

Supplemental Digital Content 3. **Additional prospective pilot study**. Seventeen mechanically ventilated patients who underwent a trial of totally unsupported respiration, (T-tube trial). Ultrasound data was recorded at the onset (START) and the conclusion (END) of the T-tube trial. Receiver operating characteristic curves depicting the relationship between the proportion of true-positive findings and the proportion of false-positive findings. Estimation performances on prediction of likelihood of successful extubation are represented as areas under the curve (AUC). AUC-START= 0.992; AUC-END = 0.982.