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Inhalation Anesthetic with Nitrous Oxide Used Well in Pediatric Dentistry

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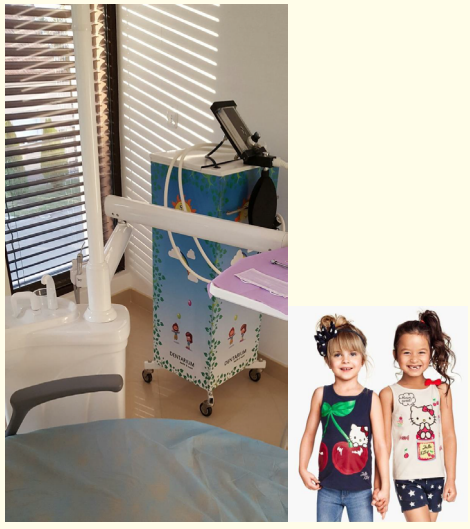
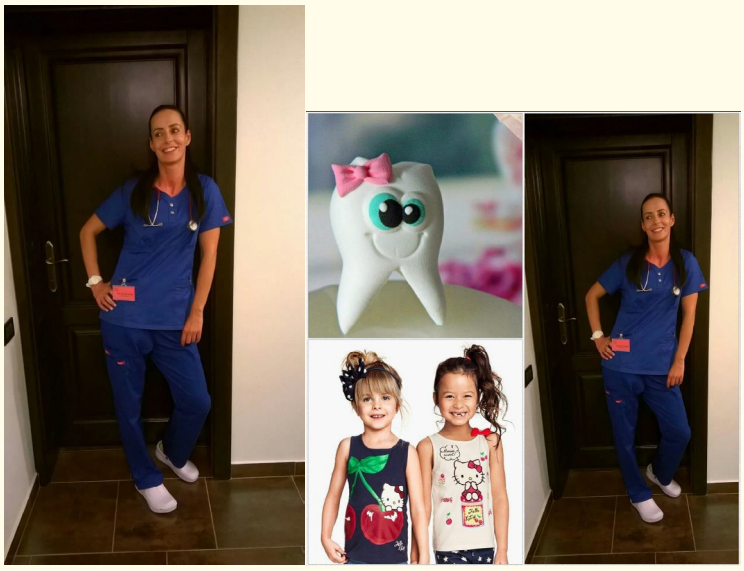
Nitrous oxide is the most commonly used inhalation anesthetic in pediatric dentistry. As a single agent, it has impressive safety and is excellent for providing minimal and moderate sedation for apprehensive dental patients. To gain a full appreciation of the pharmacology physiologic influences, and proper use nitrous oxide, one must compare it with other inhalation anesthetics.

The inhalation agents are excellent hypnotics, and at higher concentrations, they provide varying degrees of analgesia and skeletal muscle relaxation. The addition of high concentration of nitrous oxide to a mixture of gases accelerates the partial pressure increase of volatile anesthetic at the end of expiration, as well of their partial arterial pressure.





The presence of high concentrations of nitrous oxide has an effect of concentration and second gas, facilitating the pure inhalation induction by mask, especially in pediatric dentistry. The addition of high concentrations of nitrous oxide to sevoflurane during anesthesia induction in children promotes acceleration of the balance between the alveolar and inhaled concentration of the volatile anesthetic agent.

The administration of nitrous oxide to children sedated with moderate doses of chloral hydrate and hydroxyzine, when compared to oxygen administration, results is less crying and more pacific behavior, with no potentiation of the pharmacological effects on parameters such as heart rate, blood pressure, peripheral oxygen saturation and expired CO_2.

Healthy teeth for the children without pain!

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