

Respiratory Failure Tutorial

On the [Hospital Daily Progress Note](#) suite of templates, there is a tutorial on Respiratory Failure. You can find that tutorial by clicking on this link. In SETMA's EMR this function is found by:

- Accessing the Daily Progress suite of templates
- Clicking on Plan/Comment button in the list of navigation tools.
- Clicking on the box under the heading categories.
- Selecting the option for Respiratory Failure.

When the Respiratory Failure option is made, the following pop-up appears.

Progress Respfail [X]

Daily Progress Note Respiratory Failure

Type of Respiratory Failure Acute, Type I (pH < 7.3) [Causes](#) Acute, Type II (pH < 7.3) Chronic (pH > 7.3)
[Which type of failure?](#)
[Progress](#)

Suspected Cause:

Vital Signs
 Blood Pressure: 130 / 80
 Pulse: 80.00
 Pulse Ox: 0
 Respirations:
 FIO2: %

Review of Systems
 + -
 Cough
 Rhinorrhea
 Dyspnea
 Shortness of breath
 Fever
 PND
 Orthopnea
 Peripheral edema
 Pleuritic chest pain
 Weakness [Help](#)
 History of stroke
 History of seizure
 History of headaches [Help](#)
 Recent general anesthesia
 Exposure to sedatives
 (benzodiazepines, tricyclic antidepressants, narcotics, etc.)

Pulmonary Mechanics [Help](#)
 (measured on C-PAP)
 Spontaneous Breathing Rate: 26 /min
 Negative Inspiratory Force: -18.0 cm H2O
 Tidal Volume: mL
 Vital Capacity: mL/kg
 Rapid Shallow Breathing Index: 0 [Help](#)
 (if > 100, cannot extubate patient)

Physical Exam
[Cardiovascular Exam](#) [Neurological Exam](#)
[Respiratory Exam](#) [Constitutional Exam](#)

Current Ventilator Settings

Lab Results
 pH: //
 PaO2: mmHg //
 PaCO2: mmHg //
 HCO3: mEq/L //
 HGB: g/dL //

Laboratory
 AMI q 6 hours x3
 Ammonia, Serum
 Arterial Blood Gas
 CBC
 CMP
 Cortisol, AM
 Cortisol, PM
 CPK
 Magnesium
 Phosphate
 Sputum Culture
 Sputum Gram Stain
 TSH

Treatment [Help](#)
 Antibiotics
 Coumadin
 Diprovan
 Pulmonary Physiotherapy
 (Chest percussion, postural drainage, vibration)

Tests/Procedures
 Bronchoscopy
 Chest PA / Lateral
 Chest X-Ray, Portable [Help](#)
 CT Angiogram
 CT Chest
 Echocardiogram
 EKG
 Pulmonary Function Testing
 (once off ventilator)
 Pulmonary Mechanics
 Venous Doppler
 VQ Lung Scan

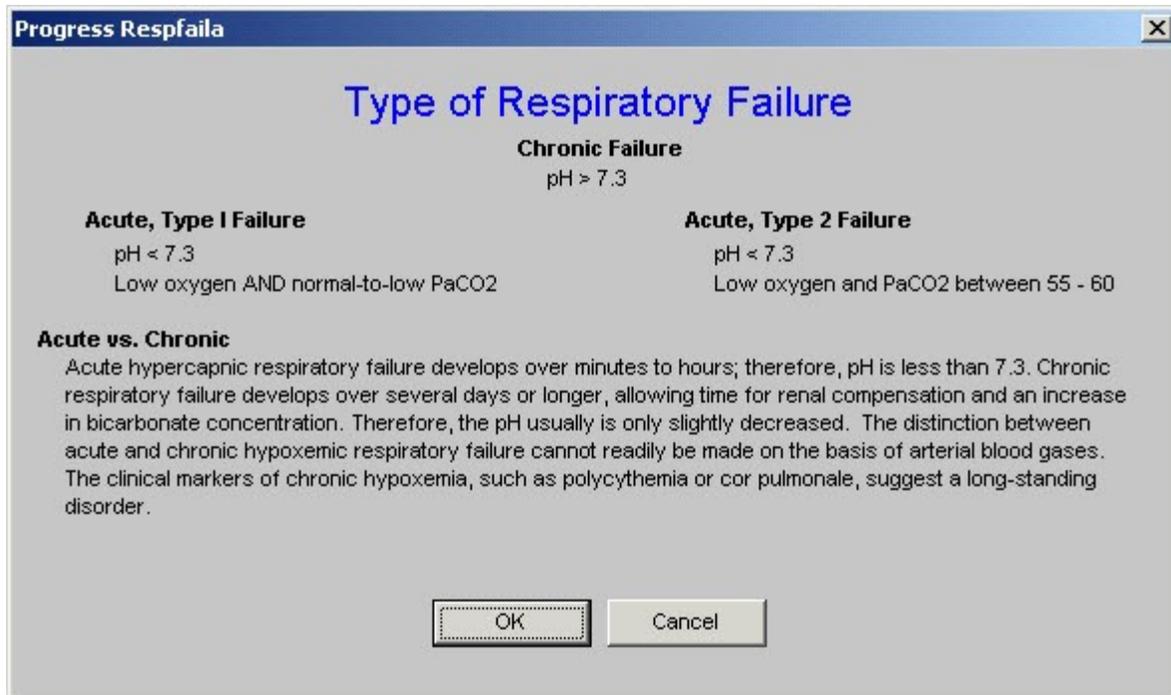
Check for fecal impaction
 Enemas until clear
 Pulmonary Rehabilitation
 Range of Motion
 Strengthening
 Thoracentesis

[New Ventilator Settings](#)
[Preparation for Extubation](#)

OK Cancel

This template has a number of special features:

- At the top of the template is a function entitled **Which Type of Failure?** When that button is depressed the following appears:



This allows for a designation of the kind of respiratory failure.

- To the right of the **Which Type of Failure** button is a button entitled **Causes**. When that button is depressed a pop-up appears which is entitled, **Common Causes of Acute Respiratory Failure**.

Progress Respfail

Common Causes of Acute Respiratory Failure

Type I Failure (hypoxemic)	Type II Failure (hypercapnic)
<input type="checkbox"/> Chronic bronchitis and emphysema (COPD)	<input checked="" type="checkbox"/> Chronic bronchitis and emphysema (COPD)
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Severe asthma
<input type="checkbox"/> Pulmonary edema	<input type="checkbox"/> Drug overdose
<input type="checkbox"/> Pulmonary fibrosis	<input type="checkbox"/> Poisonings
<input type="checkbox"/> Asthma	<input type="checkbox"/> Myasthenia gravis
<input type="checkbox"/> Pneumothorax	<input type="checkbox"/> Polyneuropathy
<input type="checkbox"/> Pulmonary embolism	<input type="checkbox"/> Poliomyelitis
<input type="checkbox"/> Pulmonary artery hypertension	<input type="checkbox"/> Primary muscle disorders
<input type="checkbox"/> Pneumoconiosis	<input type="checkbox"/> Porphyria
<input type="checkbox"/> Granulomatous lung diseases	<input type="checkbox"/> Cervical cordotomy
<input type="checkbox"/> Cyanotic congenital heart disease	<input type="checkbox"/> Head and cervical cord injury
<input type="checkbox"/> Adult respiratory distress syndrome	<input type="checkbox"/> Primary alveolar hypoventilation
<input type="checkbox"/> Fat embolism syndrome	<input type="checkbox"/> Obesity hypoventilation syndrome
<input type="checkbox"/> Kyphoscoliosis	<input checked="" type="checkbox"/> Constipation
<input type="checkbox"/> Obesity	<input type="checkbox"/> Pulmonary edema
	<input type="checkbox"/> Adult respiratory distress syndrome
	<input type="checkbox"/> Myxedema
	<input type="checkbox"/> Tetanus
	<input type="checkbox"/> Heroin overdose
	<input type="checkbox"/> Guillan-Barre syndrome
	<input type="checkbox"/> Chest wall deformities

This function allows the provider to designate whether the patient has Type I or Type II respiratory failure and what the cause is believed to be.

- Immediately under the **Type of Failure** is a button which is entitled **Progress**.

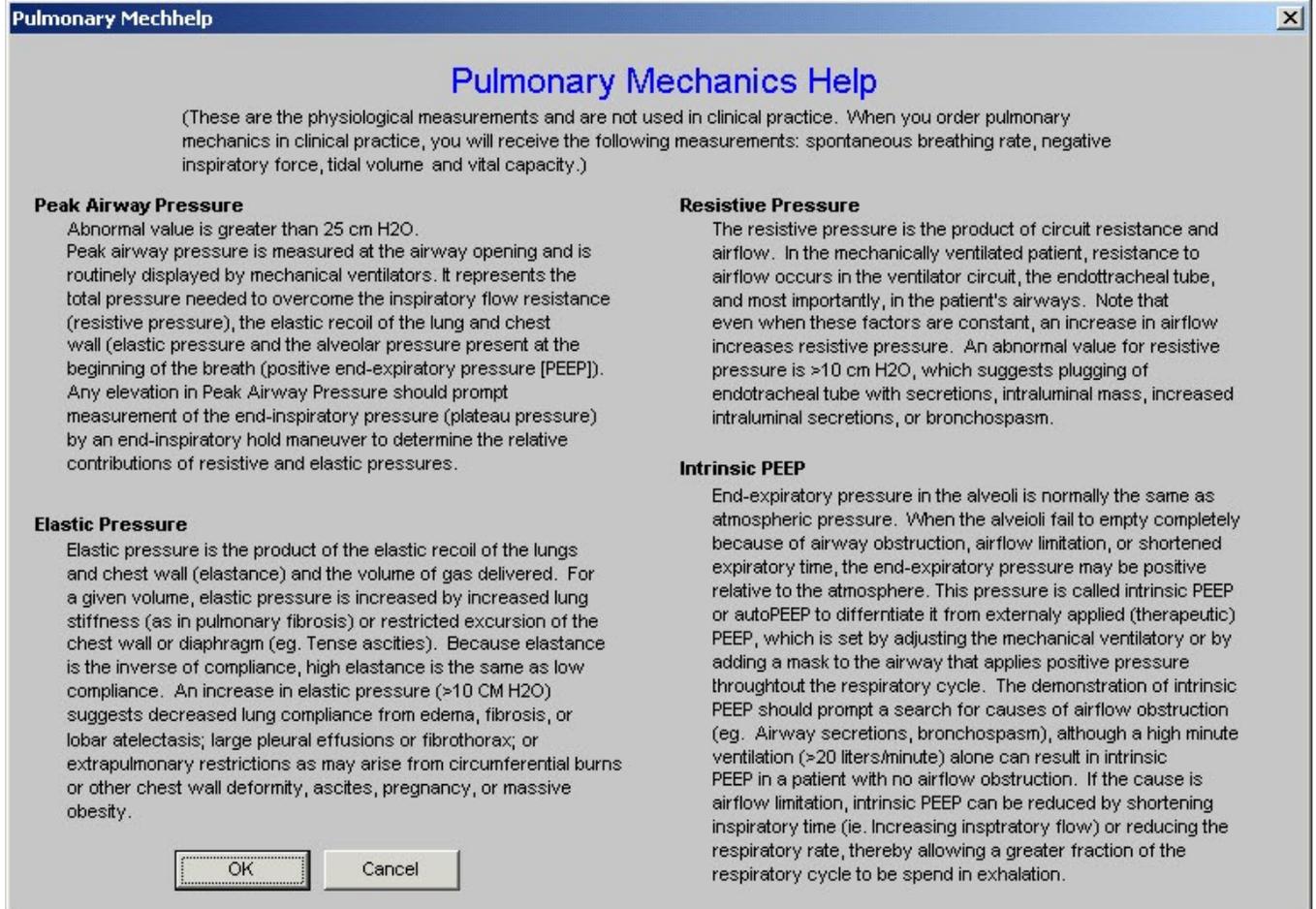
Progress Respfailp

Respiratory Failure Progress

Current Values		Goals
FiO2	<input type="text" value=".70"/> %	
Minute Ventilation	<input type="text"/> L/min	Goal is less than 10. Normal is 5.
Peak Airway Pressure	<input type="text"/> cm H2O	Goal is less than 35. Normal is 5. Below 40 is mandatory.
Mean Airway Pressure	<input type="text"/> cm H2O	Goal is less than 8-12

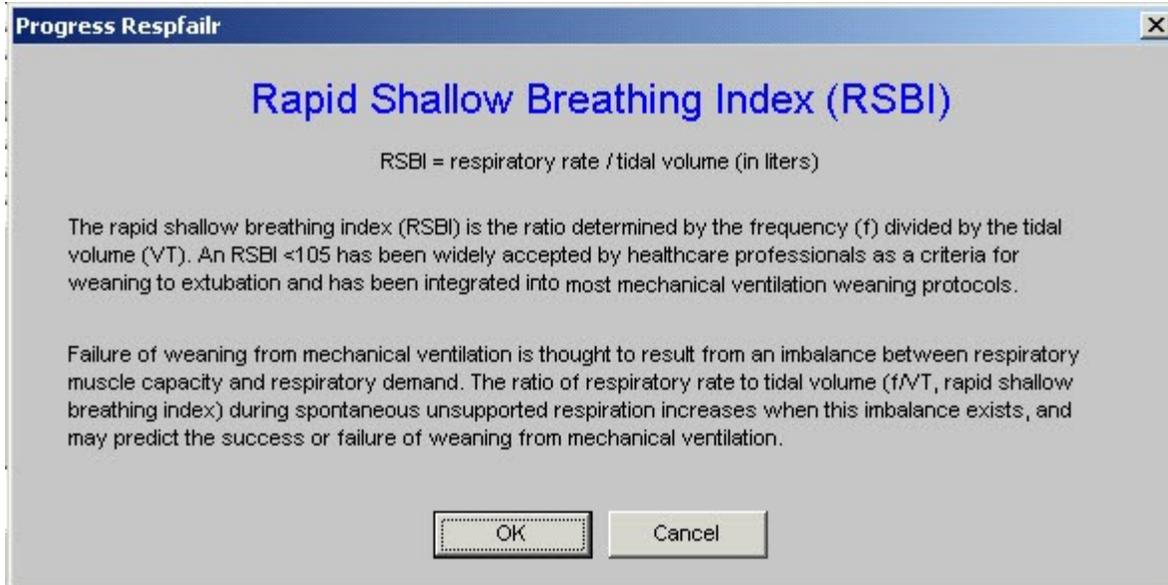
This allows for the patient's progress toward extubation to be monitored and quantified.

- The next unique function is immediately below the first and third functions and is entitled **Pulmonary Mechanics Help**.



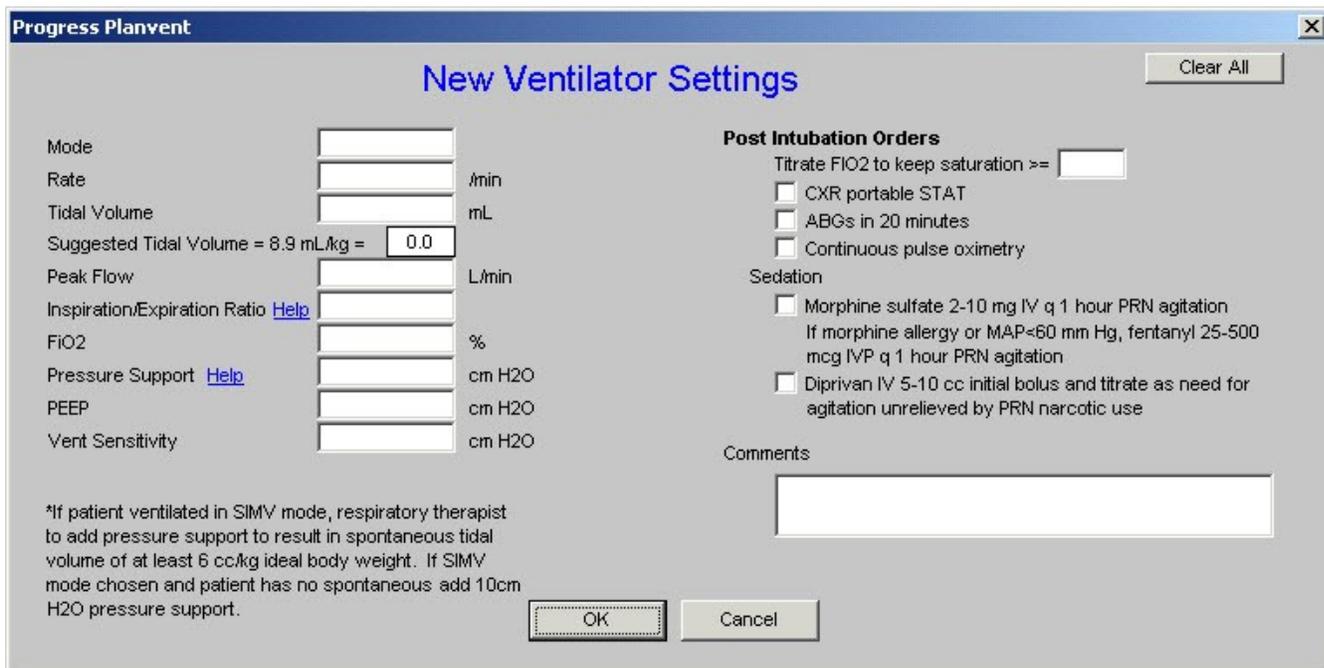
This pop-up describes the physiology of pulmonary mechanics and describes the elements of pulmonary mechanics which will indicate whether the patient is ready for extubation. The pulmonary mechanics necessary for determining if the patient is ready for extubation are:

- spontaneous breathing rate,
 - negative inspiratory pressure,
 - tidal volume and
 - vital capacity.
- The fifth unique feature of the Daily Progress Note Respiratory Failure template is entitled **Rapid Shallow Breathing Index (RSBI)**.



If the RSBI is above 100 the patient cannot be extubated. The RSBI is calculated automatically by the EMR.

- At the bottom of the third column is a function entitled **New Ventilator Settings**



This allows a provider to create new ventilator settings which will print out on the order set and which then can be placed on the inpatient chart.

- The seventh and last unique feature of the **Daily Progress Note Respiratory Failure** template is launched by clicking the last button in the third column which is entitled **Preparation for Extubation**.

Progress Respaile [X]

Preparation for Extubation

Please provide responses to the highlighted question(s) below...

Criteria	Value	Criteria Met
1. Underlying condition has been addressed? <input type="text"/>	<input type="radio"/> Stable <input type="radio"/> Resolved <input type="radio"/> Unresolved	<input type="text"/>
2. PaO ₂ /FiO ₂ ratio > 150	<input type="text" value="0"/>	<input type="text"/>
3. pH > 7.25	<input type="text"/>	<input type="text"/>
4. FiO ₂ < 40	<input type="text"/>	<input type="text"/>
5. PEEP < 5 cm H ₂ O	<input type="text"/>	<input type="text"/>
6. Minute ventilation < 10 L/min	<input type="text" value="19.2"/>	<input type="text" value="No"/>
7. Patient is capable to initiate respiratory effort? <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/>
8. PaO ₂ > 60	<input type="text"/>	<input type="text"/>
9. Heart rate < 140	<input type="text" value="80.00"/>	<input type="text" value="Yes"/>
10. Afebrile (temperature < 100.4 F)	<input type="text"/>	<input type="text"/>
11. Hemoglobin > 8.9	<input type="text"/>	<input type="text"/>
12. Stable electrolytes? <input type="text"/>	<input type="radio"/> Yes <input type="radio"/> No	<input type="text"/>

This template gives the criteria which need to be met before extubation can be undertaken.