How to Prevent Acute Respiratory Failure Caused by COPD

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Properly Treating Your COPD

If the amount of oxygen in both lungs and the blood is reduced while the amount of carbon dioxide is increased in your system, this limits your breathing capacity. In some situations, this is caused by some type of blockage. With chronic obstructive pulmonary disease (COPD), this is called COPD respiratory failure. The exchange of oxygen and carbon dioxide within the lungs can lead to serious breathing problems, and is usually due to airway obstruction.

Respiratory Failure

According to the Mayo Clinic, damage left untreated which occurs from COPD to the lungs and bronchial tubes is not reversible. Treatment is vital in getting this disease under control. If not, it may lead to respiratory failure. Management and prevention of any further damage to these organs can keep the body from going into respiratory failure.

Causes of Acute Respiratory Failure Due to COPD

Smoking is one of the main causes of COPD today. Other causes include secondhand smoke and air pollution, which includes chemical sprays and toxic gases. Many times, acid from gastroesophageal reflux will invade the esophagus and cause irritation and inflammation in the bronchial tubes.

COPD patients may develop acute respiratory failure from causes such as increasing the breathing and decreasing the respiratory drive. The condition can come on from accumulated secretions which is secondary to cough suppression. Also, bronchospasm and respiratory tract infections, such as bronchitis or pneumonia, may be a cause of respiratory failure.

Another common cause is ventilatory failure. This is when the brain fails to direct respiration and gas exchange and respiratory structure function failure occurs. Here are some other causes of acute respiratory failure:

- Endocrine or metabolic disorders which would be myxedema or metabolic acidosis.
- Central nervous system depression due to use of narcotics, sedatives, oxygen, head trauma and tranquilizers.
- Irritants to the airways such as smoke and fumes.
- Cardiovascular disorders such as myocardial infarction, pulmonary emboli, or heart failure.
- Thoracic abnormalities such as abdominal surgeries, pneumothorax and chest trauma.

Diagnosis of COPD with Acute Respiratory Failure

The key to a diagnosis of COPD with acute respiratory failure is arterial blood gas (ABG) analysis. Lowered ABG levels and altered pH strongly suggest acute respiratory failure. A pH needs to be no less than 7.35, and any

lower value usually indicates acute respiratory failure. This can also occur in patients who have essential normal lung tissue, in which no COPD is present.

Treatment of Acute Respiratory Failure Due to COPD

You may have several different treatment options when going to a medical professional for the treatment of COPD. These include:

- The doctor may ask if you have stopped smoking. It is very important to stop in order to prevent the disease from progressing.
- Medication such as bronchodilators, antibiotics and steroids may be prescribed in order to reduce the inflammation.
- Surgery could be an option, and it can be helpful in removing the areas of damage in order to prevent respiratory failure.

COPD with acute respiratory failure is an emergency and should be taken very seriously. The percent of oxygen in the blood is called the PaO2, and it needs to be increased with very cautious oxygen therapy (nasal prongs and/or mask).

Respiratory acidosis occurs when too much acid enters the body fluids. It is the opposite of respiratory alkalosis, in which there is too much base in the body fluids. Acidosis can be reason to use mechanical ventilation with an endotracheal tube.