Methods

This study was independently conducted with a research grant from Dräger to the University of Florida.

Results

During the maintenance phase of the simulated anesthetic, the median fresh gas flow rate dropped from 2.5 l/min to 0.98 l/min (p=0.001969) and the median liquid isoflurane consumption rate decreased from 16.05 ml/hr to 8.55 ml/hr (p=0.01286) when the Low Flow Wizard recommendations were made available. There was no significant difference in alveolar isoflurane concentration, mean arterial blood pressure or heart rate between the two groups, confirming that the anesthetics were equivalent.

Conclusions

Availability of the Low Flow Wizard results in large reductions (47% on average) in volatile liquid isoflurane consumption during the maintenance phase of simulated anesthetics. We anticipate a similar reduction in volatile anesthetic agent consumption when the LFW is used with actual patients, resulting in cost savings and reduced environmental pollution.