

**Supplemental Figure 1.** Extubation risk stratification checklist, which is embedded in the electronic order for extubation of adult mechanically ventilated patients (left). Completion of the checklist is required in to be able to sign the order. Depending on which of the risk factors are selected, the radio buttons are auto-populated (bottom left). If any of the risk factors for immediate failure or  $\geq 2$  risk factors for delayed failure are selected, automatic actions (right) take place, which include communications with the anesthesia airway service and respiratory therapy

## EMBEDDED EXTUBATION RISK STRATIFICATION

1) Risk Stratification

Check all applicable risks.  
If no risk factors, check "NO RISK FACTORS"  
For Risk of DELAYED Failure, check 2 Delayed Risk factors.

RISK OF IMMEDIATE FAILURE

↓

RISK OF DELAYED FAILURE

↓

☐ NO RISK FACTORS  
☐ History of difficult airway  
☐ Restricted airway access  
☐ Concern over difficult reintubation  
☐ C-spine surgery > 3 levels with operative time > 5 hours or Blood loss > 300 mL  
☐ Posterior fossa pathology  
☐ BMI greater than or equal to 45 kg/m<sup>2</sup>  
☐ Lack of cuff leak  
☐ Lack of spontaneous cough  
☐ Tracheal suctioning frequency > every 2 hours  
☐ Frequent oral suctioning  
☐ Failed > 3 previous SBTs  
☐ Age > 60 years  
☐ Coma, i.e. GCS < 10  
☐ Male gender  
☐ Chronic lung disease  
☐ Positive cardiac history  
☐ End stage kidney disease

2) Risk Level

Risk Level is automatically defined by Risk Stratification documentation.  
DO NOT CHANGE.

☐ At Risk: IMMEDIATE Failure  
☐ At Risk: DELAYED Failure  
☐ Low Risk of Failure

## AUTOMATIC ACTIONS FOR AT-RISK PATIENTS

### At risk of IMMEDIATE Failure

When an extubation order is placed on a patient at risk for Immediate Failure, 3 events occur:

1. EMR automatically sends a page to the Anesthesia Airway hot pagers:  
"Planned Extubation - High-risk for extubation failure. Anesthesia bedside assessment and standby requested promptly.  
Unit: ### Room: ### MRN: ### Extubation is held pending your evaluation."

2. EMR automatically places an RT Consult Extubation order with comment:  
"Patient at High Risk for IMMEDIATE Failure. DO NOT EXTUBATE UNTIL patient evaluated by Anesthesia."  
\*This order also triggers a task for Respiratory Therapy.

3. EMR automatically adds a comment to the Extubation of Airway order:  
"DO NOT EXTUBATE UNTIL evaluated by Anesthesia for extubation risk."

### At risk of DELAYED Failure

When an extubation order is placed on a patient at risk for Delayed Failure, 1 event occurs:

1. EMR automatically places an RT Consult Extubation order with comment:  
"Patient at High Risk for Delayed Failure. See ICU Extubation of Airway Checklist: RT to assess for BHP Protocol."  
\*This order also triggers a task for Respiratory Therapy.

**At LOW Risk of Failure:** No actions occur.

**Supplemental Figure 2.** The time of day at which patients were extubated is displayed as a frequency histogram using one-hour increments. The number of patients who were extubated during each one-hour window is displayed above the bar.

