



Technical Report 2-2012:

An Essential Health Benefit: General Anesthesia for Treatment of Early Childhood Caries

Summary

General anesthesia (GA) is a medical procedure that renders the patient unconscious, allowing for the safe and humane provision of medical and dental diagnostic and surgically invasive procedures. Dental treatment under GA is an effective way to provide medically necessary care to those children who may be cognitively immature, highly anxious or fearful, have special needs, or medically-compromised and unable to receive treatment in a traditional office setting. Delivering dental treatment under GA can have significant positive effects on the quality of life for children and their families and can improve access to dental care. GA may be medically necessary when treating some dental patients and, therefore, should be included as an essential health benefit under both public and private medical insurance coverage for children. While GA is necessary for only a small subset of pediatric dental patients, insurance coverage is indispensable for these children so that necessary dental procedures can be accomplished in a humane, socially appropriate, efficacious, and safe manner.

Introduction

Much attention has recently focused on the use of GA to enable dentists to perform dental treatment, as illustrated by a 2012 article in the *New York Times*. However, sedation and GA have been utilized in the practice of dentistry and medicine since the 1840s. Dentistry has continued to build upon this foundation and has been instrumental in developing safe and effective sedative and anesthetic techniques that have enabled millions of people to gain access to dental care. The use of GA for dental care continues to have a remarkable record of safety.^{1,2}

While most dental care is provided in a traditional dental office setting utilizing local anesthesia and, when indicated, a variety of adjunctive pharmacologic and behavioral guidance techniques, a subset of patients cannot benefit from routine approaches. The American Academy of Pediatric Dentistry (AAPD) recognizes that non-pharmacological behavior guidance techniques are not viable for some pediatric dental patients. Some children and patients with special health care needs have treatment conditions, acute situational anxiety, uncooperative age-appropriate behavior, immature cognitive functioning, disabilities, or medical conditions that require deep sedation /GA to undergo dental procedures in a safe and humane fashion.^{3,4} Included in this group are infants and children who have not yet developed the ability to comprehend the need for their treatment nor the effective and appropriate skills to cope with invasive and potentially uncomfortable and psychologically threatening procedures. For many of these patients, treatment under GA in a hospital, outpatient facility, dental office or clinic represents the optimum or only venue to deliver necessary oral health care.⁵

To effectively address the challenges associated with these patients, dentists and other professionals have developed a variety of patient management techniques, including the provision of dental care under GA in the dental office and in the hospital, ambulatory surgicenter, or other accredited surgical facility. In fact, instruction and experience in providing dental care under GA is a required component of the curriculum in all pediatric dental residency training, as well as in many other dental post-doctoral programs.

Research⁴⁻¹¹ indicates that GA has additional benefits to children and families, including:

- Improvement in the quality of life by allowing for extensive dental rehabilitation in children who are experiencing dental pain and difficulties in eating and sleeping, and whose parents have concerns related to the child's nutrition and behavior.
- Facilitating dental access for very young patients, patients with special health care needs and/or patients with a high degree of dental fear or anxiety.
- Providing an enhanced opportunity for parent and child education on positive oral health behaviors which can lead to positive behavioral changes and improved oral health.

GA: What is it and When is it Needed?⁶

Description

GA is a clinician-controlled state of patient 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 use of GA sometimes is necessary to provide quality dental care for the child. Depending on the patient and other factors, GA can be done in a hospital or an ambulatory setting, including the dental office.

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

1. Alternative behavioral guidance modalities
2. Dental needs of the patient
3. The effect on the quality of dental care
4. The patient's emotional development
5. The patient's medical status

Objectives of GA

1. Provide safe, efficient, and effective dental care
2. Eliminate anxiety
3. Reduce untoward movement and reaction to dental treatment
4. Aid in treatment of the mentally, physically, or medically compromised patient
5. Eliminate the patient's pain response

The Use of GA for Dental Restorations Can Lead to Improved Quality of Life

Dental treatment under GA provides a safe approach for children and persons with special health care needs who cannot accept treatment in a conventional office setting. Provision of dental treatment under GA for uncooperative, young children with dental needs has significant positive effects on quality of life for both these children and their families. Oral health related quality of life is measured in relation to how the mouth and teeth affect physical, psychological and social well-being and daily activities such as eating, chewing, swallowing, speaking, playing, learning, happiness, embarrassment, and social interactions.⁷

According to parental satisfaction surveys, children who underwent dental rehabilitation under GA demonstrated improvements in pain relief, as well as in their ability to eat and sleep.^{8,9,10} Children with medical or compromising developmental conditions were significantly more likely to have improved abilities to eat and sleep, and have a significantly improved overall health status.¹¹ Parents have also reported

improved social function, including more smiling, improved school performance, and increased social interaction after receiving dental care under GA and that GA has a high degree of acceptance among parents and children.¹² Significantly, studies show that comprehensive dental rehabilitation provided under GA has resulted in catch-up growth, such that children with a history of caries no longer differed in percentile weights from comparison patients.¹³

Many parents express "fear," "worry," and "concern," as well as some level of anxiety during GA and prior to treatment. However, after treatment under GA is complete, parents reported a lessening and improvement in the amount of dental pain, sleeping pattern, eating habits and acceptance of parental tooth brushing.¹⁴ Additionally, research indicates that postoperative discomfort is mild and subsides substantially over the first week after surgery.¹⁵ In fact, a systematic review of the literature found that "oral rehabilitation under GA results in the immediate improvement of the children's oral health and physical, emotional and social quality of life. It also has a positive impact on the family."¹⁶ Additionally, parental acceptance of GA over more physical management techniques has increased dramatically, because of expectations of safety and compassionate treatment of their child.¹⁷

The Availability of GA for Dental Restoration has a Positive Impact on Dental Access

Indications for GA are based on specific criteria, taking into account the risks/benefits/effectiveness/anticipated outcomes and alternatives to other behavior management techniques. These criteria include pediatric patients:

- Who cannot cooperate due to a lack of psychological or emotional maturity and/or mental, physical or medical disability
- For whom local anesthesia is ineffective because of acute infection, anatomic variations, or allergy
- Who are moderately to extremely uncooperative
- Who are verbally uncommunicative because of psychosocial, medical, or cultural situations
- Who require significant restorative and/or surgical procedures
- For whom the use of GA may protect the developing psyche and/or reduce medical risk
- Who require immediate, comprehensive oral/dental care (e.g., dental abscess threatening patency of the airway or other anatomical structures);
- Who have demonstrated the inability to respond to other available behavior guidance techniques.¹⁸

Anecdotal information from practitioners has long supported the idea that many of these children may not be able to access dental services appropriate to their needs if GA is not available. Although few scientific studies have been done to substantiate this; initial data from the state of North

Carolina indicate that state-level GA legislation has been found to result in a significant increase (43 percent) in access to care for children needing dental care.¹⁸

Improved Positive Oral Health Behaviors and Oral Health Outcomes

Some research has indicated that parents and children are more likely to engage in positive oral hygiene behaviors after the child has undergone dental rehabilitation under GA.^{19,20} More specifically, in one study a significantly greater proportion of children who received GA reduced their sweet consumption and brushed their teeth with parental help compared to children who received sedation.²¹ Additionally, parents have reported being more positive about maintaining the health of their child's teeth and reported that they knew how to take care of them subsequent to GA.²² Very young children who have been treated under GA have been found to be more likely to exhibit positive behavior at subsequent recall appointments than those treated under conscious sedation.²³

Although evidence indicates that certain children who undergo extensive treatment for early childhood caries exhibit new lesions within two years,²⁴ it would appear that the completion of restorative services under GA provides a "window of opportunity" where both parents and children are receptive to positive oral health messages and are willing to implement suggestions provided by their oral care team. It is thought that the GA experience has an intense emotional effect on parents, which may serve as a motivator to make immediate but short-lived changes in oral health behaviors.²⁵ There is an indication that families who relapse demonstrate common characteristics, such as valuing primary teeth differently than other parents, expressing a lower ability to control their child's behavior, and being less receptive to advice.²⁶

Parents and children may be more receptive to guidance related to positive oral care during the time immediately following the provision of dental treatment under GA. Therefore, increased preventive services such as anticipatory guidance, coaching/instruction and motivational interviewing techniques may serve to enhance these positive results. It would be beneficial to study the effect of these types of services on the strength and duration of positive behavior changes subsequent to GA.

Cost Considerations of GA

Although GA, on the surface, carries a higher cost than utilizing other pharmacologic methods of behavior guidance, it can lead to lower overall costs for extensive dental treatment. GA allows the clinician to perform all indicated extensive and complex procedures during one outpatient or inpatient visit with minimal discomfort to the child. When the records of patients who received dental and one other procedure under shared GA were reviewed, an estimated savings was identified due to the efficiency of combined care.²⁷ Additionally, when one takes into account the cost of missed wages for multiple appointments, GA costs were lower than the cost of providing the same services using sedation.²⁸ The authors of this study suggest that societal costs, which include missed school days

due to dental pain and treatment appointments and the cost of school personnel in dealing with children in pain, increase the cost of treatment options that do not allow for the completion of all necessary treatment in the most efficient manner. Other authors have noted that aggressive treatment of facial cellulitis from dental caries under GA actually decreases length of stay costs compared to prolonged hospitalization for antibiotic therapy.²⁹ Stability and improved diagnostic yield in children while under GA, when combined with greater quality of procedures, improves the cost-effectiveness of this alternative in some children.

Rationale and Justification for Medical Plan Reimbursement of GA and Related Facility Fee Costs When Dental Services Are Provided

Reimbursement of expenses associated with hospitalization and GA when dental procedures are performed is often denied under medical insurance reimbursement plans when payment for similar surgical procedures (e.g., myringotomy) correcting pain, infection, and function as well as facilitating surgical success and quality of outcome is approved. This is particularly true under medical insurance plans governed by the Federal Employee Retirement Income Security Act (ERISA), which does not mandate GA coverage when dental services are provided, as does law in 32 states.

Yet, the need and justification for GA is the same, regardless of the procedural challenge or the areas of the body for which the procedures are performed. GA is provided because of the patient's inability to receive, tolerate or cooperate with medically-necessary treatment secondary to such factors as age, disability, or physical or mental impairment and not secondary to the nature of the procedure itself. For instance, GA coverage is routinely provided for such procedures as myringotomy, tonsillectomy, herniorrhaphy, and removal of cutaneous growths and lesions for infants and persons with disabilities when these procedures and others like them would be performed under a local anesthetic in an office setting for the typical adult and older pediatric patient.

Withholding of GA benefits often has the effect of denying access to quality oral health care for this subset of the population. Less effective management of these patients may result in elevating the risk of developing avoidance behaviors of oral health professionals in the future. And the cost to the individual and society may increase when palliative care is sought in emergency departments of hospitals. For families who can sustain the costs of such care outside their medical insurance plans, it still remains an unfair denial of those GA benefits for which a premium has been paid.

It is the contention of the AAPD that any distinction between "medical infection" and "dental infection" for conferring GA benefits for this population is arbitrary, unjustified and outside the parameters of care of the medical community. For this population, the best alternative for comprehensive and ethical dental care is outpatient treatment under GA in a hospital or an outpatient surgery setting, or in the dental office with a dentist or physician anesthesiologist.

Until 1995, no state laws required commercial insurance carriers to cover GA and associated hospital costs of dental treatment. Since then, however, the AAPD and its state-level advocates spearheaded changes to address this discrepancy. To date, 32 states, as well as Puerto Rico, have passed legislation requiring private medical insurers to cover the hospital associated costs in providing comprehensive dental care in the operating room setting for pre-cooperative children. A summary of these laws and of states with such laws is presented in the appendix.

Additionally, the United States Congress has passed a law requiring that TRICARE (the health care program of the United

States Department of Defense Military Health System) include coverage for GA and other costs for dental care for children and specified other patients. For military dependents, GA and operating room costs are covered for children ages 5 and under, and for those with developmental, mental, or physical disabilities regardless of age when dental services are provided.³⁰ According to the law,

Patients with developmental, mental, or physical disabilities are those patients with conditions that prohibit dental treatment in a safe and effective manner. Therefore, it is medically or psychologically necessary for these patients to require GA for dental treatment.³¹

It is significant that no state has ever repealed its GA mandate for any reason. It is hypothesized that the very small percentage of impacted children results in little to no affect on medical insurance premiums. More research in this area is needed.

Policy Implications

The insurance mandates in a majority of states for GA coverage for certain children requiring dental services to be provided in such settings, as described above, may be in jeopardy. This is due to the implementation of the essential health benefits package (EHB) offered in the individual and small group markets, both inside and outside of state health insurance exchanges, as provided in the Affordable Care Act.

The Center for Consumer Information and Insurance Oversight's (CCIIO) Dec. 16, 2011, *Essential Health Benefits Bulletin* provided the first federal agency guidance on EHB implementation. The guidance offered by CCIIO in the bulletin provides states flexibility in meeting the EHB requirements for 2014 and 2015³², including what would be considered acceptable pediatric oral health services, by recommending that states select a benchmark health insurance plan to cover all essential health benefit categories. Specifically, CCIIO proposes that the "EHB be defined by a benchmark plan selected by each State."

The benchmark *medical* plans are:

- The largest plan by enrollment in any of the three largest small group insurance products in the state's small group market;
- Any of the largest three state employee health benefit plans by enrollment;
- Any of the largest three national Federal Employee Health Benefit Plan (FEHBP) options by enrollment; or
- The largest insured commercial non-Medicaid Health Maintenance Organization (HMO) operating in the state.

If the pediatric oral health benefit is missing from the chosen benchmark plan a state may supplement the benchmark with one of the following options:

- The Federal Employees Dental and Vision Insurance Program (FEDVIP) dental plan with the largest national enrollment; or
- The state's separate Children's Health Insurance Program (CHIP).

For the purposes of this technical brief, the focus is on benchmark medical plans rather than free-standing pediatric dental plans as GA insurance mandates apply to medical plans rather than dental plans.

The CCIIO guidance provides that during the transitional years of 2014-2015, if a state chooses a benchmark plan that is subject to existing state benefit mandates, those mandates would be included in the EHB package, obviating the requirement that the state defray the cost of the mandates. *However, if the state selects a benchmark that does not include some or all of the mandates, the state would have to pay for those mandates not covered by the benchmark.* For 2016 and beyond, the agency will develop an approach that might exclude some state benefit mandates from the EHB package.

The CMS Center for Medicaid and CHIP Services (CMCS) provided further guidance on this matter in its Feb. 17, 2012, Informational Bulletin on *Essential Health Benefits FAQs*. The following two questions are relevant to state insurance mandates such as GA:

Q: Would States be required to defray the cost of any State-mandated benefit?

A: The Affordable Care Act requires States to defray the costs of State-mandated benefits in qualified health plans (QHPs) that are in excess of the EHB. If a State were to choose a benchmark plan that does not include all State-mandated benefits, the Affordable Care Act would require the State to defray the cost of those mandated benefits in excess of EHB as defined by the selected benchmark. States have several benchmark options from which to choose, including the largest small group market plan in the State, which is the default benchmark plan for each State. Generally, insured plans sold in the small group market must comply with State mandates to cover benefits. Thus, if a small group market benchmark plan was selected, these mandated benefits would be part of the State-selected EHB. However, if there are State mandates

that do not apply to the small group market, such as mandates that apply only to the individual market or to HMOs, the State would need to defray the costs of those mandates if the mandated benefits were not covered by the selected benchmark.

As indicated in the Bulletin, the treatment of State benefit mandates is intended as a two-year transitional policy that HHS intends to revisit for plan years starting in 2016.

Q: Could a State add State-mandated benefits to the State-selected EHB benchmark plan today without having to defray the costs of those mandated benefits?

A: No. We intend to clarify that under the proposed approach any State-mandated benefits enacted after Dec. 31, 2011, could not be part of EHB for 2014 or 2015, unless already included within the benchmark plan regardless of the mandate. Note that any State-mandated benefits enacted by Dec. 31, 2011, would be part of EHB if applicable to the State-selected EHB benchmark plan. As mentioned above, HHS intends to revisit this approach for plan years starting in 2016.

Recommendations

Specific to the Affordable Care Act (ACA), for the protection of children who need this medically necessary mandated coverage, the following policy goals are essential:

- For those states that currently have GA mandates, state health insurance exchanges should select benchmark medical plans in the small group market that must comply with this coverage.
- For those states that do not have GA mandates as of December 31, 2011, state health insurance exchanges should only consider benchmark medical plans that include such coverage.
- These practices should continue in 2016 and beyond.

CCIIO guidance for 2016 and beyond should not limit GA coverage under benchmark plans in state health insurance exchanges, whether done pursuant to state insurance mandates or voluntarily.

It is also the recommendation of the AAPD that federal (ERISA) regulations require that health care plans should provide for reimbursement of medical expenses, including GA and hospital-related costs, when one or more of the following indications are present in the course of dental treatment:

1. Patients, including infants, exhibiting physical, intellectual, or medically-compromising conditions, for which dental treatment under local anesthesia, with or without additional adjunctive techniques and modalities, cannot be expected to provide a humane and successful result and which, under GA, can be expected to produce a superior result.
2. Patients demonstrating dental treatment needs for which local anesthesia is indicated, but is ineffective because of acute infection, anatomic variation or allergy.
3. An extremely uncooperative, fearful, anxious or uncommunicative patient with dental needs of such magnitude or clinically apparent and functionally threatening to the well-being of the individual that treatment should not be postponed or deferred and for whom lack of treatment can be expected to result in dental or oral pain, infection, loss of teeth or other increased oral or dental morbidity or mortality.
4. Patients who have sustained extensive oral-facial and/or dental trauma, for which treatment under local anesthesia would be ineffective or compromised.

Patients meeting one or more of these criteria should not be denied medical benefits to which they would otherwise be entitled.

Appendix

Definitions

Analgesia – the diminution or elimination of pain.

Local anesthesia – the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

Minimal sedation – a minimally depressed level of consciousness, produced by a pharmacologic method that retains the patient's ability to independently and continuously maintain an airway and respond *normally* to tactile stimulation and verbal command.

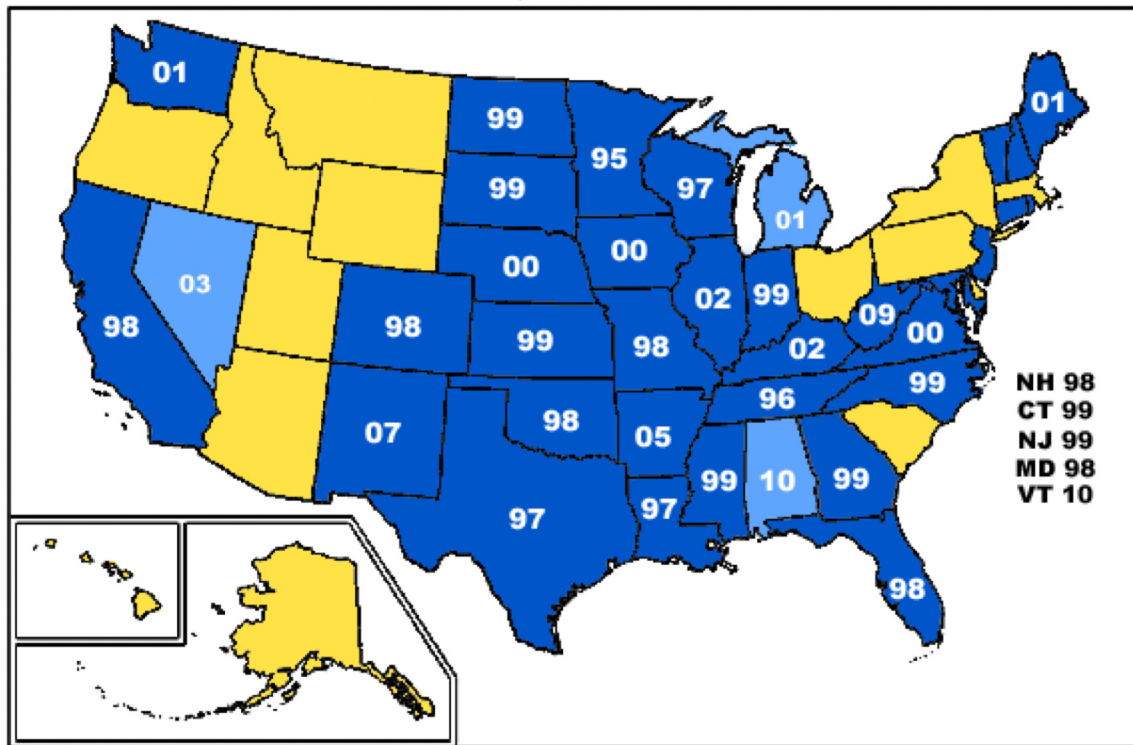
Moderate sedation – a drug-induced depression of consciousness during which patients respond *purposefully* to verbal commands, either alone or accompanied by light tactile stimulation

Deep sedation – a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation.

General anesthesia – a controlled state of un-consciousness 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 use of general anesthesia sometimes is necessary to provide quality dental care for the child.

Special Health Care Needs – Special health care needs include any physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs. The condition may be developmental or acquired and may cause limitations in performing daily self-maintenance activities or substantial limitations in a major life activity. Health care for individuals with special needs requires specialized knowledge, increased awareness and attention, adaptation, and accommodative measures beyond what are considered routine.³²

General Anesthesia Legislation by State



- Key:
- GA legislation has been passed and year in which it was passed
 - An agreement was made to cover GA but no legislation
 - No GA legislation has been passed

Please note that state insurance laws such as these apply only to fully insured medical plans. In 2010, nearly six in ten Americans private and public section workers covered by employer-provided health care were covered under self-insured plans, which are regulated by federal rather than state laws.

AAPD Council on Dental Benefit Programs

Summary of Enacted General Anesthesia Legislation (adopted as of May 2012)

State	Year	Patient Populations Affected	Who defines need	Location	Other
Alabama	1998 *	<p>Child age 8 or under, or</p> <ul style="list-style-type: none"> ◆ Child with a physical, medical or mental compromise ◆ Local anesthesia is ineffective due to acute infection, anatomic variation, or allergy ◆ Child or adolescent is extremely uncooperative, unmanageable, anxious or uncommunicative with dental needs that cannot be deferred ◆ Child that has sustained extensive orofacial and dental trauma 	Treating Dentist. BC/BS reserves the write to consult with the patient's physician for children older than 8 to confirm physical, medical or mental compromise diagnosis.	Hospital or ambulatory surgical facility	Insurer may apply deductibles, co-insurance, network requirements, medical necessity determinations and other limitations as are applied to other covered services.
Ark.	2005	<ul style="list-style-type: none"> ◆ Child under age 7 who is determined by two licensed Ark. Dentists to require treatment in hospital or surgical center for a significantly complex dental condition ◆ Person with diagnosed serious mental or physical condition ◆ Person with significant behavioral problem as determined by the covered person's physician 	Provider treating the patient (presumably the dentist)	Hospital or ambulatory surgical facility	Insurer may apply deductibles, co-insurance, network requirements, medical necessity determinations and other limitations as are applied to other covered services.
Calif.	1998	<ul style="list-style-type: none"> ◆ Child under age 7 years ◆ Developmentally disabled patient regardless of age ◆ Medically compromised patient regardless of age 	Not specified	Hospital or surgical center	
Colo.	1998	<p>"Child" is specified but not defined.</p> <ul style="list-style-type: none"> ◆ Child with a physical, medical or mental compromise ◆ Local anesthesia is ineffective due to acute infection, anatomic variation, or allergy ◆ Child or adolescent is extremely uncooperative, unmanageable, anxious or uncommunicative with dental needs that cannot be deferred ◆ Child that has sustained extensive orofacial and dental trauma 	Treating dentist	Hospital, surgical center or other facility specified under a particular Colorado Statute	Can limit providers to pediatric dentists or other dentists with hospital privileges. Excludes TMJ treatments.

State	Year	Patient Populations Affected	Who defines need	Location	Other
Conn.	1999	<ul style="list-style-type: none"> ◆ Child [under the age of 4]* determined to have a dental condition of “significant dental complexity” that it requires certain dental procedures to be performed in a hospital ◆ Person who has a developmental disability that places the person at serious risk 	Treating dentist or oral surgeon and the patient’s primary care physician	Hospital (law covers inpatient dental services only)	*a 2003 amendment eliminated the age 4 limitation
Fla.	1998	<ul style="list-style-type: none"> ◆ Child under age 8 years with a significantly complex dental condition or a developmental disability in which management in the dental office has proved ineffective ◆ Patient (no age specified) with one or more medical conditions that would create significant or undue medical risk if dental treatment were not rendered in a hospital or ambulatory surgical center 	Licensed dentist and the child’s physician	Hospital or surgical center	
Ga.	1999	<ul style="list-style-type: none"> ◆ Child 7 years of age or younger ◆ Developmentally disabled patient regardless of age ◆ Individual for whom a successful result cannot be expected for dental care under local anesthesia due to a neurological or medically compromising condition ◆ Individual who has sustained extensive facial or dental trauma, unless otherwise covered by workers’ compensation insurance 	Not specified	Hospital or ambulatory surgical facility	Can limit providers to pediatric dentists or other dentists with hospital privileges.
Ill.	2002	<ul style="list-style-type: none"> ◆ Child age 6 or under ◆ Individual with a medical condition that requires hospitalization or general anesthesia for dental care ◆ Individual who is disabled 	Not specified	Hospital or ambulatory surgical treatment center	Modeled after Wisconsin law.
Ind.	1999	<ul style="list-style-type: none"> ◆ Child less than 19 years of age ◆ Individual with a physical or mental impairment that substantially limits one or more major life activities 	Not specified	Hospital or ambulatory surgical setting	<ul style="list-style-type: none"> ◆ References AAPD guidelines on general anesthesia indications ◆ Can limit providers to those with hospital privileges ◆ Excludes TMJ treatment

State	Year	Patient Populations Affected	Who defines need	Location	Other
Iowa	2000	<ul style="list-style-type: none"> ◆ Child under 5 years of age with a dental condition or developmental disability for which management in the dental office has proved to be ineffective ◆ Any individual with one or more medical conditions that would create significant or undue medical risk unless dental treatment is rendered in a hospital or ambulatory surgical center 	Licensed dentist and the treating physician	Hospital or ambulatory surgical center	
Kan.	1999	<ul style="list-style-type: none"> ◆ Child five years of age and under ◆ Person who is severely disabled ◆ Person with a medical or behavioral condition which requires hospitalization or general anesthesia when dental care is provided 	Not specified	Not specified	Insurer may apply deductibles, coinsurance, network requirements, medical necessity determinations, and other limitations as applied to other covered services.
Ky.	2002	<ul style="list-style-type: none"> ◆ Child less than 9 years of age ◆ Individual with serious mental or physical condition ◆ Individual with significant behavioral problems 	Admitting physician or dentist	Hospital or ambulatory surgery facility	Insurer may apply deductibles, coinsurance, network requirements, medical necessary provisions and other limitations as applied to other covered services.
La.	1997	<ul style="list-style-type: none"> ◆ Insured with a mental or physical condition that requires dental treatment to be rendered in a hospital setting based on AAPD guidelines 	Dentist	Hospital	Can limit providers to pediatric dentists or other dentists with hospital privileges. Excludes TMJ treatments.
Maine	2001	<ul style="list-style-type: none"> ◆ Physical, intellectual or medically-compromising conditions ◆ Dental treatment needs for which local anesthesia is ineffective ◆ Extremely uncooperative, fearful, anxious or uncommunicative children and adolescents ◆ Extensive oral-facial or dental trauma 	Not specified	Hospital	

State	Year	Patient Populations Affected	Who defines need	Location	Other
Md.	1998	<ul style="list-style-type: none"> ◆ Patient under age 8 years or developmentally disabled for whom a successful result cannot be expected for treatment under local anesthesia and for whom a superior result can be expected for treatment under general anesthesia ◆ Patient who is extremely uncooperative, fearful or uncommunicative, is under age 18 years, and has dental needs of such magnitude that treatment should not be delayed or deferred and for whom lack of treatment can be expected to result in oral pain, infection, loss of teeth or other increased oral or dental morbidity 	Not specified	Hospital or ambulatory facility	Can limit providers to pediatric dentists, oral surgeons or other dentists with hospital privileges. Excludes TMJ treatments.
Mich.	2001 **	<ul style="list-style-type: none"> ◆ Child under four with requiring multiple extractions or multiple restorations ◆ Patient with six or more teeth requiring extraction in various quadrants ◆ Patient for whom local anesthesia is ineffective because of acute infection, anatomic variation, or allergy ◆ Patient with extensive oral-facial and/or dental trauma for which treatment under local anesthesia would be ineffective or compromised ◆ Patients with a concurrent hazardous medical condition (29 non-inclusive conditions are listed) 	Primary care physician (with free consulting service from pediatric dentists)	Hospital or surgical center	Includes coverage for facility fees.
Minn.	1995	<ul style="list-style-type: none"> ◆ Child under age 5 years ◆ Patient who is severely disabled (no age specified) ◆ Patient who has a medical condition and who requires hospitalization or general anesthesia for dental care treatment 	Not specified	Hospital or dental office	

State	Year	Patient Populations Affected	Who defines need	Location	Other
Miss.	1999	<ul style="list-style-type: none"> ◆ Child with a mental or physical condition requiring general anesthesia for dental care ◆ Mentally handicapped adult requiring general anesthesia for dental care 	Dentist	Hospital, surgical center or dental office	<ul style="list-style-type: none"> ◆ Stipulates that general anesthesia must be physician-supervised ◆ Coverage is optional; each insured must accept or reject it in writing and accept responsibility for premium payment ◆ Insurer may require a medical necessity review ◆ References AAPD guidelines on general anesthesia indications ◆ Excludes TMJ treatments
Mo.	1998	<ul style="list-style-type: none"> ◆ Child is under age 5 years ◆ Patient is severely disabled (no age specified) ◆ Patient with a diagnosed medical or behavioral condition which requires hospitalization or general anesthesia when dental care is provided 	Not specified	Hospital or surgical center	
Neb.	2000	<ul style="list-style-type: none"> ◆ Child under 8 years of age ◆ Patient who is developmentally disabled 	Insurance company as defined by the group policy, contract or benefit plan	Hospital or ambulatory surgery center	Insurer may apply deductibles, coinsurance, network requirements, and prior authorization as specified in the group policy, contract or benefit plan.
Nev.	2003 ***	<ul style="list-style-type: none"> ◆ Child with a physical, mental or medically compromising condition ◆ Child who has dental needs for which local anesthesia is ineffective because of an acute infection, an anatomic anomaly or an allergy ◆ Child who is extremely uncooperative, unmanageable or anxious ◆ Child who has extensive orofacial and dental trauma to a degree that would require unconscious sedation 	Dentist	Hospital, ambulatory surgical center, independent center for emergency medical care, or rural clinic	Insurer may restrict coverage to a procedures performed by a pediatric dentist, a dentist trained in a dental specialty for which hospital privileges are granted, or a graduate of an accredited postgraduate hospital program who has hospital privileges.

State	Year	Patient Populations Affected	Who defines need	Location	Other
N.C.	1999	<ul style="list-style-type: none"> ◆ Children below the age of 9 years ◆ Persons with serious mental or physical conditions ◆ Persons with significant behavioral problems 	Provider treating the patient	Hospital or ambulatory surgical facility	Insurer may apply deductibles, coinsurance, network requirements, medical necessity determinations, and other limitations as applied to other covered services.
N.D.	1999	<ul style="list-style-type: none"> ◆ Child under age 9 years ◆ Patient who is severely disabled ◆ Patient who has a medical condition that requires hospitalization or general anesthesia for dental care 	Not specified	Hospital or ambulatory surgery center	
N.H.	1998	<ul style="list-style-type: none"> ◆ Child under age 4 years with a dental condition of significant complexity which requires treatment under general anesthesia ◆ Patient with exceptional medical circumstances or a developmental disability that places patient at serious risk 	Licensed dentist and licensed physician	Hospital or surgical day care facility	Requires the insurance department to report on costs by Jan. 1, 2000.
N.J.	1999	<ul style="list-style-type: none"> ◆ Child age 5 or under ◆ Person who is severely disabled (no age specified) 	Not specified	Coverage is provided "regardless of where dental services are provided"	
N.M.	2007	<ul style="list-style-type: none"> ◆ Insured exhibiting physical, intellectual or medically compromising conditions ◆ Local anesthesia is ineffective due to acute infection, anatomic variation or allergy ◆ Insured children or adolescents who are extremely uncooperative, fearful, anxious or uncommunicative with dental needs that such treatment should not be postponed or deferred ◆ Insured with extensive oral-facial or dental trauma for which treatment under local would be compromised or ineffective ◆ Other procedures for which general anesthesia is medically necessary 	Not specified	Hospital or ambulatory surgical center	Provisions do not apply short-term travel, accident only or limited or specified disease policies.

State	Year	Patient Populations Affected	Who defines need	Location	Other
Okla.	1998	<ul style="list-style-type: none"> ◆ Patient (no age specified) who is severely disabled ◆ Child under age 9 years with a medical or emotional condition which requires hospitalization or general anesthesia for dental care 	Not specified	Hospital or ambulatory surgical center	
PR	1999	No information available			
S.D.	1999	<ul style="list-style-type: none"> ◆ Child under age 5 years ◆ Patient who is severely disabled or suffers from a developmental disability which places such a person at serious risk 	Licensed physician	Hospital or dental office	
Tenn.	1996	<ul style="list-style-type: none"> ◆ Child under age 9 years for whom treatment cannot be performed safely in a dental office setting 	Not specified	Hospital	
Texas	1997	<ul style="list-style-type: none"> ◆ Patient (no age specified) who is unable to undergo dental treatment in an office setting or under local anesthesia due to a documented physical, mental or medical reason 	Patient's physician or the treating dentist	Not specified	
Vermont	2010	<ul style="list-style-type: none"> ◆ Child seven years or younger who is determined by a dentist to be unable to receive needed dental treatment in an outpatient setting and whereby treating dentist certifies that patient's age and condition or problem require hospitalization or general anesthesia in a hospital or ASC in order to perform significantly complex dental procedures safely and effectively. ◆ Child 12 years or younger with documented phobias or a documented mental illness, as determined by a physician or mental health professional, whose dental needs are sufficiently complex and urgent that delaying or deferring treatment can be expected to result in infection, loss of teeth, or other increased oral or dental morbidity; for whom a successful result cannot be expected from dental care provided under local anesthesia; and for whom a superior result can be expected from dental care provided under general anesthesia ◆ A person who has exceptional medical circumstances or a developmental disability, as determined by a physician, which place the person at serious risk. 	Licensed dentist or physician depending on the situation and necessity.	Hospital or Ambulatory Surgical Center	<p>Health insurance plans may require prior authorization for general anesthesia and associated hospital or ambulatory surgical center charges for dental care in the same manner that prior authorization is required for these benefits in connection with other covered medical care.</p> <p>Health insurance plans may restrict coverage for general anesthesia and associated hospital or ambulatory surgical center charges to dental care that is provided by 1) fully accredited specialist in pediatric dentistry 2) a fully accredited specialist in oral and maxillofacial surgery and 3) a dentist to whom hospital privileges have been granted.</p>

State	Year	Patient Populations Affected	Who defines need	Location	Other
Virginia	2000	<ul style="list-style-type: none"> ◆ Child under 5 years of age ◆ Patient who is severely disabled ◆ Patient who has a medical condition and requires admission to a hospital or outpatient surgery facility and general anesthesia for dental care 	Licensed dentist in consultation with the patient's physician	Hospital or outpatient surgery facility	
Wash.	2001	<ul style="list-style-type: none"> ◆ Child under 7 years of age ◆ Physically or mentally disabled ◆ Medical condition that would place the person at undue risk if dental procedure were performed in a dental office 	Physician must determine medical condition risk and approve procedure	Hospital; medical or ambulatory surgical center	Dental coverage plans must cover general anesthesia provided in the dental office in conjunction with any covered dental procedure for child under age 7 or any person physically or mentally disabled.
West Va.	2009	<ul style="list-style-type: none"> ◆ Child 7 years of age or younger, or ◆ Developmentally disabled (no age limitation) ◆ An individual for whom a successful result cannot be expected from dental care provided under local anesthesia b/c of a physical, intellectual or other medically compromising condition ◆ Child 12 years of age or younger with documented phobias or mental illness, and with dental needs that treatment should not be delayed or deferred due to risk of infection, loss of teeth or increased chance of dental morbidity 	<p>Fully accredited pediatric dentist, or</p> <p>Fully accredited oral and maxillofacial surgeon, or</p> <p>A dentist to whom hospital privileges have been granted</p>	Hospital; medical or ambulatory surgical center	<p>Dental care coverage not required - Provisions may not be construed to require coverage for the dental care for which the general anesthesia is provided</p> <p>TMJ disorders – Provisions do not apply to dental care rendered for TMJ disorders</p> <p>Same deductibles, coinsurance and other limitations as they apply to other covered services</p>
Wis.	1997	<ul style="list-style-type: none"> ◆ Child under age 5 years ◆ Patient with a chronic disability ◆ Patient with a medical condition that requires hospitalization or general anesthesia for dental care 	Not specified	Hospital or ambulatory surgical center	

* The Alabama Academy of Pediatric Dentistry negotiated with BC/BS to adopt the guidelines as written in the draft bill as their state wide policy. In the state of Alabama, 85-90% of kids with medical insurance are covered by BC/BS.

** Michigan provision was a voluntary negotiated agreement between the Michigan Academy of Pediatric Dentistry, Michigan Dental Association, the Economic Alliance for Michigan, the Michigan Chamber of Commerce, Blue Cross Blue Shield of Michigan, and the Michigan Association of Health plans.

*** Nevada provision was adopted by the state's Commissioner of Insurance under a general regulatory authority, not based on a specific general anesthesia law.

NOTE: All laws permit the insurance carrier to require prior authorization for this coverage.

Legislation TOTAL= 32 States plus Puerto Rico

Information on state laws was accessed through each state's website.

These can be accessed through http://www.aapd.org/advocacy/general_anesthesia_legislation/.

ADA Guideline: The Use of Sedation and General Anesthesia By Dentists

C. Deep Sedation or General Anesthesia

1. Patient Evaluation

Patients considered for deep sedation or general anesthesia must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this must consist of at least a review of their current medical history and medication use and NPO status. However, patients with significant medical considerations (e.g., ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

2. Pre-operative Preparation

- The patient, parent, guardian or caregiver must be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and informed consent for the proposed sedation/anesthesia must be obtained.
- Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
- Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
- A focused physical evaluation must be performed as deemed appropriate.
- Preoperative dietary restrictions must be considered based on the sedative/anesthetic technique prescribed.
- Pre-operative verbal and written instructions must be given to the patient, parent, escort, guardian or caregiver.
- An intravenous line, which is secured throughout the procedure, must be established except as provided in part IV. C.6. Pediatric and Special Needs Patients.

3. Personnel and Equipment Requirements

Personnel: A minimum of three (3) individuals must be present.

- A dentist qualified in accordance with part III. C. of these Guidelines to administer the deep sedation or general anesthesia.
- Two additional individuals who have current certification of successfully completing a Basic Life Support (BLS) Course for the Health Care Provider.
- When the same individual administering the deep sedation or general anesthesia is performing the dental procedure, one of the additional appropriately trained team members must be designated for patient monitoring.

Equipment:

- A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.
- When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30 percent oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.
- An appropriate scavenging system must be available if gases other than oxygen or air are used.
- The equipment necessary to establish intravenous access must be available.
- Equipment and drugs necessary to provide advanced airway management, and advanced cardiac life support must be immediately available.
- If volatile anesthetic agents are utilized, an inspired agent analysis monitor and capnograph should be considered.
- Resuscitation medications and an appropriate defibrillator must be immediately available.

4. Monitoring and Documentation

Monitoring: A qualified dentist administering deep sedation or general anesthesia must remain in the operatory room to monitor the patient continuously until the patient meets the criteria for recovery. The dentist must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility. Monitoring must include:

- Oxygenation:
 - Color of mucosa, skin or blood must be continually evaluated.
 - Oxygenation saturation must be evaluated continuously by pulse oximetry.

- Ventilation:
 - Intubated patient: End-tidal CO₂ must be continuously monitored and evaluated.
 - Non-intubated patient: Breath sounds via auscultation and/or end-tidal CO₂ must be continually monitored and evaluated.
 - Respiration rate must be continually monitored and evaluated.
- Circulation:
 - The dentist must continuously evaluate heart rate and rhythm via ECG throughout the procedure, as well as pulse rate via pulse oximetry.
 - The dentist must continually evaluate blood pressure.
- Temperature:
 - A device capable of measuring body temperature must be readily available during the administration of deep sedation or general anesthesia.
 - The equipment to continuously monitor body temperature should be available and must be performed whenever triggering agents associated with malignant hyperthermia are administered.
- Documentation:
 - Appropriate time-oriented anesthetic record must be maintained, including the names of all drugs administered, including local anesthetics, doses and monitored physiological parameters.
 - Pulse oximetry and end-tidal CO₂ measurements (if taken), heart rate, respiratory rate and blood pressure must be recorded at appropriate intervals.

5. Recovery and Discharge

- Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.
- The dentist or clinical staff must continually monitor the patient's blood pressure, heart rate, oxygenation and level of consciousness.
- The dentist must determine and document that level of consciousness; oxygenation, ventilation and circulation are satisfactory for discharge.
- Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or caregiver.

6. Pediatric and Special Needs Patients

Because many dental patients undergoing deep sedation or general anesthesia are mentally and/or physically challenged, it is not always possible to have a comprehensive physical examination or appropriate laboratory tests prior to administering care. When these situations occur, the dentist responsible for administering the deep sedation or general anesthesia should document the reasons preventing the recommended preoperative management. In selected circumstances, deep sedation or general anesthesia may be utilized without establishing an indwelling intravenous line. These selected circumstances may include very brief procedures or periods of time, which, for example, may occur in some pediatric patients; or the establishment of intravenous access after deep sedation or general anesthesia has been induced because of poor patient cooperation.

7. Emergency Management

The qualified dentist is responsible for sedative/anesthetic management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of deep sedation or general anesthesia and providing the equipment, drugs and protocols for patient rescue.

AAPD Policies related to the use of general anesthesia include:

Use of Deep Sedation and General Anesthesia in the Pediatric Dental Office

Hospitalization and Operating Room Access for Dental Care of Infants, Children, Adolescents and Persons With Special Health Care Needs

Third-party Reimbursement of Medical Fees Related to Sedation/General Anesthesia for Delivery of Oral Health Services

AAPD Guidelines related to the use of general anesthesia include:

Behavior Guidance for the Pediatric Dental Patient

Use of Anesthesia Personnel in the Administration of Office-based Deep Sedation/General Anesthesia to the Pediatric Dental Patient

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The American Academy of Pediatric Dentistry (AAPD) is the recognized authority on children's oral health. As advocates for children's oral health, the AAPD promotes evidence-based policies and clinical guidelines; educates and informs policymakers, parents and guardians, and other health care professionals; fosters research; and provides continuing professional education for pediatric dentists and general dentists who treat children. Founded in 1947, the AAPD is a not-for-profit professional membership association representing the specialty of pediatric dentistry. Its 8,400 members provide primary care and comprehensive dental specialty treatments for infants, children, adolescents and individuals with special health care needs. For further information, please visit the AAPD website at <http://www.aapd.org> or the AAPD's consumer website at <http://www.mychildrensteeth.org>.

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