Disposable Impedance Adapter (DIA) for Ventilator
Assessment of Respiratory Function

Assessment of respiratory mechanical function in patients on mechanical ventilators is done using a measurement of impedance on ventilator pressure and flow, but when a patient is partially breathing for themselves, accurate respiratory function measurements cannot be determined using these parameters. The DIA solves this problem by providing a controlled oscillatory perturbation of the airflow delivered to the patient so that the impedance measurement can be done at a frequency range above that of the regular ventilation waveform using pressure transducers that are embedded within the DIA. The DIA is integrated into a patient’s ventilator between the endotracheal tube and the tubing of the ventilator and is disposable to minimize infection risk.

Applications:
- Ventilators in critical care, neonatal and ambulatory care settings.

Advantages:
- Provides accurate measurement of impedance, even in patients with active respiratory muscles.
- Disposable to minimize infection risk.
- Easily integrated into a patient’s ventilator

Intellectual Property and Development Status:
US Non-Provisional Application US20160007882A1
Looking for research collaboration and licensing opportunities.

Inventors:
Jason H.T. Bates

Contact Information:
Kerry Elizabeth Swift
Technology Licensing Officer
Kerry.Swift@med.uvm.edu
802-656-8780