To the Editor,

Although Ramsay et al.’s evaluation of a bioacoustic sensor (BAS) to measure respiratory rate (RR) and apneas in patients at risk for respiratory depression appears to hold promise in the postanesthesia care unit—an area with considerable ambient noise—we question their methodology for generating reference values for RR and apneas and their comparisons between capnometry and BAS. The reference RR, from which accuracy and precision for the 2 monitors were calculated, was derived from a subjective assessment of the respiratory cycle by technicians, hired by the sponsor, who simultaneously viewed the capnograph and BAS waveforms, while listening to the breath sound signal. An unspecified “post processing” step generates a “reference RR” for each monitor, without detail on the thresholds for CO2 and the acoustic signal technicians used to establish airflow (breathing). The subjects were largely obese and had a high prevalence of obstructive sleep apnea. These patients typically experience hypopneas (reductions in airflow) after anesthesia that do not produce crisp endtidal plateaus on a capnograph nor clean airway sound envelopes.

To continue reading, visit http://napaanesthesia.com/wp-content/uploads/2014/01/Bioacoustics_Breaths_and_Biostatistics.35.pdf

Drs. Overdyk and Marino’s Letter to the Editor is in response to The Accuracy, Precision and Reliability of Measuring Ventilatory Rate and Detecting Ventilatory Pause by Rainbow Acoustic Monitoring and Capnometry by Michael A. E. Ramsay, MD,* Mohammad Usman, PhD,† Elaine Lagow, RN,‡ Minerva Mendoza, RN,§ Emylene Untalan, RN,§ and Edward De Vol, PhD