



# New York State Pollution Prevention Institute

Rochester Institute of Technology ♦ 111 Lomb Memorial Drive ♦ Rochester, NY 14623  
585.475.2512, phone ♦ 585.475.6610, fax ♦ nysp2i@rit.edu ♦ www.nysp2i.rit.edu

## Life Cycle Assessment: Energy and Environmental Impact Comparison of three Welch Allyn Single Use Blood Pressure Cuffs

### Client

Welch Allyn is a privately-held, family-owned manufacturer of medical devices, products and solutions used by caregivers in doctors' offices, hospitals, and emergency response settings with headquarters in Skaneateles, NY.

### Opportunity Area

Welch Allyn's EcoCuff, a single patient use blood pressure cuff, was designed to be environmentally preferable to previous models by using less material and consisting of one, homogeneous material. Welch Allyn needed a method to quantify the environmental impacts of three versions of their disposable blood pressure cuffs in order to determine environmental preference when used in a single patient use manner, identify areas for future improvement, and establish the optimal end of life strategy.

### Work Performed

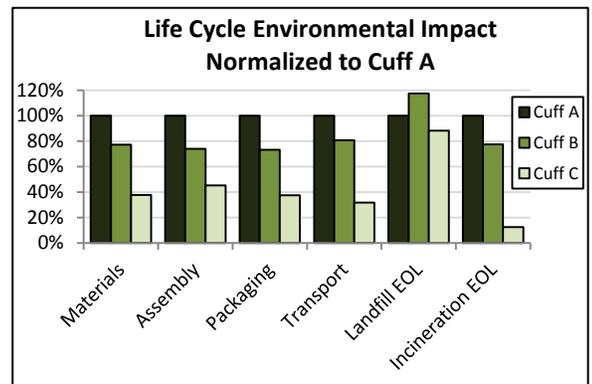
NYSP2I performed life cycle assessments (LCA) of three Welch Allyn blood pressure cuffs in compliance with ISO 14040 and 14044 LCA standards. Each cuff was modeled with two end of life scenarios – landfill and incineration – to determine the optimal end of life management strategy for each cuff.

### Results

LCA results show that the EcoCuff uses approximately 50-60% less energy and results in 50-60% less environmental impact than the other two disposable cuff models. LCA results were used internally and externally and Welch Allyn experienced additional benefits, as outlined below.

Results were used internally to understand & improve the environmental impact of the cuffs

- Dematerialization and material choices made by product designers were validated by the assessment
- Ability to understand the influence of Welch Allyn manufacturing operations and finished cuff packaging on the life cycle impacts
- Identify operations throughout the life cycle that contribute significant impact which allows the design team to focus on these processes to further reduce the impact of future designs



Results were used externally to communicate environmental impact of the cuffs

- Validate and support EcoCuff environmental claims made by Welch Allyn
- Educate and assist customers in making more informed purchasing and end of life management decisions

Additional benefits experienced by Welch Allyn

- Educate internal employees and engage other departments and processes that were not involved in the LCA
- Through inventory collection, Welch Allyn identified suppliers that are and are not dedicated to working with them to collect data

Winnebeck, March 2013

