

**Title: Multimodal Tracheostomy Valve**

<b>Invention Summary</b>	<p>Tracheotomy procedures provide an airway directly into the larynx and are performed on patients to facilitate ventilation. Tracheostomy ports are inserted in the surgical opening and provide a mechanical interface on the patient’s throat for adaptation to a mechanical ventilator. After long term ventilator therapy, many patients need to be weaned off the ventilator and their tracheostomy opening. As patients are weaned off mechanical ventilation, they will often use a series of valves that adapt to their tracheostomy port. For example, a one-way valve is used to help patients speak, while a blocker valve is used to wean people off the port by blocking the port entirely. The adapters and valves must be removed several times a day so a suction catheter can be inserted and secretions removed from the upper respiratory tract. The patients also remove the adapters when they get tired. Because the adapters and valves are removable, they’re often lost, misplaced or fall on the floor. This invention is a multimode tracheostomy valve that provides three modes of action in one device.</p>	
<b>Market Applications</b>	<p>This device would be beneficial for tracheostomy patients in hospital, rehab and residential settings.</p>	
<b>Features, Benefits &amp; Advantages</b>	<ul style="list-style-type: none"> <li>• The single tracheostomy port adapter allows easy switching between the following modes: a) blocked; b) open; c) one-way.</li> <li>• The adapter would provide convenience and reduce overall cost, and could reduce respiratory infections.</li> </ul>	
<b>Intellectual Property &amp; Development Status</b>	<p>This concept-stage invention is the basis for one of the design projects for the Bioengineering 3801/4801 Design Class sequence, and will be further developed in that context. It is available for developmental research support/licensing under either exclusive or non-exclusive terms.</p>	
<b>Related Research</b>		
<b>U of U Researcher</b>	<p>Kristin Mosman – Rehabilitation Therapies</p>	
<b>Student Liaison</b>	<p>Robert Hitchcock, PhD – Department of Biomedical Engineering</p>	
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