

CHILD SELECTION AND PARENT SELECTION FOR PEDIATRIC SEDATION DENTISTRY

CHILD SELECTION

A number of factors can influence your selection of a child for pediatric sedation dentistry. Let's look at some of these.

CHILD AGE, WEIGHT, AND HEIGHT (THE BODY MASS INDEX –BMI)

A child that is very young (under two years) and very small (under 25 pounds) is not a good candidate for pediatric oral conscious sedation unless the practitioner is very knowledgeable and experienced in the young and/or small child. Remember, not every child is on the norm analyzing age, weight, and height. The Body Mass Index (BMI) is measure of body fat according to sex, weight, and height. BMI is the weight (lbs) + height (inches) + height (inches) times 703. A patient with a BMI greater than 30 is considered obese. Calculate the BMI of a child before selection for sedation. BMI charts are available on many websites. They also can be obtained at www.aapd.org/policies "Body Mass Index (BMI) charts. In general unless you are a very knowledgeable and experienced pediatric dentist or general dentist, select the children ages 5 to 12 with weights within normal limits in considering pediatric oral conscious sedation. Obesity is a common childhood disease. The obese child when sedated and laying supine on a flat surface can exhibit airway problems (see 3. below).

HEALTH HISTORY PROBLEMS AND MEDICAL DISORDERS

There are numerous health history problems and medical conditions that should make the child with these a poor candidate for pediatric oral conscious sedation. Let's review some of the more common childhood health problems and medical conditions. Remember, the ABC of Airway, Breathing, and Circulation. Ask yourself if a health problem or a medical condition can be compromised by sedative drug/s.

1. Large Tonsils and Adenoids with Resultant History of Mouth Breathing and Snoring

It was customary decades ago to remove tonsils and adenoids if there was a history of repeated sore throat, snoring, mouth breathing, etc. Today, removal of tonsils and adenoids is uncommon. Therefore, we encounter more children with large tonsils and adenoids with the resultant symptoms of mouth breathing, obstructive snoring, and sleep disorders. These symptoms are a direct result of a smaller airway thus causing the mouth to open wider to breath and the noise of this breathing. However, about 10-20% of children can have intermittent non-obstructive snoring. Children with smaller airways are poor candidates for pediatric oral conscious sedation.

2. Decreased Nasal Opening and Chamber Size With Resultant History Mouth Breathing

The nasal passage can be smaller in volume and opening due to many factors. These include: congenital deformities involving the nose (i.e. Craniofacial anomalies, cleft palate, nasal septum deviation, etc.), seasonal allergies causing nasal congestion, and midface trauma (i.e. sports injury, bike accident, etc.). The smaller capacity of nasal volume often results in mouth breathing, snoring, and sleep disorders. Children with small nasal openings and small volume of the nasal chambers are poor candidates for pediatric oral conscious sedation.

3. Over Weight Condition and Obesity History

Overweight children are approximately 20% above their ideal body weight. Obese children are greater than this. Morbid obese children are two times the ideal.

Excessive weight in the obese child can compromise the airway by the distribution of excessive fat tissue near the neck and upper thoracic areas. When the obese child is placed in a supine position, the airway is impinged upon even greater by this fat tissue as well as the cephalic displacement of the diaphragm from excessive fat tissue near the waist. Obese children have decreased chest wall compliance and decreased lung volume that increases breathing efforts. Fatty liver may result in abnormal drug metabolism. Other diseases that are linked to childhood obesity are: diabetes, cardiovascular disease, high blood pressure, gastroesophageal reflux, endocrine disorders, sleep apnea, etc. Obese children are poor candidates for pediatric oral conscious sedation.

4. History of Shorten Neck, Maxillary and Mandibular Discrepancy.

Children have a shorter neck and proportionately larger tongue and head when compared to an adult. This anatomical difference can lead to occluding of the airway when children are placed in the supine position. Certain medical syndromes in children have a greater tendency for even shorter necks (i.e. Down's Syndrome, certain storage diseases, certain inborn errors of metabolism, etc.). Certain medical conditions in children can exhibit maxillary prognathia or mandibular retrognathia (Treacher-Collins, Pierre Robin, etc.) where there is a discrepancy in jaw position causing difficulty in mouth and airway opening. Children with shortened neck, maxillary prognathia or mandibular retrognathia are poor candidates for pediatric oral conscious sedation.

5. History of Multiple Allergies

It is common today for children to have some allergies. Children with multiple allergies of foods, liquids, environmental insults, insect bites, animal fur, drugs,

anesthetics, etc. are usually under the supervision of a pediatric allergist and have undergone numerous testing episodes for new allergies. Some may be on continual medication and carry emergency medication should an allergic reaction occur. In some instances, the materials (rubber, latex, etc.) and drugs (antibiotics, anesthetics, etc.) introduced to the child at the dental office can cause an allergic reaction. Children with a history of multiple allergies are poor candidates for pediatric oral conscious sedation.

Consultation with the child's physician/s is recommended before considering any sedative program. Synopsis of this consultation and any recommendations of the physician/s should be documented in writing. Even if given the clearance to use a sedative drug/s by the child's physician/s in writing, it still does not release the dentist from liability should a problem occur during sedation. For this reason, if a child has even the slightest chance of out of the ordinary risk, then do not perform pediatric oral conscious sedation.

6. History of Respiratory/ Pulmonary Problems, Asthma and other Disorders of Breathing

Numerous respiratory and pulmonary problems exist in children as the result of infections, allergies, environment insults, etc. Children with chronic respiratory and pulmonary problems have breathing centers that are less sensitive to normal stimuli for breathing. Sedative drugs can depress this sensitivity even more. If sedative drug/s that depress respiration to varying degrees are used, care must be taken to minimize further respiratory problems. The child with a history of numerous respiratory and pulmonary problems secondary to infection, allergies, environment insults, etc. is poor candidates for pediatric oral conscious sedation.

Asthma, which effects over 7% of the population and approximately one in four urban children, is a chronic disease caused by inflammation and thus narrowing of the airway (bronchi). Exacerbations or attacks are the acute phase of this disease that causes difficulty in breathing. The airway is hypersensitive to spasms (brochospasms), which can lead to airway closure. History of shortness of breath, wheezing, and tightness of chest are hallmark symptoms of the disease. Although asymptomatic between attacks, the attack can occur with alarming onset. An attack can be caused by stress, allergy, infection, environmental insult (dust, fumes, smog, cold temperature, etc.) and drugs. Analysis of the drug therapy to treat asthma in children is essential. Drug treatment includes allergen immunotherapy (steroids) and bronchodilation. The frequency of attacks is also an important fact. Persistency of attacks has four ranges – intermittent, mild, moderate, and severe. The asthmatic child with a history of continued drug therapy and repeated asthmatic attacks is a poor candidate for pediatric oral conscious sedation.

Other respiratory and pulmonary disorders can include chronic obstructive pulmonary disease (COPD), cystic fibrosis, pneumonia, bronchopulmonary dysplasia, diaphragmatic hernia, and hyaline membrane disease. The child with these is also a poor candidate for pediatric oral conscious sedation.

Obstructive Sleep Apnea Syndrome (OSAS) caused by enlarged tonsils and adenoids is a disorder that causes daytime attention and behavioral problems. The child with OSAS is a poor candidate for pediatric oral conscious sedation.

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7. History of Cardiovascular Disorders

Cardiovascular disorders in children range from the common (heart murmurs) to the rare (serious congenital cardiac malformations). All of these present with inherent risk factors. Children with surgical correction of congenital malformations present with other risk factors as well. The children with more than common childhood heart murmurs are poor candidates for pediatric oral conscious sedation.

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8. History of Central Nervous System (CNS) And Neuromuscular Disorders

CNS and neuromuscular disorders in children can include seizure disorders, ventricular shunts, cerebral palsy, muscular dystrophies, post head trauma paralysis, severe migraine headache syndromes, multiple sclerosis, and a host of other disorders. Many of these disorders involve compromised neuromuscular function that can affect respiratory function and airway management. Certain CNS and neuromuscular disorders like ADHD, bipolar, and autism have emotional and behavior problems that require medications that may alter mood and activity. Use of further sedative drugs may interfere with these drugs. In general, children with many of the CNS and/or neuromuscular disorders are poor candidates for pediatric oral conscious sedation.

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9. History of Diabetes And Other Gastrointestinal Disorders

Childhood or juvenile diabetes is a chronic disease the gastrointestinal, metabolic, and cardiovascular systems. It is caused by the inability of the pancreas to produce insulin or of the body to appropriately use insulin. Complications include retinopathy, digestive problems, peripheral arterial obstruction, increased risk for cardiac arrest and stroke, neuropathy, and kidney failure. Although the disease can be controlled with diet and drugs, this is often difficult in children and adolescents. Children not under strict disease control are poor candidates for pediatric oral conscious sedation.

Other gastrointestinal disorders in children include gastroesophageal reflux disorder (GERD), esophageal atresia, dysphasia, chronic constipation or diarrhea disorders, liver diseases, gastrointestinal bleeding (ulcers), self-induced vomiting (anorexia and bulimia), etc. In many of these disorders the use of orally administered sedative drug/s may be problematic with swallowing, refluxing, and gastric absorption. As such, children with many of these disorders are poor candidates for pediatric oral conscious sedation.

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10. History of Kidney Disorders

Kidney disorders in children are less likely than that of the adult. Many are caused by congenital malformations or infections. Since many drugs are cleared through the kidneys, renal disease may prevent the use of certain drugs. Children with renal disease and compromised renal function are poor candidates for pediatric oral conscious sedation.

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11. History of Mental Challenging and Behavioral Disorders

Children can have mentally challenging conditions and developmental delay disorders that may result from hereditary or chromosomal disorders (Downs Syndrome, Turners Syndrome, etc.) birth trauma (hypoxia), head trauma accidents (auto, bike, etc.) and others. Behavioral disorders can include Autism, Bipolar Disorder, ADHD, and others that we discussed in item 7. above. Children with mentally challenging conditions, developmental delay disorders, and behavioral disorders are poor candidates for pediatric oral conscious sedation.

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12. History of Frequent Nasal Bleeding And Bleeding Disorders

Bleeding disorders in children can include such problems as frequent nasal bleeding to more serious blood dyscrasias such as hemophilia, etc. Uncontrollable nasal bleeding and oral bleeding in a child during dental treatment especially under sedation should be avoided. Children with frequent nasal bleeding as well as the more serious blood disorders are poor candidates for pediatric oral conscious sedation.

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13. History of Disruptive, Destructive and Dysfunctional Behavior

Children can have behavior that can be deemed difficult to manage even with the best pediatric orally administered sedative drug/s. Anger, belligerent, combative, attacking parents and strangers, use of inappropriate or offensive language, attached to parent and inability to separate, running away, tantrum, spitting, throwing objects, threats, etc. are but a few of the behavioral problems that can not only make pediatric oral conscious sedation difficult but place doctor, staff and even parents in great physical danger. The practitioner should use extreme caution in permitting children with these behavior expressions to undergo pediatric oral conscious sedation.

American Society of Anesthesiology (ASA) Physical Status Classification

(Grade)	ASA classification	(Grade)	Revised classification
1	class 1	1a	Normal healthy patient.
		1b	Patient with mild systemic disease. Normal health patient, with operative or anesthetic risk(s).
2	class 2	2a	Patient with moderate systemic disease. Patient with mild systemic disease, with operative or anesthetic risk(s).
		2b	Patient with moderate to severe systemic disease that does not limit activity. Patient with mild systemic disease, with operative and anesthetic risks. Patient with moderate systemic disease, with operative or anesthetic risk(s).
3	class 3	3	Patient with severe systemic disease that limits activity, but is not incapacitating. Patient with moderate systemic disease that does not limit activity, with operative and anesthetic risk(s). Patient with moderate to severe systemic disease that does not limit activity, with operative or anesthetic risks.
4	class 4	4	Patient with an incapacitating systemic disease that is a constant threat to life. Patient with severe systemic disease that limits activity, incapacitated.
5	class 5	5	Moribund patient no expected to survive 24 hours with or without operation.

In the event of emergency operation, precede the number with an E.

Summary for Child Selection

It seems like we have eliminated a lot of children from consideration of using pediatric oral conscious sedation. Not really! The majority of the children that need pediatric oral conscious sedation will be those in your practice that for one reason or another cannot cope with the situation of having dental care performed on them. They will have a non-remarkable health history. They will be normal children with a greater fear of dental care than others. They are good candidates for pediatric oral conscious sedation.

Rules to Live By in Making Your Decision

1. DON'T LET GUILT ENTER INTO YOUR DECISION OF CHILD SELECTION.

The child has a medical condition. You feel sorry for the child and parent. The parent says that the medical problem is under control. It's OK. It's not that much of a problem. Go ahead. Right? WRONG!

2. DON'T LET PARENTAL PRESSURE ENTER INTO YOUR DECISION. The parent promises that the child will be different the next time. The child won't hit and spit on you. Four letter foul words won't be used again. The child will be nice to your staff. Go ahead. Right? WRONG!

3. LISTEN TO YOUR GUT. It doesn't feel right that the physician said and then wrote that there would be no problems with sedating a child with severe asthma. The child's asthma is controlled with medication. After all, it's only a short case and the last asthma attack was last week but that was at camp because the child overexerted himself. Go ahead. Right? WRONG!

4. SUCCESS STARTS WITH THE PROPER CHILD SELECTION. REFERRAL SHOULD ALWAYS BE AN OPTION. It is better to refer a child that is a poor candidate for pediatric oral conscious sedation to a dental specialist for either intravenous or inhalation general anesthesia in a hospital where all the necessary emergency preparedness for a particular problem are established in advance. In some instances where the medical condition is severe, these referrals are often transferred from the local hospital to a larger metropolitan children's hospital.

SELECTION OF PARENTS WHOSE CHILDREN MAY BE CANDIDATES FOR PEDIATRIC SEDATION DENTISTRY

Introduction

That's right. Now you get to review the factors that make a parent/s or guardian/s poor candidates even though their child may be acceptable for pediatric oral conscious sedation. Why anticipate successfully sedating a child when you suspect that your relationship with a parent/s will not be successful? Let's look at some of these factors.

Parental Presence At Consultation Visit

One or preferably both parents must be physically present at the consultation visit where the decision is to be made by the dentist concerning the use of pediatric oral conscious sedation on their child. Both parents should especially be present if there is a situation where the two parents do not live together and communication between the two is questionable (separation, divorce). Both parents may reside together but one spouse may be away from the home for extended periods of time (military assignment, traveling occupation, etc.). If this is the case, a telephone call consultation with the away parent might be useful. Problems have occurred when one parent is at the consultation visit, but does not give the other parent correct information. If the biological parent/s does/do not have custodial rights, then the legal guardian/s (relative, court appointed adult, etc.) will suffice. If the child is in foster care where the legal guardian is a court officer (i.e. judge, magistrate, etc.) the legal caregiver will suffice even though the court officer will sign legal consent.

It is important for you to evaluate the Level Of Understanding, the Ability To Adhere to Protocol, the Interest In The Child's Well Being, and the Trust Of The Practitioner And Procedure. This can only be done with the parent/s or legal guardian/s interacting with you in person.

Level Of Understanding

The level of understanding is influenced by language, intelligence, attention, and caring.

It is important that if the primary language is not English that the parent/s bring an interpreter to the consultation. If you or one of your staff members is fluent in the primary language, then that will suffice. It is important that the parent/s have the intelligence to comprehend the process and procedures that will be explained to them. Just because the parent/s sign the legal consent forms in their primary language doesn't mean that they understand pediatric oral conscious sedation. It is important that the parent/s have the attention necessary to follow the discussion step by step. Be careful of the parent/s that will just want to sign the consent without understanding it. Lastly, it is important that the parent/s exhibit

caring. Are they concerned about the child, the dental problems that the child has, and the treatment that needs to be done? Are they more concerned with the guilt, the peer pressure that they will experience, the possible costs, etc.? Language difficulties, insufficient intelligence, poor attention, and lack of caring can all lead to a lower level of understanding for a very complex process and detailed procedures. Parent/s with a low level of understanding because of language difficulties, insufficient intelligence, poor attention, and lack of caring are poor candidates to have their child undergo pediatric oral conscious sedation.

Ability To Adhere To Protocol

It is vital that the parent/s or legal guardian/s be able to follow specifically their responsibilities in the protocol for pediatric oral conscious sedation. A parent/legal guardian that cannot follow the simple preoperative and postoperative instructions is a poor adult for the supervision of a child needing preoperative and postoperative care. Factors that influence adherence for the parent/guardian are again their level of understanding, their intelligence, their attention, and their caring. The level of understanding can be raised by the dentist and/or the staff with information being presented in the primary language and in terms that are easily understood. Ability to adhere to protocol can be raised by the dentist and/or the staff with not only verbal discussion of directions in this primary language but also placement of these directions in written form. Verbal and written directions can also be enhanced by video presentations. Each time information is given to the parent/guardian by verbal language, written brochure, and video presentation of live and/or simulated situations, the level of understanding and ability to adhere to protocol is increased. If for some reason the level of intelligence is such that a parent/ guardian is having difficulty understanding and thus following directions, it might be helpful to have the parent/guardian have adult assistance from an outside source (relative, social service person, etc.) Attention to directions can also be enhanced by the repetitive explanation of directions so that the verbal, written, or video repetition of the information is received and acknowledged by the parent/guardian. Caring is the most difficult factor to enhance so that adherence to directions are achieved. Caring is an attitude. Caring is not like the level of understanding, intelligence, or attention that can be enhanced. Nor, can you replace a parent/guardian that lacks caring by another adult for the situation of a child. Parent/s or guardian/s that do not exhibit the ability to adhere to the pediatric oral conscious sedation protocol are poor candidates to have their child undergo pediatric oral conscious sedation.

Interest In The Child's Well Being

The interest of the parent/s or guardian/s in the child's well being can be best evaluated by a subjective analysis of parental or caregiver overall verbal discussion and non-verbal behavior. Is the parent or guardian more interested in themselves, their inconvenience from their daily routine, the financial obligation,

their guilt, their peer concern, their social situation, etc.? Does the parent or guardian display an interest in the seriousness of the sedation process or do they hurriedly want to sign forms, schedule an appointment and leave? After all, it's only about giving the kid some juice to put him to sleep to fix some teeth. How difficult is that? Interest is an attitude. It is not something that can be enhanced by the dentist and/or staff. The parent/s or guardian/s either have it or they don't! Parent/s or guardian/s that are not interest in their child's well being are poor candidates to have their child undergo pediatric oral conscious sedation.

Trust of the Practitioner

Some parent/s or guardian/s view the dentist as “not a real doctor”. They are suspicious of the ability of the dentist to be more than a technician. Consequently, their trust of the dentist and his/her abilities to perform pediatric oral conscious sedation is questionable. This trust can best be evaluated again by subjective analysis of the parental or caregiver overall verbal discussion and non-verbal behavior. Is the parent or guardian doubting or questioning your or other dentist's abilities in pediatric oral conscious sedation? Do they trust the procedures to be safe and effective? Are they looking around, rolling their eyes, sighing, shaking their head in disagreement, etc? Do they want the child under the care of a physician in a hospital or surgery center? Parent/s or guardian/s that do not trust the dentist or the procedures are poor candidates to have their child undergo pediatric oral conscious sedation.

Summary

It is equally important that the dentist evaluate both the child selection and the parent selection process. Both child and parent need to be GREAT candidates for pediatric oral conscious sedation. Many unsuccessful and litigious situation have been experienced by dentists when the child selection process is perfect but the parental selection process fails to identify problems in the parental presence, level of understanding, ability to adhere to directions, interest in the child's well being, and trust in the practitioner and the process. Don't let this happen to you. Evaluate both verbal discussion and non-verbal body language. Both can be invaluable to your decision. Remember to use your instincts as well.