**Supplemental Digital Content 2**

**Bootstrap method for estimation of MED50ECT confidence intervals (CI) and resampling for evaluating the effect of sample size on estimated confidence limit**

The data from of 31 subjects who were evaluated in our randomized crossover trial for application of rocuronium and succinylcholine in ECT were used for analysis. This approach resulted in 31 minimum effective doses of rocuronium and 31 minimum effective doses of succinylcholine resulted in acceptable induced seizures among subjects. Using “boot” package in R statistical software, 10000 bootstrap replications, bias corrected 95% and 99% confidence intervals (CIs) for the medians of the minimum effective doses (MED50ECT) of rocuronium and succinylcholine were estimated. Similarly, CIs of 90 and 95 percentiles of the minimum (optimal) effective doses of rocuronium and succinylcholine were calculated (MED90ECT and MED95ECT).

To confirm that 31 subjects were sufficient to obtain reasonable 95% and 99% confidence limits of minimum effective doses of succinylcholine and rocuronium, 10, 15, 20, 25 and 30 subjects were separately resampled from the optimal effective doses. The above bootstrap technique with 10000 replications was performed in each one of the new datasets and 95% and 99%confidence limits for the estimates of the MED50ECT of each dataset were obtained. The results for the effects of sample sizes are shown below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **NMBA** | **Percentile** | **Number of subjects** | | | | |
| *Succinylcholine MED50ECT* |  | 10 | 15 | 20 | 25 | 30 |
|  | 0.1 | 0.6117 | 0.7146 | 0.6991 | 0.6991 | 0.7246 |
|  | 5 | 0.6305 | 0.7042 | 0.7135 | 0.7163 | 0.7392 |
|  | 95 | 1.0195 | 1.0213 | 0.9504 | 0.9467 | 0.9071 |
|  | 0.99 | 1.0823 | 1.0195 | 1.0305 | 1.0414 | 0.9553 |
| *Rocuronium*  *MED50ECT* |  |  |  |  |  |  |
|  | 0.1 | 0.3169 | 0.3660 | 0.3572 | 0.3489 | 0.3660 |
|  | 5 | 0.3329 | 0.3731 | 0.3725 | 0.3674 | 0.3877 |
|  | 95 | 0.5463 | 0.5174 | 0.4864 | 0.4746 | 0.4568 |
|  | 0.99 | 0.5488 | 0.5507 | 0.5117 | 0.5064 | 0.4669 |