



Review Article

## Understanding psychological and anesthetic needs in pediatric oral surgery - A narrative review

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### ABSTRACT

When kids have oral surgery done, it is crucial to think about their feelings and how they handle anesthesia. Children can get nervous and frightened about procedures, as their comprehension varies based on age and development stage. Younger kids benefit from explanations and comforting strategies, such as having a parent, which can lessen their fear. Furthermore, special needs or disabled children may require care to ensure they feel secure. When it comes to procedures like surgery, choosing the anesthetic is vital. Some cases call for just numbing locally, while others might need sedation or even general anesthesia, especially if the child is feeling anxious or if the procedure is intricate in nature. It is also crucial to manage pain after the surgery – to make sure that the child feels comfortable throughout their recovery period. During the procedure itself, it is important to monitor the child's signs as a safety precaution. We will be discussing both the considerations in this review article. By considering the well-being and pain management needs of children undergoing surgery, procedures can become less overwhelming for them and result in improved overall results for young patients.

**Keywords:** Anesthesia, Comfort, Pain management, Safety, Well-being

### INTRODUCTION

Oral surgery is stressful to anyone, but to children, it has several individual challenges that have to be planned in utmost detail. Children are at a different stage of psychological and physical needs than adults, and their perception and management when undergoing surgery differ with their age, developmental stage, personality, and previous experiences under medical care.<sup>[1]</sup> A child's fear of the unknown, added to the discomfort and foreign setting, such as that of a dental office or operating room, can be overwhelming without the right preparation and care.<sup>[2]</sup>

One of the most important considerations in children's oral surgery is anxiety management. Younger children really do not know what's happening, and by being in a medical setting, fear alone may set in. While older children are better informed, they still might be apprehensive about the process itself or about possible pain. Therefore, there is a need to explain the process to the child in a fashion he can understand. One can use simple language that fits the child's age, show the tools to him in a harmless manner, or allow him to ask questions to reduce his fears. In addition, having a parent or caregiver present during preparation may help young children feel safer.<sup>[3]</sup>

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For children with special needs or disabilities, adaptation of the approach to meet individual requirements is important. Such children may require more reassurance or communication, and some may need adjustments to accommodate their safety and what they are being told. Furthermore, making an environment comfortable and welcoming could make a significant difference.<sup>[4]</sup>

The anesthesia chosen for the oral surgery is another significant determining factor. Based on the level of complexity of the procedure and the child's tolerance, anesthesia has several approaches. Simple procedures are normally managed by local anesthesia alone, which numbs the area being treated.<sup>[5]</sup> Sedation or general anesthesia might be considered based on the anxiety level of the child or if it is a more complex procedure. The child will remain conscious but relaxed under sedation. In general anesthesia, the child sleeps during the whole procedure. It is crucial to ensure which option is the safest and most effective to reduce stress and pain while being certain about a smooth procedure.<sup>[6]</sup>

While management of pain is just as important after the surgery, children must feel comfortable to help them avoid any fears associated with dental care in the future. Given proper pain relief, whether this is medication or something like a simple cold compress, ensures that the process is less arduous. Another aspect that follows closely is monitoring the child for any problems and acting on them straight away. In short, a successful oral surgical experience requires understanding and addressing the psychological as well as anesthetic needs of the child undergoing the process. By focusing on their emotional well-being, by making the environment supportive, and by careful management of anesthesia and pain, providers can make the process less intimidating and help ensure better outcomes for young patients.<sup>[7]</sup>

## REVIEW

When handling juvenile patients, a number of psychological problems need specific attention, especially when it comes to medicinal or therapeutic interventions. Personalized anxiety-reduction techniques are necessary because anxiety disorders, such as generalized anxiety and specific phobias, can cause increased stress reactions during operations. Individualized strategies are necessary to guarantee comfort and collaboration for children with autism spectrum disorder, who may have sensory sensitivity, communication difficulties, and trouble adjusting to adjustments in their daily routines.<sup>[8]</sup> Problems with impulse control or focus can result from Attention Deficit Hyperactivity Disorder, which may call for changes to the surroundings or method of therapy. Acute stress reactions or hyperarousal are two symptoms of post-traumatic stress disorder, which makes some treatments very upsetting and necessitates trauma-informed care.

Supportive interventions are necessary to smooth transitions because separation anxiety, frequently observed in younger children, can exacerbate discomfort when separated from caregivers.<sup>[9]</sup> A child's comprehension of the situation may be affected by intellectual limitations, necessitating additional time and other communication techniques. Last but not least, depression in kids might show up as emotional changes, decreased energy, or withdrawal, which can make it harder for them to participate in treatment and call for a kind, understanding approach. To reduce suffering and guarantee the best results, each of these disorders needs a comprehensive evaluation and a customized care plan.<sup>[10]</sup> Table 1 presents key considerations for managing pediatric patients in medical and dental settings, including factors such as the child's developmental stage, anxiety and fear management, parental involvement, and accommodations for special needs children to ensure a comfortable and stress-free experience.

**Table 1:** Considerations for managing pediatric patients in medical and dental settings

Consideration	Details
1. Child's developmental stage	Age, maturity, and temperament impact understanding and emotional response. Younger children may need simpler explanations and reassurance.
2. Anxiety and fear management	Techniques like tell-show-do, play therapy, and involving parents can help reduce anxiety. Preoperative relaxation methods may be required.
3. Parental involvement	Some children may feel safer with parents present, while others may be less anxious when alone. The decision is based on the child's temperament.
4. Special needs children	Children with disabilities (e.g., autism) may require adaptations to the environment (e.g., noise reduction, predictable schedules) to minimize stress.

## ANESTHETIC CONSIDERATION

For the safe and efficient management of pediatric patients receiving anesthesia, a number of important criteria must be carefully taken into account. Among these include the child's age, which can affect the risk of perioperative complications as well as pharmacokinetics. Given that pre-existing diseases such as respiratory or cardiovascular problems may influence anesthetic options, a comprehensive evaluation of the child's medical history is essential. To reduce risks during the perioperative phase, physical health status, including dietary status and the existence of any acute or chronic disorders, must also be assessed. Anxiety levels are important to take into account because high levels of anxiety might make the induction

and recovery processes more difficult, requiring customized sedation or pre-operative measures. Anesthetic planning is influenced by the procedure's complexity, whether it be small or major; more invasive procedures frequently need more stringent monitoring and care. To help with drug selection and procedure, prior anesthetic reactions, such as emerging delirium or hypersensitivity, should be recorded. To avoid negative responses, any known drug allergies or sensitivities, particularly those to anesthetics, must also be found and treated.<sup>[11]</sup>

## DISCUSSION

Children who have to undergo oral surgery require careful attention in two specific areas: psychological considerations and anesthetic care. These are each important aspects of the surgery,<sup>[12]</sup> aiming to ensure the procedure is successful with a positive experience for the child. If these areas are appropriately managed, it will reduce any anxiety and ensure safety, leading to better outcomes. Table 2 highlights preoperative and anesthetic considerations for pediatric patients, emphasizing the importance of thorough medical assessments and appropriate sedation choices to ensure safe and effective procedures.

Consideration	Details
1. Preoperative considerations	A thorough assessment of medical history, physical status, and anxiety levels is crucial to determine the appropriate anesthesia plan.
2. Sedation and anesthetic consideration	Local anesthesia for minor procedures may be sufficient.

Children, especially younger ones, are least likely to understand what is happening during a medical procedure. This lack of understanding leads to fear and anxiety, which can make them reluctant to cooperate. Children often view doctors, needles, and surgery as scary or painful, so helping them understand the procedure beforehand can improve cooperation. For instance, using simple language and visual aids, such as showing them a model of the tools that will be used, can help ease their fears. Techniques such as “tell-show-do,” where the dentist explains and demonstrates what is going to happen, can also be very effective at reducing anxiety.<sup>[13]</sup>

Young children may be comforted by having a parent present. However, all children are different: While one may feel better with the parent nearby, another may become more anxious. Each child must be assessed for their individual needs and preferences. Special needs children, such as those affected by autism, often need more tailored approaches, such as minimizing noise or creating a predictable environment that does not overstimulate them.

Another critical factor is the type of anesthesia or sedation to be used. Children do not always tolerate the same types of anesthesia as adults, so the safest and most appropriate method must be chosen. For less invasive surgeries, local anesthesia may be sufficient. This type of anesthesia numbs a specific part of the body, and the patient remains awake during the procedure, experiencing no pain.<sup>[14]</sup>

For more complex procedures or when the child is anxious and cannot remain still, sedation may be necessary. Nitrous oxide, also known as “laughing gas,” is the most commonly used substance to relax children. Its fast-acting and safe properties leave the child conscious but relaxed and less frightened. In some cases, oral sedatives are administered alongside nitrous oxide for enhanced effectiveness.<sup>[15]</sup>

General anesthesia would be required for highly invasive procedures or when the child is particularly young and sensitive to stress. This method puts the child completely to sleep during the surgery, ensuring they do not move and are pain-free. However, general anesthesia comes with higher risks and requires careful monitoring of the child's vital signs throughout the procedure. For this reason, it is typically used for more complex surgeries or when other options are not viable.

After surgery, pain management for the child is equally important. Pain relief must be age-specific, dependent on the type of surgery, and tailored to the individual child. Minor procedures may be controlled with over-the-counter pain medications such as ibuprofen or acetaminophen. For more extensive procedures, stronger medications may be required. Parents should be given information on how to manage pain at home and recognize any complications, such as infection or excessive bleeding. Pre-operative education is essential to ensure parents are well-informed about potential post-operative complications.<sup>[15,16]</sup>

## CONCLUSION

In caring for the psychological and anesthetic needs of children undergoing oral surgery, great caution and sensitivity must be employed. By addressing a child's emotional needs – helping them feel safe, reducing their fear, and ensuring they understand the procedure in an age-appropriate way – we can significantly improve their experience. Likewise, choosing the right anesthetic method ensures the child's comfort and safety throughout the surgery. The goal is not only to perform a successful procedure but to make the experience as stress-free and positive as possible, ultimately leading to good outcomes both during surgery and in the recovery period.

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