Supplemental digital content 3

Figure 1

Airway pressures above and below the obstructive stent plotted over frequency. PIP_{UPPER} (peak inspiratory pressure proximal of the stenotic stent, A), PIP_{LOWER} (peak inspiratory pressure distal of the stenotic stent, B), $PEEP_{UPPER}$ (positive end-expiratory pressure proximal of the stenotic stent, C) and $PEEP_{LOWER}$ (positive end-expiratory pressure distal of stenotic stent, D). Green circles represent observed values during superimposed high-frequency jet ventilation (SHFJV), and the mixed model prediction is shown as a green line. Red triangles are observed values from single frequency jet ventilation, with the red line indicating mixed model prediction. All observed values are mean and 95% CI. The predictive functions were derived from the mixed models that were applied on a continuous frequency spectrum ($50 - 600$ min^{-1}).
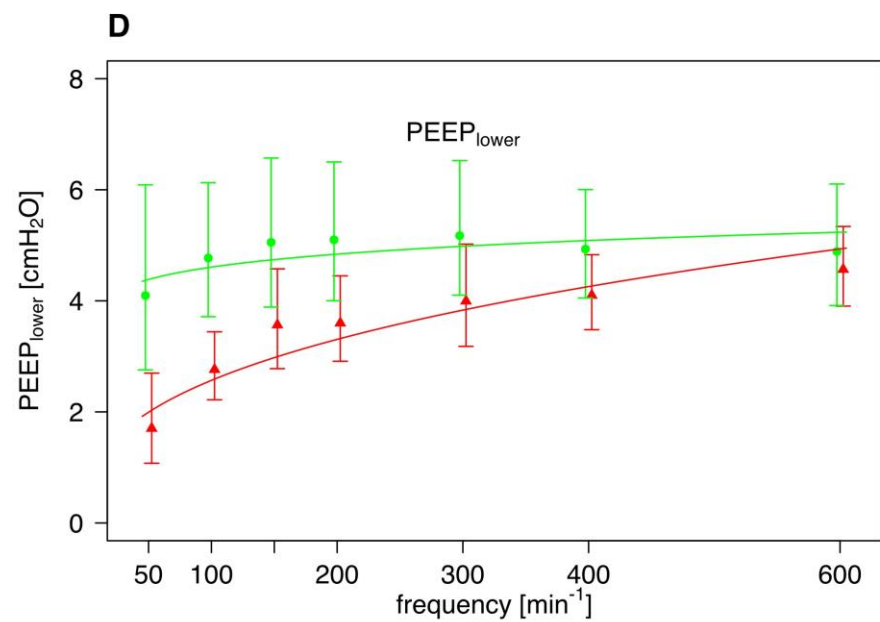
A

PIP$_{upper}$

PIP$_{upper}$ [cmH$_2$O]

frequency [min^{-1}]

B

PIP$_{lower}$

PIP$_{lower}$ [cmH$_2$O]

frequency [min^{-1}]

C

PEEP$_{upper}$

PEEP$_{upper}$ [cmH$_2$O]

frequency [min^{-1}]

D

PEEP$_{lower}$
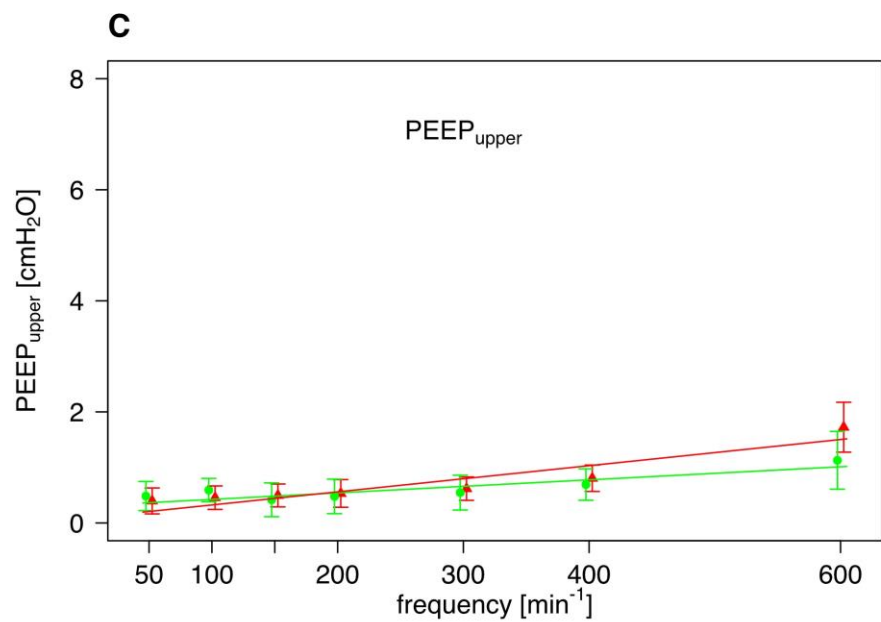
PEEP$_{lower}$ [cmH$_2$O]
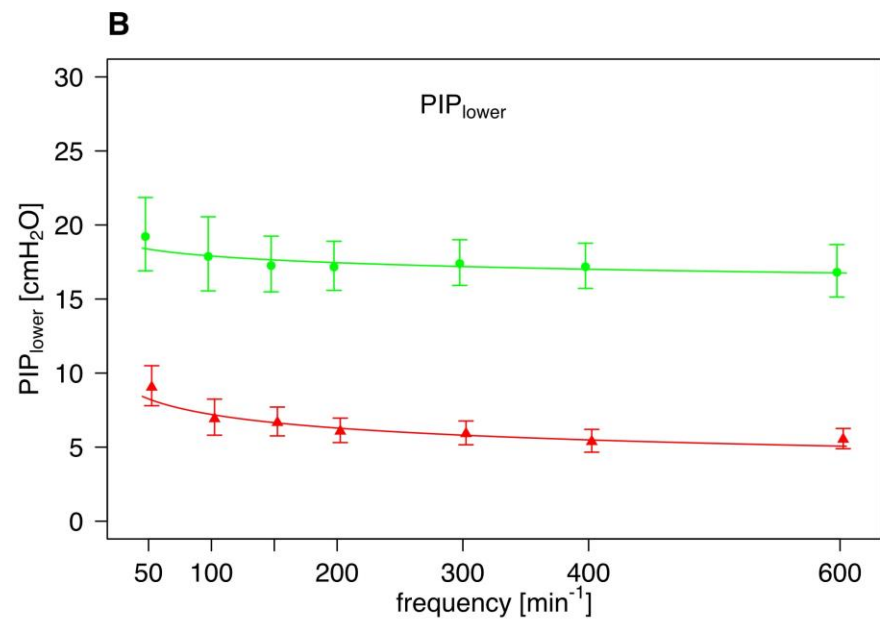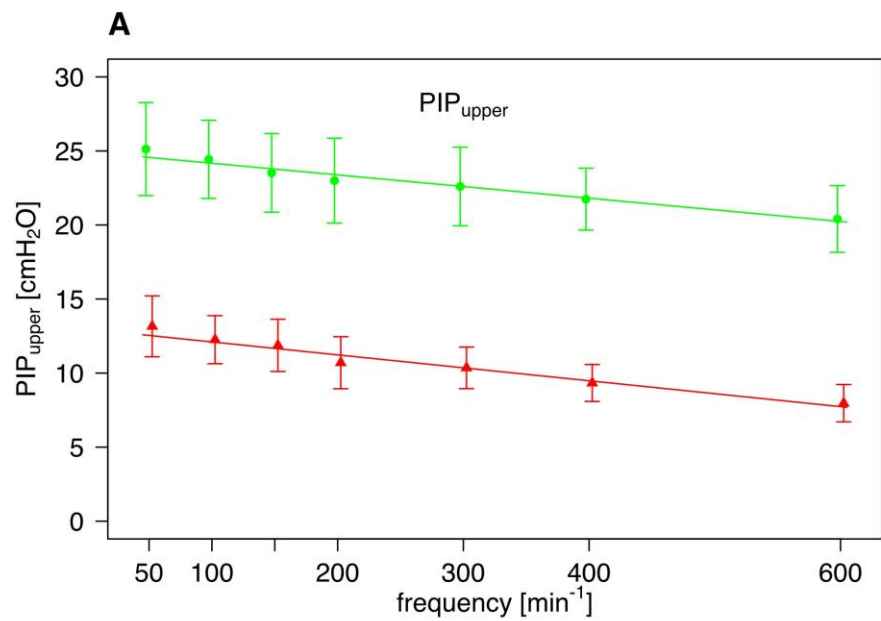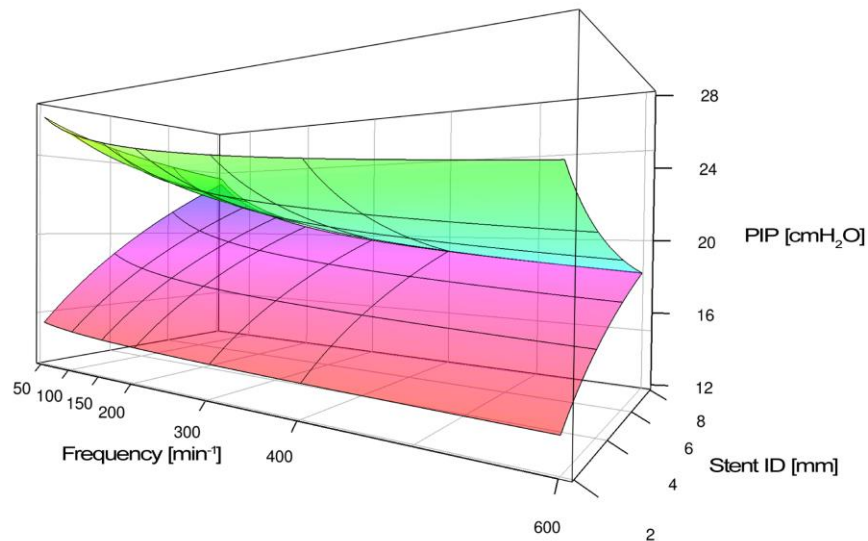
frequency [min^{-1}]

Figure 2

Three-dimensional illustration of the mixed model prediction for superimposed high frequency jet ventilation (SHFJV) in relation to stent inner diameter (stent ID) and frequency for PIP_{UPPER} (peak inspiratory pressure proximal of the stenotic stent) and PIP_{LOWER} (peak inspiratory pressure distal of the stenotic stent, both panel A) as well as $PEEP_{UPPER}$ (positive end-expiratory pressure proximal of the stenotic stent) and $PEEP_{LOWER}$ (positive end-expiratory pressure distal of the stenotic stent, both panel B). Pre-stenotic pressures are indicated as yellow-greenish surface, for post-stenotic pressure, the blue-purple surface applies. The predictive functions were derived from the mixed models that were applied on a continuous frequency $(50 - 600 \text{ min}^{-1})$ and obstruction spectrum $(2 - 8 \text{ mm})$.