same manner as all other medical staff members. It should be noted that the JCAHO allows qualified oral surgeons to complete an admission history and physical examination and medical risk assessment for their patients without medical problems. In addition, some state practice act policies allow other specialists such as pediatric dentists to perform the same procedures. As with all clinical privileges, this privilege is granted on the basis of education, training, experience, and demonstrated competence and judgment. In all cases, dentists are responsible for the part of their patient's history and physical examination that relates to dentistry.

Patients with medical problems admitted to the hospital for dental care by dentists must receive the same basic medical appraisal as patients admitted for other services. This includes having a physician who is either a member of the medical staff or approved by the medical staff perform an admission history, a physical examination, and an evaluation of the overall medical risk, and record the findings in the medical record. Pediatric dentists responsible for hospitalized dental patients have the obligation to obtain medical consultation and/or management, when appropriate, for patients with medical problems upon admission or arising during hospitalization. In the absence of concomitant medical problems, the physician's role, if required, shall be limited to the admission history and physical examination. The responsibility for medical appraisal herein defined shall not be construed to mean that the dentist and physician are "co-admitters" of the dental patient.

The quality and extent of patient care during hospitalization depends on actions of commission or omission by the attending dentist and physician and these actions can have medical/legal implications, as well as jeopardize staff privileges. The patient's hospital record must reflect accurately all pertinent information about the patient and his care while hospitalized and the dentist must ensure this is accomplished. In situations where the patient may have a chronic disease but a stable and predictable health status, it is important to establish with the physician member of the staff in advance of the admission that the physician has not only the responsibility for the history and physical relating to medical appraisal, but also has a commitment to assume surveillance and management of the medical status of the patient should any medical problems arise during the hospitalization.

When the patient's current medical status is volatile and unpredictable, it is appropriate to have the physician admit the patient, provide daily management of the medical status, and assume responsibility for discharge. In advance of admission, the parent and physician should agree to have the pediatric dentist called in as a consultant during the admission to provide evaluation and treat-

ment of dental disease. In this situation, the dentist assumes responsibility for the dental evaluation, the preoperative history and physical that relates to the dental treatment, preoperative orders that relate to the dental procedures, immediate postoperative orders, a postoperative note, and the dictation of an operative record.

In the view of the ADA's Council on Community Health, Hospital, Institutional and Medical Affairs, the method chosen for delineation of clinical privileges must include: adequate documentation of current licensure, relevant training, experience and present capabilities, clinical privilege request forms that identify pediatric dentistry as a specialty area, and areas of clinical expertise identified by the American Board of Pediatric Dentistry. Further, it must indicate that an effort has been made to match expertise with clinical privileges to the extent that is practical for the individual hospital, considering its patient needs, resources, location, and available medical personnel.

Standards of the JCAHO state that there should be a periodic (at least every 2 years) redetermination of clinical privileges and the increase or curtailment of same should be based on quality assurance activities, physical and psychological health status, and other reasonable indicators of continuing qualifications. Other reappraisal parameters should include the individual's maintenance of timely, accurate, and complete medical records, attendance at required staff and department meetings, his/her service on staff and hospital committees when requested, and his/her patterns of care, as demonstrated by reviews conducted by committees such as utilization review, infection control, tissue, medical records, pharmacy/therapeutics, and quality assurance. If privilege delineation forms use broad categories or classes of clinical procedures, the scope or level within each category or class must be identified for each practitioner.

Clinical privileges are hospital specific and thus request forms may not be all inclusive. Space can be provided for individual applicants to request additional privileges in accordance with their education, training, experience, and demonstrated competence and judgment. An example of a privilege delineation form is given in the Appendix I, Table B. It must be noted, however, that the responsibility for assignment or curtailment of clinical privileges is always that of the individual hospital and cannot be dictated by the ADA or the JCAHO .

The JCAHO has added that it is not necessary for each hospital to use a complicated list of procedures and operations for delineation of clinical privileges in order to demonstrate compliance with present standards.

The clinical privilege sheet in dentistry should include all of the areas of dental practice. These areas are:

1. Oral diagnosis
2. Preventive dentistry
3. Public health
4. Basic endodontics
5. Basic pediatric dentistry
6. Basic periodontics
7. Basic oral pathology
8. Basic oral surgery
9. Basic prosthodontics
10. Basic orthodontics.

These are 10 areas considered to be within the purview of the dental-school graduate without additional postdoctoral training. The reference to "basic" (endodontics, periodontics, etc.) is to that level of education and skill that is obtained by a recent dental school graduate. Each could be expanded to list specific allowable or exempted procedures. Small community hospitals may need to keep lists in broad categories. Large hospitals with multiple specialties represented on the staff often have a detailed listing of privileges to reflect the expertise available for patient care. The privileges for pediatric dentistry must be specific to the practitioner with advanced training in pediatric dentistry.

### Levels of Training

In evaluating a candidate's privilege delineation request, the level of training attained must be reviewed carefully. For a dentist to become a hospital staff member, two requirements are mandatory. These are:

1. Graduation from an accredited dental school,
2. Licensure to practice in the state or by regulations as pertains to state and federal facilities.

Meeting these two requirements does not entitle the dentist to obtain full staff privileges automatically. Most hospitals include additional requirements based on education, training, and experience to enable the dentist to participate in major privileges such as unsupervised admissions, discharges, treatment of patients utilizing general anesthesia, and participation in the business and political affairs of the hospital.

Successful completion of an ADA-accredited postdoctoral pediatric dentistry training program should be considered mandatory before granting privileges. The experiences gained in the postdoctoral training program should be used in determining the privileges granted. It is recognized that there are a variety of pediatric dentistry training programs with different levels of hospital experience.

According to the ADA and the AAPD Guidelines for Specialty Programs, the pediatric dentist should have training and experience in admitting and discharging children and in providing dental treatment for children under general anesthesia. However, it can be expected that a hospital may require specific documentation of the experience and training prior to awarding the pediatric dentist these privileges. Each department head should consider establishing appropriate training level numbers that would qualify an individual for privileges within the institution in areas such as admission and discharge, general anesthesia cases, parenteral sedation, and emergencies. Pediatric dentistry training programs should provide pediatric dentists with training and experience in admitting patients to the hospital. These experiences should be documented so they can be used to assess the practitioner's level of competence and to make decisions concerning his or her staff privileges.

All members of a hospital professional staff must maintain certification in basic cardiopulmonary resuscitation. Further requirements for training will vary according to state practice acts and individual hospital rules and regulations. The minimum requirements for specific practice privileges should be as follows:

1. Emergency Room Service

   Experience and instruction under direct supervision of a qualified staff member.

2. Outpatient Clinic

   Documentation of successful completion of pediatric dental outpatient procedures in the dentist's postgraduate pro-

gram; appropriate experience in sedation techniques qualifying for state certification where appropriate.

3. Operating Room

   Practical and theoretical training in general anesthesia techniques.

   Documentation of adequate numbers of children treated in the operating room under direct supervision of a qualified staff member to determine competence.

4. Admitting and Discharging Patients

   Instruction in medicine, especially pediatric medicine, including history taking, physical examination, and health appraisal of children.

   Documentation of children admitted and discharged under the direct supervision of a qualified staff member to determine competence.

Board certification is an excellent benchmark for the delineation of clinical privileges for at least outpatient services. However, it must be noted that the level of hospital experience is not a factor in board certification and thus it alone should not be used.

JCAHO Medical Staff standards have some bearing upon the problem of the extent and level of training and current training obtained by individual practitioners. They imply that the medical staff organization will strive to create and maintain an optimal level of professional performance of its members through the appointment procedure, the delineation of medical staff privileges, and the continual review and evaluation of each member's clinical activities. Privileges granted should be commensurate with training and/or experience, current competence, professional ethics, and health status. Further, reappointment policies provide for a reappraisal of each member of the staff every two years including consideration of his physical and mental capabilities.

In evaluating a staff member for advancement, the following topics could be required to upgrade staff membership or expand privileges:

1. Pediatric grand rounds
2. Medical and physical diagnosis
3. Pharmacology
4. Anesthesiology
5. Advanced cardiac life support
6. Pathology
7. Hospital orientation — During which the dentist makes rounds, receives instruction in preparation and interpretation of hospital records, utilizes the special services of the hospital, and learns both how a hospital functions and the responsibilities associated with staff membership; admission and discharge of patients are also learned
8. Operating-room orientation — During which the dentist is familiarized with operating-room sepsis, cross-contamination, attire and scrubbing, the various monitoring devices available, types of anesthetics used, complications which might arise during the administration of a general anesthetic, and so forth
9. General anesthesia cases — During which the dentist performs restorative procedures under the direct supervision of a staff member
10. Emergency care — During which the dentist provides emergency services to patients under the direct supervision of a staff member.

### Dental Service Organization

The ADA guidelines for organizational structure provide parameters that can be used to develop dental departments. The dentist members of the medical staff shall be organized to perform their duties and responsibilities effectively so as to provide optimal patient care. This organization shall provide the dental service parity with other clinical services in such areas as establishment of budget, clinical privileges, patient care policies and intraservice rules and regulations. Effective participation by the dental service in the governance structure of the hospital and equivalent access to hospital policy-making bodies are also essential.

In departmentalized hospitals, where dental care other than oral and maxillofacial surgery is provided, the dental service should be organized as a department. All dental specialties, including oral and maxillofacial surgery must be administered as sections of the dental department. In pediatric hospitals, as in general hospitals, if multiple specialties are present, the department should be named the "Department of Dentistry" rather than the "Department of Pediatric Dentistry" The oral and maxillofacial surgery section should have appropriate consultative and advisory relationships with the department of surgery.

Dual appointments of pediatric dentists to other services in the hospital is acceptable; however, in those hospitals where there is an identifiable department, service, or division of dentistry, all dentists on the medical staff who participate in providing dental care or consultation shall be members of the dental department, service, or division if they maintain dental licensure.

The dental service must have a director, qualified to assume professional and administrative responsibility, who is responsible for administering the dental service, monitoring the activities of the dental staff—including patient care, education and research—participating in governance structure of the hospital and establishing and maintaining effective interservice relations.

Dental service procedural regulations and rules are essential to govern practices employed in the delivery of dental care. A procedural manual should be maintained on a current basis and include such topics as admission, discharge, emergency care, patient records, audit, infection control, sedation and anesthesia, safety for patients and personnel, job descriptions, evaluations, maintenance, approved abbreviations and quality assurance. In addition, JCAHO mandates the development of a departmental mission consistent with the institutional mission. This mission statement and/or strategic plan must be used as a basis for the planning of services, the allocation of resources, the evaluation of performance and the assignment of responsibility for the services provided. This statement must be kept current. When auxiliary dental personnel are employed, their responsibilities shall be identified consistent with state rules and practice acts and made known to all personnel. Regularly scheduled meetings of the dental service shall be held to review the activities of the dental service and to perform administrative functions. Minutes of these meetings must be recorded and maintained and include attendance, resultant recommendations, conclusions, and actions.

The department also must maintain statistical records. These should be maintained so as to be readily retrievable. The data should include such items as the patient chart number, anesthesia or sedation used and procedure performed. In addition, records must

reflect the number of patient admissions, procedures by classification, outpatient visits, and procedures and consultation requests made to and from other services.

### Due Process

The medical staff must have written into its bylaws, appropriate provisions for due process. This should be a mechanism for appropriate action, including a fair hearing, when the review of credentials and the recommendations regarding initial appointment or re-appointment are adverse to the applicant. There must also be fair-hearing and appellate review mechanisms, which may differ for medical staff members and other individuals holding clinical privileges.

### Scope of Practice

The role of the pediatric dentist in an hospital environment must be consistent with the mission, goals, and objectives of both the institution and the dental service. The procedures performed and the scope of practice of an individual dentist will be determined by the privilege-delineation form. The procedures which could be performed include examination, evaluation and diagnosis, treatment planning, pain and anxiety control, preventive, restorative, surgical and rehabilitative dental services, guiding the developing occlusion, consultation, teaching, and research. In addition, the dentist must be responsible for the development and maintenance of the dental facilities, equipping and supplying the appropriate areas of the hospital such as the operating room, the emergency room, and the dental clinic. In those institutions where teaching and research is conducted, the training program(s) must obtain ADA accreditation and conduct research according to ADA and human subjects committee review. There are five main settings in which the pediatric dentist may provide care: consultative, outpatient, inpatient, emergency, and ambulatory surgery. Each of these will be addressed separately.

### Consultative Services

As mentioned in the Medical Records section, consultation is an important form of communication within the hospital environment. Documentation of consultations in the hospital record provides written evidence of the concerns and recommendations for care relative to the patient's health needs.

Multiple avenues exist for recording consultations. Most institutions have specific consultation sheets. The professional requesting consultation writes an order and the work staff inserts the appropriate consultation sheet and notifies the clinician requested. In this format, it is appropriate for the dentist making the request to identify the patient's general problems, as well as the specific problem for which he or she is requesting the consultant's attention. In addition, the consultation form should identify whether the consultant is to provide an opinion relative to the diagnosis, to provide specific treatment, or to assume management of the patient. Unless written as a consult and treatment, a consultation is informational only for the requesting doctor and does not imply consent to treatment.

In other institutions, consultation requests are noted in the orders and the responses are written in the progress notes of the hospital record.

In some communities, the consultation mechanism is utilized to obtain the history and physical for admission of patients for dental care. Consultations are appropriate for requesting assistance in complications such as cardiac disease, postoperative complications secondary to anesthesia, uncontrolled bleeding, and so forth, which are outside the scope of practice of pediatric dentistry. Consultations to other dentist members of the medical staff would be appropriate for assistance and management of multiple extractions, assistance in diagnosis of bony or soft tissue lesions, and so forth.

When the pediatric dentist is requested to answer a consultation, appropriate steps are taken. The consultant should indicate that a review of the whole chart was made and specifically identify those portions of the history and physical examination and other developing database items which are pertinent to the dental diagnosis or treatment as requested. The consultant should include in his or her communication a discussion of the problem, a differential diagnosis, if needed, and a recommended diagnostic and/or treatment plan. The consultant could indicate a willingness to provide the services identified or perhaps suggest appropriate personnel or colleagues where expertise may be of benefit.

### Outpatient Services

Many hospitals have outpatient dental facilities which may provide a broad scope of pediatric dental services to the community. These services must conform to the JCAHO standards for hospital-sponsored ambulatory care services. Of importance is a written policy and procedures manual that describes the scope and conduct of patient care to be provided in the hospital's ambulatory care dental clinic. The policies and procedures are reviewed at least annually, revised as necessary, dated, enforced and should address at least the following:

- The right of patients to participate in decisions regarding their care and to voice grievances, along with mechanisms designed to help patients understand their responsibility in their plans of treatment
- Patient access to ambulatory care services, including the patient appointment system
- The mechanism used to inform a patient of the practitioner(s) responsible for the patient's care
- The mechanism to contact a patient between visits to the ambulatory care setting
- The mechanism for the provision of care to an unemancipated minor not accompanied by a parent or guardian
- The location, storage, and procurement of medications, supplies and equipment
- The dispensing of medication in accordance with legal requirements
- The responsibility for maintaining the integrity of the emergency drug supply
- Infection control measures which must be in compliance with currently recognized standards. The control of infection within the dental clinical facility and the evaluation of the infection potential of the related environment shall be a primary responsibility of the dental service through participation in, or cooperation with, the hospital infection control committee. Special attention must be given to specific problems relating to the delivery of dental care which potentiates the dispersal of pathogens. Sterilization and cross-infection control procedures must be in compliance with the ADA'S published Accepted Dental Therapeutics. At least semiannual audit of infection control procedures must

be performed and recorded. Such records must be retrievable for review as needed.

- Pertinent safety practices such as radiation, OSHA, fire and disaster control
- Any required reporting of communicable diseases to appropriate authorities
- The scope of sedation/anesthesia services that may be provided and the locations where such services may be administered along with guidelines for their use.

As mentioned in the Medical Records section, every patient who receives ambulatory care services must have a medical record. In many institutions, one record is shared by all inpatient and outpatient services to assure that the maximum possible information about a patient is available to the professional staff providing care. However, when it is not feasible to combine all inpatient, ambulatory care, and emergency records of an individual patient into a single unit record, a system must be established to assemble routinely all divergently located record components when a patient is admitted to the hospital or appears for a prescheduled ambulatory care appointment. Alternatively, there must be a system that requires placing, in the ambulatory care or combined ambulatory care/emergency record file, copies of pertinent portions of each inpatient medical record, such as the discharge resume, the operative note, and the pathology report.

The outpatient dental record should contain an informed consent which identifies and explains not only routine dental procedures but also behavior management techniques commonly used by the pediatric dentist and must conform with applicable state guidelines. The consent also should address the financial responsibilities of the patient's guarantor, granting the service the ability to hold them financially responsible. A complete medical history, dated and signed, as well as a standardized chart for dentistry also must be a part of the outpatient record. All patient visits, treatments, procedures, referral requests, consultation requests and reports, and operative reports must be contained in the medical record.

### Inpatient Services

The pediatric dentist can provide services to inpatients whom they have admitted to the dental service or to patients admitted to other services and receiving concurrent care. In admitting a patient to the dental service, the dentist is responsible for the part of their patients' history and physical examination that relates to dentistry and is also responsible for writing orders, progress notes, and case summaries, as well as admission, management, and discharge. The regulations which cover the admission history and physical are covered in the Staff Membership and Privileges section.

All dentists have received training in medical appraisal and risk assessment and the pediatric dentist has received additional training for the child and adolescent. The intent of such training is not to have dentists on hospital staffs provide primary-care medicine but rather that they perform a basic medical appraisal and risk assessment sufficient to justify the diagnosis and subsequent treatment of their patients. The pediatric dentist should understand and readily accept the responsibility to utilize medical consultation, in or out of hospital, when examination for patients indicates the need for further evaluation. In such a case, the qualified dentist, as any member of the medical staff, is obligated to consult appropriate medical staff members to assist in assessing and managing the patient's health care. If medical problems arise after admission to the hospital, the attending dentist again has the responsibility to seek appropriate consultation.

The AAPD would not suggest that all pediatric dentists are competent to perform the admission history and perform physical evaluation. The Academy firmly believes that only those individuals who can demonstrate, through the credentialing process of the hospital medical staff, current competence based on training and experience should record histories and perform examinations and evaluations of patients. The Academy therefore promulgates the following definitions and policy as related to medical history and physical examination:

### Definitions

Basic Medical Appraisal and Risk Assessment — The term basic medical appraisal and risk assessment refers to obtaining the medical history, performing a physical examination, and interpreting the laboratory tests necessary to obtain a sufficient database to responsibly diagnose, plan, and carry out treatment for which the patient was admitted.

Comprehensive Medical Evaluation — The term comprehensive medical evaluation refers to that appraisal necessary for those patients whose basic medical appraisal and risk assessment indicates the need for further evaluation of a particular system(s) or subsystem(s) necessary to diagnose, plan, and carry out treatment.

### Policy

1. The medical history and physical examination and evaluation shall be considered a clinical privilege to be granted on the basis of education, training, and demonstrated current competence in the same manner as all other clinical privileges.
2. The admission history and physical examination for apparently well patients, admitted for elective surgical procedures, shall be considered a basic medical appraisal and risk assessment.
3. Physicians and dentists, on the basis of education, training, and demonstrated current competence, shall be afforded the clinical privilege to perform the basic medical appraisal and risk assessment of their patients admitted for care.
4. For those patients whose basic medical appraisal and risk assessment indicates they require a more comprehensive medical evaluation, such shall be performed by appropriately privileged physicians.
5. All members of the medical staff have the responsibility to request consultation from appropriate medical staff members as indicated by the patient's condition.

Each dental service is mandated by JCAHO to establish a quality assurance program which, among other tasks, must establish admission criteria for inpatient procedures. Although these will be hospital and community specific, an attempt has been made to establish criteria for infected teeth and are presented in the Appendix IV. These criteria must be developed for each of the ICD codes (also in the Appendix II) in each institution in context of the comments made in the Medical Records section on recording diagnosis.

As with the outpatient record, the inpatient record must contain an appropriate, institution approved, informed consent. In most hospitals, this would include a consent for admission and medical treatment, a consent for anesthesia, and a consent for dental treatment.

Since most of the inpatient treatment rendered by the dentist will be in the operating room, the pediatric dentist must understand clearly OR protocol, the documentation procedures, and discharge criteria. All of these are usually institution specific and may be developed by an operating room care committee.

Agreement is not available concerning the need for sterile procedures during restorative dentistry in the operating room. There is a lack of any firm evidence of the advantage of the sterile technique or the disadvantage of the clean technique. These differences have not been documented in the ENT literature when dealing with unclean procedures such as tonsillectomies.

The dentist should be thoroughly familiar with the standard 10-min scrub and gown techniques which are applicable to those surgeries which can be continued under sterile conditions. However, restorative dentistry in the operating room suite is often performed utilizing the modification of the sterile technique. The dentist should be aware that the threat of cross-contamination is always present in the hospital environment when proceeding from patient to patient. In addition, the contact of blood, tissue, fluid, and/or saliva brings an elevated threat of tuberculosis and serum hepatitis even from the asymptomatic patient. Modification of the sterile technique seems advisable as a general recommendation when it is realized that performance of restorative dentistry creates an immediately nonsterile situation as soon as the techniques are begun. In office practice, these techniques are performed regularly on similar patients while utilizing the "clean technique." Scrubbing and preparing the tissues of the oral cavity cannot approach a sterile condition and this regional sterilization would be disturbed as soon as the operation is begun.

Many institutions permit restorative dentistry procedures to be performed utilizing clean technique in the same facilities which utilize sterile techniques for other procedures. Although bacterial aerosols are created during high-speed drilling in dental procedures, the ventilation systems of operating rooms remove the generated aerosols within minutes of generation and therefore do not constitute a source of residual airborne infection or cross-contamination.

Since many dental procedures include the removal of teeth or other body specimens, the ADA guidelines and JCAHO standards regarding pathology services must be followed. Specimens removed during a surgical procedure ordinarily shall be sent to the pathologist for evaluation. Such specimens shall be properly labeled, packaged in preservative as designated, and identified as to patient and source. This is to be done in the operating room suite at the time of removal. The medical staff, in consultation with the pathologist, shall decide the exceptions to sending specimens removed during a surgical procedure to the laboratory. Exceptions should be made only when the quality of care has not been compromised by the exception, when another suitable means of verification of the removal has been employed routinely, and when there is an authenticated operative report or other official report that documents the removal. Teeth may be exempted from this requirement to be examined by a pathologist provided the number, including fragments, is recorded in the medical record. Reports of all pathology service examinations must be made part of the patient's medical record.

Dental services provided to patients on other services can be the same as those provided to the dental service patients but must be approved by the admitting attending staff member. These services may include routine restorative, preventive, and/or emergency services.

### Emergency Services

ADA guidelines state that hospitals must provide emergency dental care for both the hospitalized patient and the community at large. This care must be integrated with the emergency service of the hospital. The emergency service area of the hospital must have appropriate dental instruments and supplies and adequate space for examination and treatment of dental and maxillofacial emergencies. The facility must be available for use at all times. Radiologic facilities for intraoral and/or panographic procedures routinely shall routinely be readily available to the emergency services area.

The level of emergency dental care services provided should be responsive to community need and consistent with the capability of the hospital. The emergency service of the hospital must have a policy whereby emergencies involving the oral and maxillofacial region are assessed by a dentist member of the medical staff. Emergency service personnel must alert the dentist on-call at the time of triage so that therapy may be coordinated with that of other members of the emergency service team to expedite patient care, avoid unnecessary delays and/or additional operative interventions in patients who have orofacial as well as other injuries. In those institutions having dental house officers on premises coverage of the emergency services area must be provided.

At a minimum, dental service consultation should be requested for patients admitted to the emergency services area with orofacial pain, infections, swellings and/or trauma to assure optimal patient care. Patients requiring definitive care beyond the capability of the institution should be referred for treatment to an appropriate facility as soon as physical condition permits. Emergency patient care must be guided by written policies and must be supported by appropriate procedural manuals and reference materials. A medical record shall be kept for every patient receiving emergency care.

An educational program for emergency service personnel should be provided by the dental service. The program should include the indications for various interventions of a diagnostic, palliative, restorative, or surgical nature, as well as recognition of indications for dental consultation.

### Ambulatory Surgery Services

Most hospitals now provide and encourage the use of minor surgery operating rooms in well-equipped outpatient or surgical day facilities for ambulatory general anesthesia cases. For many patients who present good general health and minimal medical risks, the use of these facilities can provide safe, economical care. The additional responsibility assumed by the dentists in outpatient care is as follows:

1. Satisfactory medical history and physical appraisal of the patient and consideration of the length of time the patient will be under general anesthesia
2. Consulting physician relative to the arrangement for a pre-anesthetic physical examination within a prescribed period of time prior to the date of surgery. Such examination may be done in the physician's office and should be consistent with the institution's policy
3. Careful evaluation of the parents regarding awareness of their responsibility in following pre- and postoperative instructions
4. The arrangement of operating room time and completion of all hospital records.

In determining which patients are suitable candidates for ambulatory surgery procedures, many services will use the ASA rating scale (in Appendix III). However, when deciding whether a patient should remain overnight either before or after dental services, the dentist should consult with the appropriate medical staff members. In any case, all ambulatory surgery patients must have access to inpatient hospital facilities if their postoperative care so demands.

### Medical Records

Both ADA guidelines and JCAHO standards state that a complete, accurate, and legible record must be maintained for each patient seen in the hospital, whether for inpatient, ambulatory outpatient, or emergency care. The medical records must be accurately documented and readily accessible. Dental records must be made a part of the patient's medical record in accordance with the standard procedure of the hospital. Medical records for dental patients can be outpatient, inpatient, emergency, or consultative and guidelines for each of these will be presented separately.

The outpatient record is addressed in the Joint Commission's section on Hospital-Sponsored Ambulatory Care Services, Standard Five. This standard mandates a medical record for every ambulatory care patient and outlines the required characteristics. In large hospitals, it may be more efficient for the dental service to maintain its own outpatient record, stored within its area, but providing periodic updates to the central medical record. If the service does do this, it must follow the same JCAHO standards as the rest of the hospital. Prior pertinent medical record information must be available to the attending practitioner and other authorized individuals.

Documented in each outpatient record are the following pieces of information: patient identification, relevant history of the illness or injury and physical findings, diagnostic and therapeutic orders, clinical observations including the results of treatment, reports of procedures and tests and their results, diagnosis or impression, patient disposition and any instructions given to the patient and/or family for care, immunization status of children and adolescents and others as determined by law and/or hospital policy, allergies, growth charts for children and adolescents for whom the ambulatory care department/service is the source of primary care, referrals to practitioners or providers of services internal or external to the organization, and communications to and from external practitioners or providers of service. At the time of each visit, the above information is updated as necessary and pertinent new information is entered in the record.

The outpatient record must also have a "problem list" which contains several items including known significant medical diagnoses and conditions, significant surgical and invasive procedures, adverse and allergic reactions to drugs, and current medications prescribed and/or used by the patient. This list must be initiated and maintained for each patient by the third visit. Obviously, if the dental service maintains its own record, this information must be obtained from other service records or the central record, if one exists. When significant information concerning the patient is located in another record, a written notation at the relevant item in the list indicates where the other information is located. This list must be located in the same place in every patient's medical record and each practitioner must be informed of its location.

When surgical services are provided on an ambulatory basis, an accurate and complete description of the techniques and findings of every operative procedure performed is dictated or written immediately following surgery and is authenticated by the individual who performed the procedure.

The inpatient medical record provides the vehicle for communication within the hospital environment. ADA guidelines state that "complete, accurate, and legible records shall be maintained for each dental patient." Emergency and outpatient care is included as well as inpatient care. The dental staff member assumes responsibility that the following is accomplished and recorded:

1. A physical examination and medical history completed and signed by the appropriate staff member to determine the patient's condition prior to anesthesia and dentistry (surgery) and to evaluate the risk to the proposed procedure.
2. A detailed dental history with a description of the oral condition, preoperative condition, and preoperative diagnosis, justifying the reasons for hospital admission.
3. Written, signed, informed operative consent obtained prior to the dental procedure. A policy on informed consent must be developed by the institution and the dental service must conform to that policy.
4. Written and signed orders which direct the supportive care and general treatment of the patient while hospitalized. Such orders would relate to admission, laboratory testing, medications, handling, privileges, consultations, and discharge. The consulting physician should write orders specifically for any medical problem.
5. A complete operative report, which will include pre- and postoperative diagnosis, findings, techniques used, description of hard or soft tissue removed, complications, and immediate postoperative condition of the patient.
6. Interpretation of intraoral radiographs.
7. The clinical appearance and impression of any removed hard or soft tissue submitted to the hospital pathologist.
8. Progress and postoperative notes pertinent to the oral condition and observation about the patient's recovery and general health status.
9. Written discharge orders authorizing the discharge of the patient.
10. Dictation of the discharge summary in cases where the patient required only health supervision while in the hospital and no medical problems were present. A discharge summary historically recounts the patient's course in the hospital, which includes the pre- and postoperative diagnosis, reason for admission, condition of the patient at time of admission, procedures performed, complications, condition of the patient at discharge, and any posthospital instructions given to the patient.

A required characteristic of a medical record according to JCAHO standards is that it will document communication between the practitioner responsible for the patient and any other health care professional who contributes to the patient's care. Documentation of consultations in the hospital record provides written evidence of the concerns and recommendations for care relative to the patient's health needs. The pediatric dentist may be involved in consultations as one who either requests or performs the consult. Each consultation report must contain a written opinion by the consultant that reflects, when appropriate, an actual examination of the patient and the patient's medical record(s). A further discussion of consultations can be found in the Scope of Practice section.

### Recording Diagnosis

When the dentist becomes the admitting attending, he/she must enter the disease and operative classification on the medical record according to the requirements of the individual hospital. A recommended classification system is an adaptation of the current revision of the International Classification of Diseases (ICD) which includes operative codes. Selected diseases and codes are presented in Appendix II.

Hospital records require one primary diagnosis which is the principal cause of hospitalization. Many secondary diagnoses can be given. Any diagnosis given requires adequate documentation in the medical record.

There is great variation among communities regarding the acceptance of dental caries as the primary diagnosis. However, pediatric patients are often denied access to hospital dental treatment when medical insurance companies refuse to pay for hospital-related services, citing lack of medical justification.

In using sedation or general anesthesia, the pediatric dentist is protecting the child's psyche. The science of child psychiatry has documented the potentially harmful consequences to the developing psyche of a child should this care occur in a psychologically unhealthy atmosphere such as treatment under duress. Treatment under duress is an example of this atmosphere and is an indication to protect the developing psyche by instituting a sedation or general anesthesia technique for such procedures as herniorraphy, tonsillectomy, myringotomy, or any other procedure which could otherwise be accomplished under local or regional anesthesia in most adults. It is therefore obvious that the protection of the developing psyche during dental treatment can present the identical medical indications to institute sedation or general anesthesia (with or without hospitalization) as can other procedures. Depending on various factors, the anesthesia technique may or may not require hospitalization. Either way, the diagnosis of this medical indication is congruently a dental diagnosis obligatorily capable of being made by a pediatric dentist. Indications do exist for the treatment of selected patients by pediatric dentists in a hospital setting and once such a decision has been made, medical insurance companies must not refuse reimbursement for hospital related cost based on lack of medical need.

Third-party carriers often determine benefits from the primary diagnosis alone. When experience indicates this situation, it is necessary to give the concomitant medical problem as the primary diagnosis with dental caries in the list of secondary diagnoses. In the case of baby bottle tooth decay or severe behavior problems without any medical problems, it is acceptable in some communities to use acute situational anxiety as the primary diagnosis.

The medical record is the property of the hospital and is maintained for the benefit of the patient, the medical staff, and the hospital. The hospital and its staff are responsible for safeguarding both the record and its informational content against loss, defacement and tampering, and from use by unauthorized individuals. Written consent of the patient or his legally qualified representative is required for the release of medical information to persons not otherwise authorized to receive information. The pediatric dentist must become familiar with these JCAHO requirements and assure compliance.

### Quality Assurance

To ensure that a health care organization's commitment to providing high quality patient care is met, it is important that pediatric dentists monitor and evaluate the quality and appropriateness of the care he/she provides. The dental service must assure that patient care is consistently of optimal quality by establishing and maintaining a structured quality assurance (QA) system which is based on reliable and valid measures. Where the pattern and quality of patient care is shown to be less than optimal, a mechanism to improve the quality of care must be demonstrated and the quality assurance program must be documented. In addition, the dental service must participate in the QA system of the hospital on a formal and regularly scheduled basis.

The QA standards of the JCAHO emphasize the importance of planned, systematic, and ongoing monitoring and evaluation activities and provide a framework for conducting these activities. In addition, QA standards in their manual are designed to clarify and make explicit an organization's responsibilities for monitoring and evaluating the quality and appropriateness of the patient care and services it provides.

Many pediatric dental services have experienced difficulty in meeting the intent of these standards. A separate document prepared by the AAPD addresses the current QA issues and should be referred to for a more detailed discussion. In any event, the hospital dental service must maintain a QA program which is consistent and in accordance with the sponsoring institution for both inpatient and outpatient services.

### Financial Considerations

It has become increasingly important for dental services to become financially solvent in order to survive. To do this a system must be in place for all patients to have equal consideration for reimbursement, and the providers of care must have equal consideration to reimbursement for services. More than any other area, financial considerations will rely on local and state factors. However, it is the hospital's responsibility to provide adequate financial, physical, and personnel resources, as determined by the dental service and consistent with the overall hospital mission and standard, to assure delivery of optimal professional care.

The hospital should ensure that personnel and personnel policies and practices that adequately support sound patient care are established and maintained. Suitable clerical and support staff and policies to ensure proper and timely patient care and administrative functioning of the dental service are required.

When the activities of the service require, suitable numbers of auxiliary staff must be provided to assure the delivery of high-quality dental care utilizing generally accepted concepts of dental practice in both the inpatient and outpatient environment. Nurses, dental hygienists, laboratory and prosthetic technicians, and dental assistants assigned to the dental service must be suitably trained and readily available to meet the needs of patients and shall be under the direct supervision of the dentist members of the medical staff.

There must be adequate space within the hospital to carry out procedures in accordance with accepted standards of practice. The dental facility shall be equipped, operated, and maintained so as to sustain its safe and sanitary characteristics. All equipment, instruments and supplies in the dental service shall be of high quality as is required by generally accepted standards of dental practice. There

shall be equipment for sterilization of dental instruments and supplies. There must be facilities for dental radiography. Such equipment, materials, and procedures shall be in accordance with radiation safety guidelines published by the National Council on Radiation Protection and Measurements.

Standard emergency drugs and resuscitation equipment must be available in the dental facility and reviewed on a regular basis to assure proper functioning of the equipment and the potency of the drugs and there must also be a record of this review.

It is generally accepted procedure to have the dental service develop a yearly budget to include both direct and indirect costs incurred by the department. Although direct costs are very easy to identify, indirect costs typically are shared equally by every outpatient service, which may prove to be costly for the dental service it may not equally use all indirect overhead costs. The dental service administrators also must be diligent in pointing out to hospital administrators that there are differences between the dental clinic and the dental service. In remaining diligent, the dentist administrator can provide optimal care for the service's patients even in the most onerous environments.

(See appendicies on pages 68–73)

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## Guidelines for the Elective Use of Conscious Sedation, Deep Sedation and General Anesthesia in Pediatric Dental Patients

**Revised May, 1998**

The American Academy of Pediatric Dentistry's Guidelines for the Elective Use of Pharmacological Conscious Sedation and Deep Sedation in Pediatric Dental Patients were revised and published in 1996. At that time, no attempt was made to address the issue of general anesthesia for pediatric dental patients. However, some children and developmentally disabled patients require general anesthesia services in order to receive comprehensive dental care in a humane fashion. Access to hospital based general anesthesia may be limited for a variety of reasons including restriction of coverage by certain insurance companies. Many pediatric dentists (and others who treat children) have sought to provide general anesthesia in their office or other facilities (e.g., outpatient care clinics).

Therefore we have included general anesthesia in the guidelines to help facilitate safe anesthesia services for pediatric dental patients.

In 1985, the American Academy of Pediatric Dentistry established the Guidelines for the Elective Use of Conscious Sedation, Deep Sedation and General Anesthesia in Pediatric Patients. To be consistent with all aspects of delivery of care using pharmacologic interventions, it is appropriate and timely to expand and institute guidelines that address general anesthesia as well as sedation for those practitioners who provide care to pediatric dental patients. General anesthesia may be used when indicated for the delivery of oral health care to pediatric patients. It must be provided only by qualified and appropriately trained individuals and in accordance with state regulation. Such providers may include pediatric dentists who have completed advanced education in anesthesiology, dental or medical anesthesiologists, oral surgeons or certified registered nurse anesthetists.

The 1998 AAPD guidelines revision reflects the current understanding of appropriate monitoring needs and further, provides definitions and characteristics of five functional levels of sedation and general anesthesia involving pediatric patients in the context of recognized sedation terminology (i.e., "conscious" and "deep"). Appendix I provides a descriptive template for recognizing that sedation is a continuum; however, the practitioner's expected clinical outcomes in sedating the "average" patient can be targeted with the targeting being dependent on his/her training and experience in the use of sedative agents. The template shows five levels of sedation each with its own goals, characteristics, and requirements.

The pediatric dentist must be responsible for evaluating the qualifications of the general anesthesia provider and establishing a safe environment which complies with state rules and regulations as well as these guidelines for the protection of the patient. Educational qualifications for general anesthesia providers are outlined in these guidelines.

Educational preparation, while necessary, is only one aspect of safe general anesthesia care. As outlined in the Guidelines, the following are all essential in order to minimize the risk for the patient:

- facilities and equipment
- selection of pharmacologic agents and dosages
- monitoring and documentation
- patient selection utilizing physical status and indication for anesthetic management
- preoperative evaluation
- appropriately trained support personnel
- and emergency medications, equipment and protocols.

The use of conscious sedation, deep sedation and general anesthesia will be affected by advances in pain and anxiety control, pharmacologic development, and monitoring and patient safety techniques. As research defines safer and more effective techniques, the Guidelines will be revised accordingly.

### Definition of Terms

For the purpose of this document, the following definitions shall apply:

Guideline: Guidelines are systematically developed recommendations to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. These recommendations may be adopted, modified, or rejected according to clinical needs and constraints. Guidelines are not intended as standards or absolute requirements and their use cannot guarantee any specific outcome.

Like a recommendation, it originates in an organization with acknowledged professional stature. Although it may be unsolicited, it usually is developed following a stated request or perceived need for such advice or instruction.

Pediatric dental patients: Includes all patients who are infants, children, and adolescents less than age of majority.

Must or shall: Indicates an imperative need and/or duty; as essential or indispensable; mandatory.

Should: Indicates the recommended need and/or duty; highly desirable.

May or could: Indicates freedom or liberty to follow a suggested or reasonable alternative.

Conscious sedation: Conscious sedation (Appendix I, levels 1, 2, and 3) is a controlled, pharmacologically induced, 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. The drugs, dosages, and techniques used should carry a margin of safety which is unlikely to render the child non-interactive and non-arousable (Appendix I, levels 4 and 5).

Deep sedation: Deep sedation (Appendix I, level 4) is a controlled, pharmacologically-induced state of depressed consciousness from which the patient is not easily aroused and which may be accompanied by a partial loss of protective reflexes, including the ability to maintain a patent airway independently and/or respond purposefully to physical stimulation or verbal command.

General Anesthesia: General anesthesia (Appendix I, level 5) is an induced state of unconsciousness accompanied by partial or complete loss of protective reflexes, including the ability to independently maintain an airway and respond purposefully to physical stimulation or verbal command.

### General Considerations

#### Goals of Sedation and General Anesthesia:

The sedation of children for the delivery of oral health care is recognized as and represents a unique clinical challenge. Consideration must be given to such factors as patient's age and corresponding levels of cognitive and coping skills. Because of patient extremes in responsiveness and acceptability of treatment modalities, the

intended goals and outcome of sedations will vary depending on a host of factors. These guidelines should aid clinicians in achieving the benefits of sedation while minimizing associated risks and adverse outcomes for the patient.

The goals of sedation in the pediatric dental patient are to: (1) facilitate the provision of quality care; (2) minimize the extremes of disruptive behavior; (3) promote a positive psychologic response to treatment; (4) promote patient welfare and safety; (5) return the patient to a physiologic state in which safe discharge, as determined by recognized criteria, is possible. (See Appendix II)

The goals of general anesthesia in the pediatric dental patient are to eliminate cognitive, sensory and skeletal motor activity in order to facilitate the delivery of quality comprehensive diagnostic and restorative dental services.

### Indications for Sedation and General Anesthesia

The indications for conscious sedation include:

- Preschool children who cannot understand or cooperate for definitive treatment
- Patients requiring dental care who cannot cooperate due to lack of psychological or emotional maturity
- Patients requiring dental treatment who cannot cooperate due to a cognitive, physical or medical disability
- Patients who require dental care but are fearful and anxious and cannot cooperate for treatment

The indications for deep sedation and general anesthesia in pediatric dental patients include:

- Patients with certain physical, mental or medically compromising conditions
- Patients with dental restorative or surgical needs for whom local anesthesia is ineffective
- The extremely uncooperative, fearful, anxious or physically resistant child or adolescent with substantial dental needs and no expectation that the behavior will improve soon
- Patients who have sustained extensive orofacial or dental trauma
- Patients with dental needs who otherwise would not receive comprehensive dental care

### Local Anesthesia Considerations During Sedation

All local anesthetic agents can become cardiac and CNS depressants when administered in excessive doses. There is a potential interaction between local anesthetic and sedatives used in pediatric dentistry which can result in enhanced sedative effects and/or untoward events; therefore, particular attention should be paid to doses used in children. For the patient who is going to be sedated, to avoid excessive doses, a maximum recommended dose in mg/kg or mg/lb should be calculated and the dose administered should be recorded for each patient prior to administration for all sedatives and local anesthetics.

### Candidates

Patients who are ASA (American Society of Anesthesiologists) Class I or II (Appendix III) may be considered candidates for conscious sedation (Appendix I, levels 1, 2, or 3) or deep sedation (Appendix I, level 4) or general anesthesia (Appendix I, level 5). Patients in ASA Class III or IV present special problems and treatment in a hospital setting should be considered..

### Responsible Adult

The pediatric patient shall be accompanied to and from the treatment facility by a parent, legal guardian or other responsible adult who shall be required to remain at the facility for the entire treatment period.

### Facilities And Equipment

#### Facilities

The practitioner who utilizes any type of sedative or local anesthetic in a pediatric patient shall possess appropriate training and skills and have available the proper facilities, personnel, and equipment to manage any reasonably foreseeable emergency situation that might be experienced. All newly installed facilities for delivering nitrous oxide and oxygen must be checked for proper gas delivery and fail-safe function prior to use. Where equipment and facilities are mandated by state law, such statutes shall supersede these guidelines.

#### Equipment

A positive-pressure oxygen delivery system that is capable of administering greater than 90% oxygen at a 10 L/min flow for at least 60 minutes (650 liter, "E" cylinder) must be available. When a self-inflating bag valve mask device is used for delivering positive pressure oxygen, a 15 L/min flow is recommended. All equipment must be able to accommodate children of all ages and sizes. A functional suction apparatus with appropriate suction catheters must be immediately available. A sphygmomanometer with cuffs of appropriate size for pediatric patients shall be immediately available.

Inhalation sedation equipment must have the capacity for delivering 100%, and never less than 25%, oxygen concentration at a flow rate appropriate to the child's size, and must have a fail-safe system that is checked and calibrated annually. If nitrous oxide and oxygen delivery equipment capable of delivering more than 75% nitrous oxide and less than 25% oxygen is used, an in-line oxygen analyzer must be used. The equipment must have an appropriate scavenging system.

Equipment that is appropriate for the technique used and capable of monitoring the physiologic state of the patient before, during, and after the procedure must be present. Specific equipment monitoring and recommendations are listed in the sections on conscious sedation, deep sedation and general anesthesia and in the template of these guidelines (Appendix I).

An emergency cart or kit must be readily accessible and should include the necessary drugs and age- and size-appropriate equipment to resuscitate a nonbreathing and unconscious pediatric patient and provide continuous support while the patient is being transported to a medical facility. There should be documentation that all emergency equipment and drugs are checked and maintained on a regularly scheduled basis (e.g., monthly) (See Appendix IV for suggested drugs).

### Back-up Emergency Services

Back-up emergency services should be identified. A protocol outlining necessary procedures for their immediate employment should be developed and operational for each facility. For non-hospital facilities, an emergency assist system should be established with the nearest hospital emergency facility and ready access to ambulance service must be assured.

**Documentation**

The practitioner must document each sedation or general anesthesia procedure in the patient's record. Documentation shall include the following:

Informed Consent. Each patient, parent, or other responsible individual is entitled to be informed regarding benefits, risks, and alternatives to sedation or general anesthesia and to give consent. The patient record shall document that appropriate informed consent was obtained according to the procedures outlined by individual state laws and/or institutional requirements.

Instructions to parents or responsible individual. The practitioner shall provide verbal and written instructions to the parents or responsible individual. Instructions should be explicit and include an explanation of pre- and post-sedation dietary precautions, potential or anticipated post-operative behavior, and limitation of activities. A 24-hr contact number for the practitioner should be provided to all patients.

Dietary precautions. The administration of sedative drugs or general anesthetic agents shall be preceded by an evaluation of the patient's food and liquid intake. Intake of food and liquids should be as follows: (a) no milk or solids for 6 hours for children 6-36 months and 6-8 hours for children 36 months and older; (b) clear liquids up to 3 hours before procedure for children ages 6 months and older.

Preoperative Health Evaluation. Prior to the administration of sedatives, the practitioner shall obtain and document information about the patient's current health status. The health status evaluation should include:

Health history including:

- Allergies and previous allergic or adverse drug reactions
- Current medications including dose, time, route, and site of administration
- Diseases, disorders, or physical abnormalities and pregnancy status
- Previous hospitalization to include the date, purpose, and hospital course
- History of general anesthesia or sedation and any associated complications
- Family history of diseases or disorders
- Review of systems
- Age in years and months and weight in kilograms or pounds

Physical evaluation including:

- Vital signs, including heart respiratory rates and blood pressure
- Evaluation of airway patency
- Risk assessment, e.g., ASA classification (see Appendix III)

Hospitalized Patients. The current hospital record may suffice for adequate documentation of pre-sedation health. A brief note shall be written documenting that the record was reviewed, positive findings were noted, and there were no contraindications to the planned procedure(s).

Child's Physician. Name, address, and telephone number of the child's physician or family physician should be recorded in the patient's record.

Rationale for Sedation or General Anesthesia. The practitioner shall briefly document the reason for the need for sedation or general anesthesia.

Baseline Vital Signs. Before administration of sedatives or general anesthesia, a baseline determination of vital signs (heart and respiratory rates and blood pressure) should be documented in the patient's record. If determination of baseline vital signs is prevented by the patient's physical resistance or emotional condition, the reason(s) should be documented.

Preprocedural Prescriptions. The only classification of drugs for sedation to be administered enterally by a responsible adult pre-procedurally outside the treatment facility is minor tranquilizers. Minor tranquilizers (e.g., hydroxyzine or diazepam) do not include chloral hydrate or narcotics. A copy or a note describing the content of the prescription should be documented in the patient's record, along with a description of the instructions given to the responsible individual.

Vital signs. The patient's record shall contain documentation of intermittent quantitative monitoring and recording of oxygen saturation (pulse oximetry) and heart and respiratory rates and blood pressure, as recommended for specific sedation techniques.. It should be documented that the responsiveness of the patient was monitored at specific intervals before and during the procedure and until the patient was discharged.

Drugs. The patient's record shall document the name, dose and route, site, and time of administration of all drugs administered. The maximum recommended dose per kilogram or pound should be calculated and the actual dose given shall be documented in milligrams. The concentrations, flow rate, and duration of administration of oxygen and nitrous oxide shall be documented.

**Recovery**

The condition of the child and the time of discharge from the treatment facility should be documented in the record. Documentation shall include that appropriate discharge criteria have been met (See Appendix II). The record should also identify the responsible adult to whose care the patient was discharged.

**Conscious Sedation (Levels 1, 2, 3)**

**Personnel**

The practitioner responsible for the treatment of the patient and/or the administration of drugs for conscious sedation (levels 1, 2 and 3) shall be appropriately trained in the use of such drugs and techniques, and shall provide appropriate monitoring, and shall be capable of managing any reasonable foreseeable complications.

Drugs, other than minor tranquilizers, used for the purpose of conscious sedation (levels 1, 2, and 3) shall be administered in the treatment facility and shall be prescribed, dispensed, or administered only by appropriately licensed individuals, or under the direct supervision thereof, according to state law.

In addition to the operating practitioner, an individual trained to monitor appropriate physiologic parameters and to assist in any supportive or resuscitative measures required shall be present. Both individuals must have training in basic life support, shall have specific assignments, and shall have familiarity of the emergency cart (kit) inventory.

The practitioner and all treatment facility personnel should participate in periodic reviews of the office's emergency protocol, the emergency drug kit, and simulated exercises, to assure proper emergency management response.

### Operating Facility and Equipment

The operating facility used for the administration of conscious sedation, (levels 1, 2 or 3), shall have available all facilities and equipment previously recommended. With the possible exception of conscious sedation, (level 1), mediated by minor tranquilizers administered enterally and/or nitrous oxide and oxygen inhalation sedation at 50% nitrous oxide concentration or less, minimum monitoring equipment for conscious sedation (levels 2, 3) shall be a pulse oximeter. Capnography is desirable for level 3. A sphygmomanometer shall be immediately available. A precordial/pretracheal stethoscope is required for level 3.

### Monitoring Procedures
### Before and during treatment

Whenever drugs for conscious sedation, (levels 1, 2, or 3), are administered, the patient should be monitored continuously for patient responsiveness and airway patency. With the possible exception of conscious sedation (level 1), mediated by minor tranquilizers administered enterally and/or nitrous oxide and oxygen inhalation sedation at 50% nitrous oxide concentration or less, there shall be continual monitoring of oxygen saturation and heart and respiratory rates. Oxygen saturation and heart and respiratory rates shall be recorded at specific intervals throughout the procedure until the child has met documented discharge criteria. A precordial/pretracheal stethoscope shall be used for obtaining additional information on heart and respiratory rates and for monitoring airway patency during level 3 sedations. Clinical observation should accompany all levels of sedation. Treatment immobilization devices should be checked periodically to prevent airway obstruction or chest restriction and insure limb perfusion. The child's head position shall be checked frequently to ensure airway patency. A sedated patient shall be observed continuously by a trained individual.

### Recovery

After completion of the treatment procedures, vital signs should be recorded at specific intervals. The practitioner shall assess the patient's responsiveness and discharge the patient only when the appropriate discharge criteria have been met (Appendix II).

### Deep Sedation (Level 4)
### Personnel

The techniques of deep sedation (level 4) require the following three individuals: 1) the treating practitioner who may direct the sedation; 2) a qualified individual to assist with observation and monitoring of the patient and who may administer drugs if appropriately licensed; and 3) other personnel to assist the operator as necessary. Of the three individuals, one shall be currently certified in Advanced Cardiac Life Support or Pediatric Advanced Life Support and the other two shall be currently certified in basic life support.

### Operating Facility and Equipment

In addition to the facilities and equipment previously recommended for conscious sedation (levels 1, 2, 3), deep sedation requires an ECG and a capnograph in conjunction with pulse oximetry. The availability of a defibrillator for pediatric patients is desirable.

### Intravenous Access

Patients receiving deep sedation (level 4) should have an intravenous line in place or have immediately available an individual skilled in establishing vascular access in pediatric patients.

### Monitoring Procedures
### Before and during treatment

The sedated patient shall be continuously monitored by an appropriately trained individual. There shall be continual monitoring of oxygen saturation by oximetry and expired carbon dioxide concentration via capnography, heart and respiratory rates, and blood pressure, all of which shall be recorded minimally every 5 minutes. A pulse oximeter and capnograph, precordial/pretracheal stethoscope, ECG, and blood pressure cuff are required. Temperature monitoring is desirable. The child's head position must be checked frequently to ensure airway patency. The operator should be observing the patient as well as the monitors and observing trends in the data obtained from the monitors. At no time shall a sedated patient be left unobserved by an appropriately trained individual.

### Recovery

After treatment has been completed the patient must be observed in a suitably equipped recovery facility. This facility must have functioning suction apparatus and suction catheters of appropriate size, as well as the capacity to deliver greater than 90% oxygen and provide positive pressure ventilation for pediatric patients. An individual experienced in recovery care must be in attendance at all times in order to assess and record vital signs, observe the patient and ensure airway patency until the patient is stable. The patient must remain in the recovery facility until cardiovascular and respiratory stability are ensured and appropriate discharge criteria have been met (See Appendix II).

### General Anesthesia (Level 5)
### Personnel

The provision of general anesthesia requires the following three individuals: 1) a physician or dentist who has completed an advanced training program in anesthesia or oral and maxillofacial surgery and related subjects beyond the undergraduate medical or dental curriculum, who is responsible for anesthesia and monitoring of the patient, 2) a treating dentist, responsible for the provision of dental services, 3) other personnel to assist the operator as necessary. Of these individuals, the anesthetist shall be currently certified in Advanced Cardiac Life Support or Pediatric Advanced Life Support and the others shall be certified currently in basic life support. When a Certified Registered Nurse Anesthetist is permitted to function under the supervision of a dentist, the dentist is required to have completed training in general anesthesia, as specified above.

### Operating Facility and Equipment

In addition to the facilities and equipment previously recommended for conscious sedation and deep sedation (level 4) i.e., pulse oximeter, capnograph, precordial stethoscope, blood pressure monitor and electrocardiograph, a temperature monitor and defibrillator are also required.

### Monitoring Procedures

The anesthetized patient shall be continuously monitored by the anesthesia provider. There shall be continual monitoring of oxygen saturation by pulse oximetry and expired carbon dioxide concentration via capnography, heart and respiratory rates, and blood pressure, all of which shall be recorded minimally every 5 minutes. The anesthesia provider should be visualizing the patient as well as the monitors and observing trends in the data obtained from the monitors. At no time should the patient be unobserved by trained personnel until discharge criteria have been met.

## Recovery

After treatment has been completed, the patient must be observed continuously and monitored appropriately in a suitably equipped recovery facility until the patient becomes stable. This facility must have functioning suction apparatus and suction catheters of appropriate size, as well as the capacity to deliver greater than 90% oxygen and provide positive pressure ventilation for pediatric patients. An individual experienced in recovery care must be in attendance at all times in order to assess and record vital signs, observe the patient, and ensure airway patency. The patient must remain in the recovery facility until cardiovascular and respiratory parameters and function are stable and appropriate discharge criteria have been met (see appendix II).

## Appendix II
### Recommended Discharge Criteria

1. Cardiovascular function satisfactory and stable
2. Airway patency uncompromised and satisfactory
3. Patient easily arousable and protective reflexes intact
4. State of hydration adequate
5. Patient can talk, if applicable
6. Patient can sit unaided, if applicable
7. Patient can ambulate, if applicable, with minimal assistance
8. For the child who is very young or disabled, and incapable of the usually expected responses, the pre-sedation level of responsiveness or the level as close as possible for that child should be achieved.
9. Responsible individual is available.

## Appendix III
### American Society of Anesthesiologists Classification (Modified)

Class I. A normally healthy patient with no organic, physiologic, biochemical or psychiatric disturbance or disease.

Class II. A patient with mild-to-moderate systemic disturbance or disease.

Class III. A patient with severe systemic disturbance or disease.

Class IV. A patient with severe and life-threatening systemic disease or disorder.

Class V. A moribund patient who is unlikely to survive without the planned procedure.

## Appendix IV

Appropriate emergency equipment should be available whenever sedative drugs, capable of causing cardiorespiratory and central nervous system depression, are administered. The table below should be used as a guide, which should be modified depending upon the individual practice circumstances.

Emergency Medications:

Oxygen
Ammonia spirits
Glucose (50%)
Atropine
Diazepam
Epinephrine
Lidocaine (cardiac)
Diphenhydramine hydrochloride
Hydrocortisone
Pharmacologic Antagonists
Naloxone hydrochloride
Flumazenil
Basic airway management equipment
Nasal and Oral Airways of different sizes

Portable oxygen delivery system capable of delivering bag and mask ventilation greater than 90% at 10 L/min flow for at least 60 minutes (e.g., "E" cylinder) and resuscitation bag with masks that will accommodate children of all sizes.

### Intravenous Equipment (Level 4 sedations)

Gloves
Alcohol wipes
Tourniquets
Sterile gauze pads
Tape

Intravenous solutions and equipment for administration appropriate to the patient population being treated.

## Appendix I

**Template of Definitions And Characteristics For Levels Of Sedation And General Anesthesia.**

| | Conscious Sedation | | | Deep Sedation | General Anesthesia |
|---|---|---|---|---|---|
| Functional Level of Sedation | Mild Sedation (Anxiolysis) | Interactive | Non-Interactive/Arousable With Mild/Moderate Stimulus | Non-Interactive/Non-Arousable Except With Intense Stimulus | General Anesthesia |
| Goal | (Level 1) Decrease anxiety; facilitate coping skills | (Level 2) Decrease or eliminate anxiety; facilitate coping skills | (Level 3) Decrease or eliminate anxiety; facilitate coping skills; promote non-interaction sleep | (Level 4) Eliminate anxiety; coping skills over-ridden. | (Level 5) Eliminate cognitive, sensory and skeletal motor activity; some autonomic activity depressed |
| Responsiveness | Uninterrupted interactive ability; totally awake | Minimally depressed level of consciousness; eyes open or temporarily closed; responds appropriately to verbal commands | Moderately depressed level of consciousness; mimics physiologic sleep (vitals not different from that of sleep); eyes closed most of time; may or may not respond to verbal prompts alone; responds to mild /moderate stimuli (e.g., repeated trapezius pinching or needle insertion in oral tissues elicits reflex withdrawal and appropriate verbalization [complaint, moan, crying]); airway only occasionally may require re-adjustment via chin thrust. | Deeply depressed level of consciousness; sleep-like state, but vitals may be slightly depressed compared to physiologic sleep; eyes closed; does not respond to verbal prompts alone; reflex withdrawal with no verbalization when intense stimuli occurs (e.g., repeated, prolonged and intense pinching of the trapezius); airway expected to require constant monitoring and frequent management | Unconscious and unresponsive to surgical stimuli. Partial or complete loss of protective reflexes including the airway; does not respond purposefully to physical and verbal command. |
| Personnel Monitoring Equipment | 2 Clinical observation* | 2 PO; precordial recommended† | 2 PO, precordial, BP; capno desirable† | 3 PO & Capno, ECG; precordial, BP, defibrillator desirable | 3 PO, Capno, precordial, BP, ECG, temperature & defibrillator required |
| Monitoring Info | None | HR, RR, $O_2$ Pre-; During (q 15 min); Post, as needed | HR, RR, $O_2$, BP; [$CO_2$] if available Pre-; During (q 10 min); Post till stable/Discharge Criteria | HR, RR, $O_2$ & C [$CO_2$], BP, ECG Pre-; During (q 5 min); Post till stable/Discharge Criteria | HR, RR, $O_2$ $CO_2$, BP, EKG, Temperature Pre-; During (q 5 min minimum); post till stable/Discharge Criteria |

Monitors: PO (Pulse Oximetry); Capno (Capnography); BP (Blood Pressure Cuff); ECG (Electrocardiogram)

* It should be noted that clinical observation should accompany any level of sedation and general anesthesia.

† "Recommended" and "Desirable" should be interpreted as not a necessity, but as an adjunct in assessing patient status.

## Guidelines for Behavior Management

**Revised May, 1996**

### Introduction

Behavior management methods in pediatric dentistry are directed toward the goals of communication and education. The relationship between the dentist and child is built through a dynamic process of dialogue, facial expression, and voice tone; all methods of delivering a message. Some of the methods in this document are established and intended to maintain the communication process, while others are intended to extinguish inappropriate behavior, and teach the child how to cooperate in the dental setting. As such, the behavior management methods in this document cannot be evaluated on an individual basis as to validity, but must be evaluated within the context of the child's total dental experience. Behavior management is as much a clinical skill as it is a science. It is not an application of individual techniques created to "deal" with children, but rather a comprehensive methodology meant to develop a relationship between patient and doctor which ultimately builds trust and allays fear and anxiety.

Dental practitioners are encouraged to perform behavior management consistent with their educational training and clinical experience. Every dental practitioner treating children is expected to recognize and effectively treat childhood dental diseases that are commonplace and within the skills acquired by graduates of dental schools in the United States and Canada. Behavior management cases that are beyond the training, experience, and expertise of individual practitioners should be referred to practitioners who can render care more appropriately.

### Overview

Maintaining compliance of children in the dental environment demands skills of verbal guidance, expectation setting, extinction of inappropriate behavior, and reinforcement of appropriate responses. Since children exhibit a range of development and a diversity of attitudes, it is important that dentists have at their disposal a wide range of behavior management methods and communication techniques to meet the needs of the individual child.

This document contains definitions, objectives, indications, and contraindications for behavior management methods which are deemed useful in pediatric dentistry. Each method has been approved by the American Academy of Pediatric Dentistry. These guidelines are based on the prescribed use of behavior management techniques as documented in the dental literature and on the professional standards of both the academic and practicing pediatric dental community. The guidelines are reflective of the American Academy of Pediatric Dentistry's role as an advocate for the improvement of the overall health of the child.

Two objectives of behavior management are to perform treatment effectively and efficiently for the child and to instill in the child a positive dental attitude. These objectives must be the emphases of any practitioner who treats children. Achievement of these objectives relies on the foundations of behavior management: communication and education.

Behavior management is a continuum of interaction with the child directed toward communication and education in an endeavor to allay anxiety and fear and to promote an understanding of not only the need for good dental health but also the process by which it is achieved.

Unfortunately, many barriers hinder the achievement of these ambitious goals. The causes of inappropriate behavior of a child in the dental office are varied. Developmental delay, mental retardation, and acute or chronic disease all are obvious reasons for noncompliance. Reasons for noncompliance in the communicating child often are more subtle and difficult to diagnose. Major contributing factors, however, can be identified. Fears transmitted from parents, a child's prior experience with a dentist not adept at relating to children, or an unprepared child's first encounter in the dental environment can lead to a child's uncooperative behavior. In order to alleviate these barriers, the dentist becomes a teacher. The dentist's methodology should include good communication, analysis of the patient's developmental level and comprehension skills, a message directed to that level, and a patient who is attentive to the message being delivered. In order to accomplish good dental treatment and to develop an educated patient, it is mandatory that the "teacher-student" roles and relationship be established and maintained.

Decisions regarding intended treatment are often complex. The child who presents with significant pathology and noncompliance tests the skills of every practitioner. A dentist treating children should have a variety of behavior management approaches and should, under most situations, be able to assess accurately the child's developmental level, dental attitudes, and predict the child's reaction to the choice of treatment. However, by virtue of each practitioner's differences in training, experience, and personality, a behavior management approach for a child may vary from practitioner to practitioner.

Regardless of the variation in behavior management methods utilized by each individual practitioner, all management decisions must be based on an evaluation weighing benefit and risk to the child. Considerations regarding need of treatment, consequences of deferred treatment, and potential physical/emotional trauma must be entered into the decision-making equation. The evaluation of risk and benefit to a child is subjective.

### Informed Consent

Decisions regarding treatment of children cannot be made unilaterally by the dentist. Decisions must involve parents and, if appropriate, the child. The dentist serves as the expert about dental matters, the need for treatment and the methods by which treatment can be carried out. The parent, shares with the practitioner the decision whether to treat or not to treat and must be consulted regarding treatment strategies, and potential risks. Therefore, the successful completion of diagnostic and therapeutic services is viewed as a partnership of dentist, parent, and child.

Although the behavior management methods included in this document are used frequently, parents may not be entirely familiar with some of them. It is important that the dentist inform the parent (or legal guardian) about the use of the method, indications, contraindications, significant risks, and alternate treatments, and that all questions are answered before the method is used. Except for communicative management methods (see below) which, by virtue of being basic elements of communication, require no specific consent, informed consent must be obtained and should be documented before anticipated use of behavior management methods. In addition, an emergent situation may arise which necessitates use of a technique before consent can be obtained to avoid immediate injury to the patient, doctor, and/or staff, and consent is then implied.

**Summary**

1. Behavior management is based upon scientific principles, but the proper implementation by the dental practitioner requires more than just understanding principles. It requires skills in communication, empathy, coaching, and listening. Therefore, the implementation of a behavior management strategy becomes a clinical skill which is obviously observable but defies complete explanation.
2. The goals of behavior management are to achieve good dental health in the child patient and to help develop the child's positive attitude toward dental health.
3. The objectives of behavior management are to establish communication and to foster education, thereby alleviating fear and anxiety and building a trusting relationship between dentist and child.
4. All decisions regarding behavior must be based on a benefit versus risk evaluation.
5. Parents share in the decision-making process regarding treatment of their children.

## I. Communicative Management

### Introduction

Communicative management is used universally in pediatric dentistry with both the cooperative and uncooperative child. It comprises the most fundamental form of behavior management. Communicative management is the basis for establishing a relationship with the child which may allow the successful completion of dental procedures and, at the same time, may help the child develop a positive attitude towards dental care. Communicative management is an ongoing process rather than a technique. It is a subjective process and an extension of the personality and skills of the dentist. Associated with this process are the specific techniques of voice control, distraction, positive reinforcement, tell-show-do, and nonverbal communication. Since these comprise basic elements of communication and since they are widely used and widely accepted, they are appropriate for all patients. In addition, no specific consent or documentation is necessary prior to use.

### A. Voice Control

Description: Voice control is a controlled alteration of voice volume, tone, or pace to influence and direct the patient's behavior.

**Objectives:**

1. To gain the patient's attention and compliance
2. To avert negative or avoidance behavior
3. To establish authority.

Indications: May be used with any patient.

Contraindications: None.

### B. Nonverbal Communication

Description: Nonverbal communication is the reinforcement and guiding behavior through contact, posture, and facial expression.

**Objectives:**

1. To enhance the effectiveness of other communicative management techniques
2. To gain or maintain the patient's attention and compliance.

Indications: May be used with any patient.

Contraindications: None.

### C. Tell-Show-Do

Description: Tell-show-do is a method of behavior shaping used by many professionals who work with children. The method involves verbal explanations of procedures in phrases appropriate to the developmental level of the patient (Tell); demonstrations for the patient of the visual, auditory, olfactory, and tactile aspects of the procedure in a carefully defined, non-threatening setting (Show); and then, without deviating from the explanation and demonstration, completion of the procedure (Do). The tell-show-do method is used with communication skills (verbal and nonverbal) and positive reinforcement.

**Objectives:**

1. To teach the patient important aspects of the dental visit and familiarize the patient with the dental setting.
2. To shape the patient's response to procedures through desensitization and well-described expectations.

Indications: May be used with any patient.

Contraindications: None.

### D. Positive Reinforcement

Description: In the process of establishing desirable patient behavior, it is essential to give appropriate feedback. Positive reinforcement is an effective method to reward desired behaviors and thus strengthen the recurrence of those desired behaviors. Social reinforcers include positive voice modulation, facial expression, verbal praise, and appropriate physical demonstrations of affection by all members of the dental team. Nonsocial reinforcers include tokens and toys.

Objective: To reinforce desired behavior.

Indications: May be useful for any patient.

Contraindications: None.

### E. Distraction

Description: Distraction is the technique of diverting the patient's attention from what may be perceived as an unpleasant procedure.

Objective: To decrease the perception of unpleasantness.

Indications: May be used with any patient.

Contraindications: None.

### F. Parental Presence/Absence

**Introduction:**

A wide diversity exists in practitioner philosophy and parental attitude regarding parents' presence or absence during pediatric dental treatment. Practitioners are united in the fact that communication between dentist and child is paramount and that this communication demands focus on the part of both parties. Children's responses to their parents' presence or absence can range from very beneficial to very detrimental. It is the responsibility of each practitioner to determine the communication methods that best optimize the treatment setting recognizing his/her own skills, the abilities of the particular child, and the desires of the specific parent involved.

Description: This technique involves using the presence or absence of the parent to gain cooperation for treatment.

**Objectives:**

1. To gain the patient's attention and compliance.
2. To avert negative or avoidance behaviors.
3. To establish authority.

## II. Hand-Over-Mouth (HOM)

Description: HOM is a commonly accepted and effective behavior management method which has been documented in the dental literature for more than 30 years. The technique is an extension of other communication methods and is used to reframe a previous request and to reengage appropriate communication. When indicated, a hand is placed over the child's mouth and behavioral expectations are calmly explained. The child is told that the hand will be removed as soon as appropriate behavior begins. When the child responds the hand is removed and the child's appropriate behavior is reinforced.

The need to diagnose and treat as well as the safety of the patient, practitioner, and staff should be considered for the use of HOM. The decision to use HOM must take into consideration:

1. Other alternate behavioral modalities
2. Patient's dental needs
3. Quality of dental care
4. Patient's emotional development
5. Patient's physical considerations.

Parental or guardian informed consent must be obtained and should be documented when HOM use is anticipated.

The use of HOM should be documented in the patient record.

**Objectives:**

1. To gain the child's attention enabling communication with the dentist so appropriate behavioral expectations can be explained
2. To eliminate inappropriate avoidance responses to dental treatment and to establish appropriate learned responses
3. To enhance the child's self-confidence in coping with the anxiety-provoking stimuli of dental treatment
4. To ensure the child's safety in the delivery of quality dental treatment.

**Indications:**

1. A healthy child, who is able to understand and cooperate but who exhibits defiant, obstreperous, or hysterical avoidance behaviors to dental treatment.

**Contraindications:**

1. In children who, due to age, disability, medication, or emotional immaturity are unable to understand and cooperate
2. When it will prevent the child from breathing.

## III. Treatment Immobilization

**Introduction**

Partial or complete immobilization of the patient sometimes is necessary to protect the patient, practitioner, and/or the dental staff from injury while providing dental care. Immobilization can be performed by the dentist, staff, or parent, with or without the aid of an immobilization device.

The need to diagnose and treat as well to protect the safety of the patient, practitioner, and staff should be considered for the use of immobilization.

The decision to use patient immobilization should take into consideration:

1. Other alternate behavioral modalities
2. Dental needs of the patient
3. Quality of dental care
4. Patient's emotional development
5. Patient's physical considerations.

Parental or guardian informed consent must be obtained and should be documented when immobilization use is anticipated.

A narrative description of the use of immobilization should be included in the patient record. This description may include:

1. Informed consent
2. Type of immobilization used
3. Indication for immobilization
4. The duration of application.

**Objectives:**

1. To reduce or eliminate untoward movement
2. To protect patient and dental staff from injury
3. To facilitate delivery of quality dental treatment.

**Indications:**

1. A patient who requires diagnosis and/or treatment and cannot cooperate due to lack of maturity
2. A patient who requires diagnosis and/or treatment and cannot cooperate due to mental or physical handicap
3. A patient who requires diagnosis and/or treatment and does not cooperate after other behavior management techniques have failed
4. When the safety of the patient and/or practitioner would be at risk without the protective use of immobilization .

**Contraindications:**

1. A cooperative patient
2. A patient who cannot be immobilized safely due to underlying medical or systemic conditions.

## IV. Nitrous Oxide/Oxygen Inhalation Sedation

**Introduction**

Nitrous oxide/oxygen inhalation sedation is a conscious sedation technique which is a safe and effective behavior management adjunct to the treatment of selected dental patients. Its onset of action is fast, its depth of sedation is easily titrated, and recovery is rapid and complete.

Additionally, the technique provides a variable degree of analgesia for some patients.

The need to diagnose and treat as well as the safety of the patient and practitioner must justify the use of nitrous oxide. The decision to use nitrous oxide must take into consideration:

1. Alternative behavioral management modalities
2. Dental needs of the patient
3. Quality of dental care
4. Patient's emotional development
5. Patient's physical considerations.

Parental or guardian consent must be obtained and should be documented prior to use of nitrous oxide.

The patient's record should include:

1. Informed Consent
2. Indication for use
3. Nitrous oxide dosage:
   a. Per cent nitrous oxide/oxygen and/or flow rate
   b. Duration of the procedure.

**Objectives:**

1. To reduce or eliminate anxiety in dental patients so safe, comfortable, quality dental treatment can be rendered
2. To reduce untoward movement and reaction to dental treatment
3. To enhance communication and patient cooperation
4. To raise the pain reaction threshold
5. To increase tolerance for longer appointments
6. To aid in treatment of the mentally, physically, or medically compromised patient
7. To reduce gagging.

**Indications:**

1. A fearful, anxious, or obstreperous patient
2. Certain mentally, physically, or medically compromised patients
3. A patient whose gag reflex interferes with dental care
4. A patient for whom profound local anesthesia cannot be obtained.

**Contraindications:**

1. May be contraindicated in some chronic obstructive pulmonary diseases
2. May be contraindicated in certain patients with severe emotional disturbances or drug-related dependencies
3. Patients in the first trimester of pregnancy
4. Patients with drug-induced or disease-induced pulmonary fibrosis.

## V. Conscious Sedation

**Introduction**

Conscious sedation can be used safely and effectively with patients unable to receive dental care for reasons of age or mental, physical, or medical condition.

Background information and documentation for the use of conscious sedation is detailed in the AAPD Guidelines for the Elective Use of Pharmocologic Conscious Sedation and Deep Sedation in Pediatric Dental Patients (page 48).

The need to diagnose and treat as well as the safety of the patient, practitioner, and staff should be considered for the use of conscious sedation. The decision to use conscious sedation must take into consideration:

1. Alternative behavioral management modalities
2. Dental needs of the patient
3. Quality of dental care
4. Patient's emotional development
5. Patient's physical considerations.

Parental or guardian informed consent must be obtained and should be documented prior to the use of conscious sedation.

**Objectives:**

1. To reduce or eliminate anxiety in dental patients so that safe, comfortable, quality dental treatment can be rendered
2. To reduce untoward movement and reaction to dental treatment
3. To enhance communication and patient cooperation
4. To increase tolerance for longer appointments
5. To aid in treatment of the mentally, physically, or medically compromised patient.

**Indications:**

1. Patients who are ASA Class I or II
2. Patients requiring dental care who cannot cooperate due to a lack of psychological or emotional maturity
3. Patients requiring dental care who cannot cooperate due to a mental, physical, or medical disability
4. Patients requiring dental care for whom the use of sedation may protect the developing psyche.

**Contraindications:**

1. The cooperative patient with minimal dental needs
2. Medical contraindication to sedation.

## VI. General Anesthesia

**Introduction**

The use of general anesthesia sometimes is necessary to provide quality dental care for the child. Depending on the patient, this can be done in an ambulatory care setting, a same day surgery center, an out-patient surgery area of a hospital or an in-patient hospital setting with the use of pre- and/or postoperative patient admission to the hospital.

General anesthesia is a controlled state of unconsciousness accompanied by a loss of protective reflexes, including the ability to maintain an airway independently and respond purposefully to physical stimulation or verbal command.

The need to diagnose and treat as well as the safety of the patient, practitioner, and staff should be considered for the use of general anesthesia. The decision to use general anesthesia should take into consideration:

1. Alternative behavior management modalities
2. Patient's dental needs
3. Quality of dental care
4. Patient's emotional development
5. Patient's physical considerations
6. Patient's requiring dental care for whom the use of general anesthesia may protect the developing psyche.

Parental or guardian informed consent must be obtained and should be documented prior to the use of general anesthesia.

The patient's record should include: a. Informed consent, b. Indication for the use of general anesthesia.

Objectives: To provide safe, efficient and effective dental care.

Indications:

1. Patients with certain physical, mental, or medically compromising conditions
2. Patients with dental needs for whom local anesthesia is ineffective because of acute infection, anatomic variations, or allergy

3. The extremely uncooperative, fearful, anxious, or uncommunicative child or adolescent with dental needs deemed sufficiently important that dental care cannot be deferred
4. Patients who have sustained extensive orofacial and dental trauma
5. Patients with dental needs who otherwise would not obtain necessary dental care
6. Patients requiring dental care for whom the use of general anesthesia may protect the developing psyche.

**Contraindications:**

1. A healthy, cooperative patient with minimal dental needs
2. Medical contraindication to general anesthesia.

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