



# Drug Delivery Device for Oral Topical Medicine

Technology No. 20180269

**IP Status:** US Patent Issued; **Application #:**11,154,459

## Delivers Medication to Mouth and Throat

An intraoral device offers targeted drug delivery. The self-contained apparatus (which may or may not contain cartridges) is placed in the mouth between the upper and lower teeth. When compressed, the fluid chambers expel fluid through a nozzle onto the target surface (i.e., posterior oropharyngeal surface and palatine tonsils). The device provides rapid, targeted therapy for several conditions:

- post-operative pain (e.g., following tonsillectomy, UPPP)
- sore throat (infectious)
- pain and discomfort associated with nasogastric tubes (e.g., nasogastric tubes, nasojejunal tubes)
- mucositis-related throat pain (common side effect of chemotherapy)
- tonsillar hypertrophy resulting in obstructive sleep apnea
- possible use in targeting palatine tonsils (similar to adenoids, which benefit from topical steroids to decrease snoring)

## Rapid Onset and Longer Lasting Effect

Topical and systemic medications currently exist on the market, but none effectively or quickly deliver long-lasting medications to their targeted area. For example, current delivery mechanisms for throat sprays typically do not deliver effectively to the targeted area and do not guarantee repeatedly reliable dosing. Lozenges deliver a targeted topical therapy to an intended area but do not provide long-lasting relief. Systemic products taken orally (e.g., anti-inflammatory NSAIDs, ibuprofen) can take up to 45 minutes to achieve relief. Current products do not address the most important three components (rapid onset, targeted therapy and long lasting relief), but this new technology does. The intraoral device delivers a rapid-onset, targeted, long lasting therapy for sore throats and other conditions.

### **BENEFITS AND FEATURES:**

- Rapid-onset, targeted, long lasting therapy for sore throats and other conditions
- Self-contained oral apparatus
- Expels fluid through nozzle onto target surface (i.e., posterior oropharyngeal surface and palatine tonsils)

## **APPLICATIONS:**

- Sore throat treatment
- Pain and discomfort associated with nasoenteric tubes (e.g., nasogastric tubes, nasojejunal tubes)
- Mucositis-related throat pain (common side effect of chemotherapy)
- Possible use in targeting hypertrophic palatine tonsils in obstructive sleep apnea (similar to adenoids, which benefit from topical steroids)
- Pharmaceuticals; new drug delivery method for established pharmaceuticals

## **Phase of Development** - Proof of Concept; Prototype Development

### **Researchers**

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