We begin this month with a look at clinical neuromuscular blockade and the question of whether an anticholinesterase improves or impairs patient recovery. Many editors and reviewers recommend routine antagonism of neuromuscular blockade unless full neuromuscular recovery has been documented with quantitative monitoring. Some authors caution against routine administration of anticholinesterase. Anticholinesterase administration to a patient in whom neuromuscular function has almost recovered could theoretically increase or decrease neuromuscular block. Dr. Glenn Murphy of NorthShore University HealthSystem, Evanston, Illinois, and colleagues there and at Northwestern University Feinberg School of Medicine in Chicago, evaluated the effect of neostigmine administration on neuromuscular function when it was given to patients after spontaneous recovery to a train-of-four ratio of ≥ 0.9. In this double-blinded, randomized noninferiority trial, 120 patients whose surgery required intubation received a small dose of vecuronium. At the conclusion of surgery, 90 patients who had spontaneously achieved a train-of-four ratio of ≥ 0.9 were randomized to receive either neostigmine 40 μg/kg or saline as the control. Train-of-four was monitored up to the time of reversal until PACU admission. Patients were monitored for postextubation adverse respiratory events and assessed for muscle strength. The authors found that neostigmine administration decreased the time to spontaneous recovery by 45 minutes and increased the need for additional ventilation. The investigators concluded that neostigmine administration is effective and safe to improve spontaneous recovery after spontaneous recovery of neuromuscular function and may be appropriate in consideration before extubation.