**Supplemental Digital Content: Appendix**

**Materials and Methods**

**Anesthesia and mechanical ventilation**

The experiments were conducted in March, April and May of 2018. Each experiment started in the morning at 8.00 AM upon arrival of the animal in the animal facility. Lambs received premedication by an intramuscular injection of midazolam (0.5 mg/kg) and ketamine (4 mg/kg). Anesthesia was induced by an intravenous bolus of propofol (2 mg/kg). After endotracheal intubation (cuffed tube), general anesthesia was maintained by isoflurane inhalation (0.5-2% volume) and continuous intravenous sufentanil infusion (20 µg/kg/hr). During the instrumentation phase, Ringer’s lactate was continuously infused to keep the total infusion volume to 3 ml/kg/hr. During the instrumentation phase, animals were ventilated using a volume-controlled mode with a tidal volume between 6-8 ml/kg, guided by end-tidal PCO2 and arterial blood gases, FiO2 started at 0.3, inspiration-to-expiration ratio of 1:1.5 and PEEP of 5 cmH2O using an anesthesia machine and ventilator (Datex-Ohmeda Medical). After the instrumentation phase, the mechanical ventilation was converted to a Servo-i ventilator (Maquet Critical Care, Sölna, Sweden) in order to perform static ventilatory measurements. As it not possible with this ventilator to deliver volatile anesthetics, the volatile anesthesia was ceased and general intravenous anesthesia (Sufentanil 20 µg/kg/hr, Ketamine 10 mg/kg/hr, Midazolam 0.3 mg/kg/hr and Propofol 8 mg/kg/hr) was started. Throughout the experiment, animals received continuous glucose infusion (2 µg/kg/min) to prevent hypoglycemia.