

## INTRODUCTION

There are a number of tools and strategies, both pharmacological and nonpharmacological, at the disposal of the dentist to relieve the fears of pediatric patients and provide dental care in a safe environment (1). The American Academy of Pediatric Dentistry (AAPD) categorizes these interventions under the greater umbrella of behavior guidance techniques (2). The AAPD differentiates between two categories of behavior guidance techniques: basic behavior guidance techniques and advanced behavior guidance techniques (3). Basic behavior guidance techniques include, but are not limited to, communication guidance, positive pre-visit imagery, tell-show-do, voice control, and nitrous oxide administration. Advanced behavior techniques are used for patients who can not otherwise tolerate dental care with the aforementioned techniques and include protective stabilization, sedation, and general anesthesia.

## INTRODUCTION CONT'D

The AAPD states that the majority of pediatric cases can be successfully treated using the basic behavior techniques(1), however, there has been a universal increase in the use of advanced behavior guidance techniques among pediatric patients, specifically general anesthesia administration (2).

In light of this trend, our goal is to review and outline the appropriate indications for sedation in the pediatric population to aid in proper case selection for advanced behavior guidance techniques like general anesthesia while ensuring those eligible for basic behavior guidance techniques receive them before escalating to more advanced and invasive options.

## METHODS & MATERIAL

A review of the current guidelines provided by the American Academy of Pediatric Dentistry(AAPD), the American Academy of Pediatrics (AAP), and the American Society of Anesthesiologists (ASA) was conducted in order to outline the current best practices and integrate recommendations from various disciplines.

## DISCUSSION

The AAPD, ASA and AAP have jointly recommended considerations for dental practitioners to follow when evaluating a pediatric patient's eligibility for general anesthesia and sedation (1,3). Case selection of pediatric dental patients to determine eligibility for general anesthesia should first and foremost include a thorough review of the patient's medical history, allergies, ASA classification, review of the patient's airway anatomy including Mallampati score, past adverse reactions to sedation, and family history, specifically that of a family history of past reactions to anesthesia (4). When assessing patients' ASA classifications, children who fall in ASA classes I and II are usually considered good candidates for minimal, moderate, or deep sedation. However, children in ASA classes III and IV as well as children with special needs, would need further individual evaluation, especially for moderate and deep sedation (3).

## DISCUSSION CONT'D

A full review of systems should also be conducted, with specific focus on cardiopulmonary, renal or hepatic issues that may lead to unexpected responses to anesthesia medications.

Special attention should be paid to children under the age of six, as they are at a higher risk for certain adverse reactions to general anesthetics.(5) This age range of pediatric patients, especially those under six months, are more susceptible to the effects of anesthetic medications and therefore more at risk to their negative side effects, including depression of respiratory drive, decreased airway patency, and loss of protective airway reflexes (5).

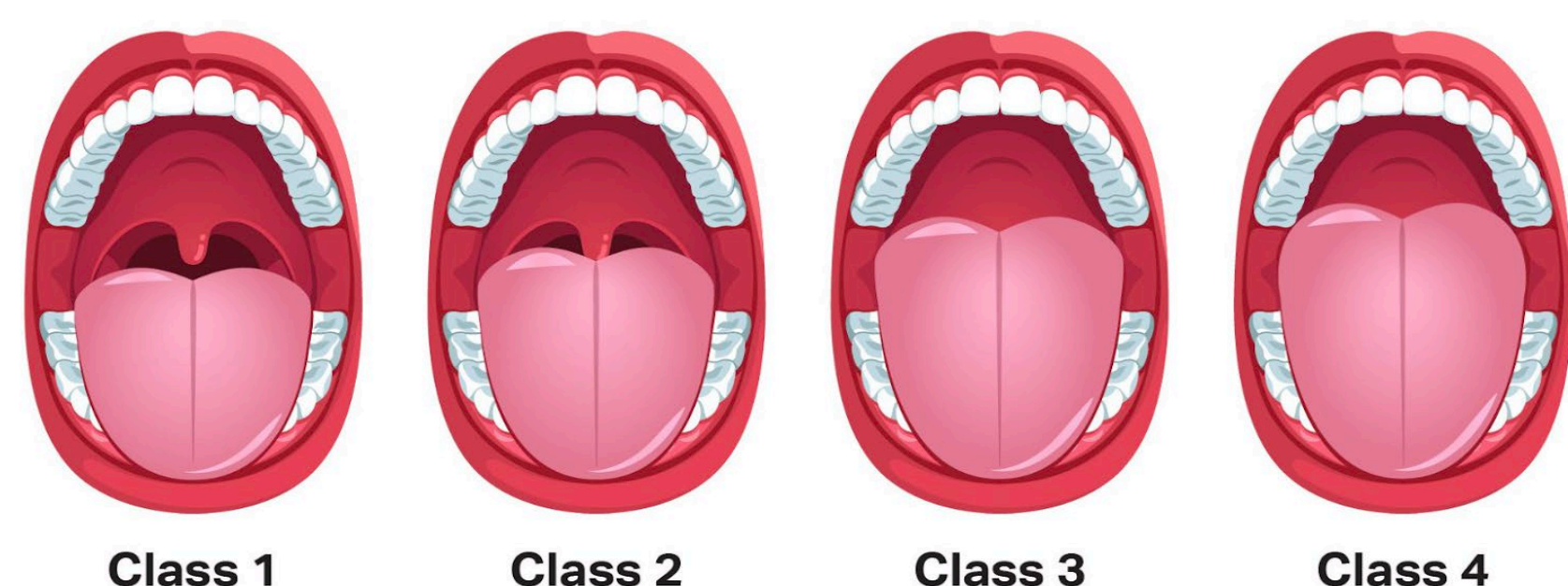
There are also combined indications and contraindications that have been put out by the AAPD. The table below (Table 1) was adapted from the current guidelines of the AAPD.

## TABLE 1

### INDICATIONS AND CONTRAINDICATIONS OF GENERAL ANESTHESIA IN PEDIATRIC DENTAL PATIENTS

INDICATIONS (1)	CONTRAINDICATIONS (1)
Local anesthesia is not effective due to acute infection, allergy, or anatomic variations.	A healthy patient with minimal dental needs who is capable of cooperating throughout the dental procedure.
Patients who are extremely fearful, anxious, or uncooperative.	A history of pre-existing medical conditions that would put the patient under greater risk if they were to undergo general anesthesia
Those who are unable to cooperate as a result of disability (mental, physical or medical) or delayed psychological or emotional development.	A very young child who only requires minimal dental interventions that can be managed with alternative methods or further treatment can be evaluated at a later date and the condition can be monitored for now.
Patients who need additional surgical procedures and overall exposure to anesthesia can be decreased by combining both dental and surgical interventions.	It is more convenient for the dental provider to perform the intervention under anesthesia.
Patients who are unable to communicate (those who have not yet developed language skills vs. those who are unable to communicate due to a specific syndrome) who will also require dental and surgical interventions and combination of these procedures can decrease anesthetic exposures.	
Dental emergencies including dental trauma, severe infection/cellulitis, acute severe pain that require immediate and extensive intervention.	

### The Mallampati Score



<https://www.sleepfoundation.org/sleep-apnea/mallampati-score>

## CONCLUSION

While deep sedation and general anesthesia may be the optimal choice of treatment for a select cohort of pediatric patients and are generally a safe and effective means of treating pediatric patients, the risk that accompanies every general anesthesia case should not be overlooked. The AAPD has outlined specific indications and contraindications to consider when employing sedation in addition to other clinical considerations when evaluating a potential sedation patient.(1,3) While basic behavior guidance techniques should still remain the dentist's first line tool when treating the pediatric population, advanced behavior guidance techniques can be appropriately employed when using the correct screening and protocols recommended by the AAPD.

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