**Supplemental Digital Content 6**

**Supplemental Table 3:** Blood gas analysis

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| **Parameter** | **Time point** | **Low-VT/Low-****PEEP/RM-** | **Low-VT/Moderate-PEEP/4RM+** | **Low-VT/High-PEEP/1RM+** | **High-VT/Low-PEEP/RM-** | **Time effect** | **Group effect** | **Interaction** |
| **pHa** | **After laparotomy** | 7.44 ± 0.04 | 7.42 ± 0.34 | 7.41 ± 0.04 | 7.44 ± 0.07 | P<0.0001 | P=0.966 | P=0.224 |
| **FDA4** | 7.28 ± 0.09 | 7.28 ± 0.07 | 7.34 ± 0.08 | 7.32 ± 0.09 |
| **PaCO2****(mmHg)** | **After laparotomy** | 33.9 ± 5.5 | 33.9 ± 5.5 | 33.71 ± 4.0 | 32.57 ± 7.0 | P=0.248 | P=0.669 | P=0.779 |
| **FDA4** | 32.1 ± 10.0 | 37.9 ± 10.7 | 38.3 ± 10.1 | 36.86 ± 10.8 |
| **PaO2/FiO2** | **After laparotomy** | 364 ± 92 | 427 ± 56 | 451 ± 67 | 382 ± 100 | P<0.0001 | P= 0.0087 | P=0.756 |
| **FDA4** | 309 ± 72 | 350 ± 97 | 412 ± 48 | 341 ± 100 |
| **Bicarbonate(mmol/L)** | **After laparotomy** | 23.4 ± 3.5 | 22.9 ± 1.4 | 22.1 ± 2.7 | 22.9 ± 2.3 | P<0.0001 | P=0.758 | P=0.173 |
| **FDA4** | 16.5 ± 5.3 | 17.8 ± 3.1 | 20.0 ± 2.2 | 17.4 ± 3.4 |

Blood gas analysis after laparotomy and at functional data acquisition time point 4 (FDA4). pHa: arterial pH; PaCO2: partial pressure of arterial carbon dioxide; PaO2/FiO2: ratio of arterial oxygen partial pressure to fractional inspired oxygen. Values are mean ± standard deviation (SD) of seven rats in each group. Low-VT/Low-PEEP/RM-: VT = 7 mL/kg with PEEP = 1 cmH2O and no RMs; Low-VT/Moderate-PEEP/4RM+: VT = 7 mL/kg with PEEP = 3 cmH2O and RMs before laparotomy and every 1 hour thereafter; Low-VT/High-PEEP/1RM+: VT = 7 mL/kg with PEEP = 6 cmH2O and RMs before laparotomy; High-VT/Low-PEEP/RM-: VT = 14 mL/kg with PEEP = 1 cmH2O and no RMs. Two-way repeated-measures ANOVA followed by the Bonferroni post-hoc test was performed. The following symbols (\*, †, ‡, §) represent Bonferroni-adjusted p-values according to multiple comparisons.