**Supplementary Material**

Normal probability plots of the deleted residuals ((n-1)-fold cross validated residuals) for the outcomes and models in Table 4:

1. P/F ratio during anesthesia (P/Fratio an); unadjusted model.
2. P/Fratio an; multi-adjusted model
3. log(Shunt during anesthesia) = log\_Shunt an; unadjusted model
4. log\_Shunt an; multi-adjusted model
5. log\_lowV/Q during anesthesia) = log\_lowV/Q an; unadjusted model
6. log\_low V/Q an; multi-adjusted model

Predictors: Age and Body Mass Index (BMI). The models for Shunt also included Age2 as a predictor.

The multi-adjusted models were adjusted for hospital, sex, smoking (ever/never), forced vital capacity (FVC) in per cent of predicted, and tidal volume divided by ideal body weight during anesthesia. The latter was adjusted for hospital since the respiratory rate was set at a different target in the two hospitals.

All models were adjusted for the corresponding outcome measure in an awake state.











