



## Mechanical/Biomedical Sustainability Project

### Dental Surgery Device

#### Mission Statement

To develop and improve an affordable device for use in dental surgery to alleviate gum tissue change, improve flow rate, eliminate noxious bleach fumes, and storage of caustic chemicals.

#### Synopsis

Open Inventors wanted assistance in the development of a novel new device for use in dental surgery. Currently, dental surgeons use bleach (sodium hypochlorite) as a means of disinfecting and surface cleaning during endodontic surgery. The company has a new device that uses electrolyte reaction to separate a common electrolytic into an active and inactive solution. This approach has been tested with crude prototypes and preliminary data shows excellent performance. The unit consists of two main chambers each with an electrode and a connecting chamber.

The apparatus is designed to address the needs for root canal treatment by surgeons and dentists.

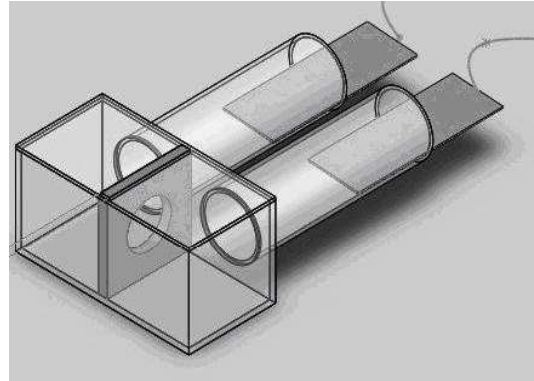
The project was broken into five phases. These phases were divided among the team members based on their field of concentration.

The phases were

- Research
- Designing Process
- Solid Works
- Manufacturing of Prototype
- Ordering Project Supplies

The project used the very latest 3D solid modeling computer software during the design thanks to a grant from the SolidWorks Corporation.

A basic structure of the new and improved prototype was successfully built.



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