

"Pedinap" - A Pediatric Anesthesia/Pharmacological Agent Induction Device

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Technology description

Background:

Pediatric patients present complications in settings where they are being administered medicines. In the hospital, anesthetizing a child can be both a difficult and traumatic process. Children, anxious in an unfamiliar hospital setting, are further frightened by having an anesthesia mask placed over their face. Moreover, in the home setting, children are often times reluctant to take their medication and may resist administration of medication because they do not want to sit still for it, such as in the setting of breathing treatments for asthmatic patients. Therefore, there is a clear need for a device that provides pediatric patients both an incentive to properly and calmly take their medications as well as reduce anxiety during medication administration so that the child is amenable to further repeated medication administration in the future.

Market:

Approximately 1.5 million children in the U.S. undergo surgery requiring general anesthesia each year. Furthermore, the market for inhalable therapeutics continues to rise and is projected to continue to grow.

Technology Highlights:

Faculty in the Anesthesiology Department at The University of Texas Health Science Center at Houston have patented a novel technology to aid in the delivery of pediatric medicines by inhalation. This device ("Pedinap") induces a pediatric patient to inhale a pharmacological agent by the use of a sensory stimulator, such as a visibly moving toy.

Features of Pedinap include:

- An age-specific "toy-like" device that allows for connection to an existing pediatric anesthetic mask or mouthpiece;
- A visual stimulus in response to air movement during inhalation and exhalation; and
- A toy component that may be in the form of a colored spiral or a colorimetric carbon dioxide detector that reacts to the patient's breathing and encourages them to breathe in order to receive the entertainment reward.

Pedinap is a flexible and inexpensive solution to many of the problems involved in administering medicines to pediatric patients. Pedinap works on principle that children will focus on the entertaining

and distracting display which is tied to breathing, and not focus on the unpleasant experience of taking medicines whether in a hospital setting or at home.

Institution

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