

# Acute Respiratory Distress Syndrome

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## Signs and Symptoms

- Difficulty breathing
- Rapid breathing
- Shortness of breath
- Confusion and tiredness
- Low blood oxygen level

## Stages of Disease

ARDS is a response to systemic inflammation and overwhelming trauma to the body. An initial insult will cause the body's barrier between the lung's alveoli and the capillaries to become leaky allowing fluid to enter into the lungs. This causes low oxygen levels in the blood and results in oxygen shunting throughout the body. ARDS can later progress into pulmonary fibrosis where the lungs attempt to repair themselves and alveolar damage occurs.

## Medical Treatment

The main goals of medical treatment are to stabilize breathing and treat the underlying cause. Because ARDS is a response to inflammation or trauma, there are not any preventative medicines. Antibodies and other anti-inflammatory drugs have been administered to ARDS cases without much success. In fact, most medications that have been used to treat ARDS have not made any difference in lowering mortality rates. Even though most drugs have proven unsuccessful, patients can be attached to a machine called a ventilator which provides an artificial oxygen supply. Ventilators can stabilize breath and function as the lungs for a few weeks until patients become stable enough to breathe on their own. After recovery from ARDS, patients will experience reduced lung function for the rest of their life.

## Medical Nutrition Therapy

- REE – calculate using IC
  - For obese: 60-70% of target or 11-14 kcal/kg
- Protein Needs – 2.0-2.5 g/kg
- Fat and Carb – Keep calories in recommended amount
- Monitor closely CO<sub>2</sub> levels to gauge if calories estimated are correct.
- Watch phosphate and vitamins A, C, and E
- Ensure they are getting recommended levels of essential fatty acids
- EN preferred over PN
- Supplemented Omega 3 over requirements is not recommended

## Mechanical Ventilation

Mechanical ventilation is used to stabilize breathe and to temporarily relieve the respiratory muscles. Mask ventilation or intubation via an endotracheal tube can be used. Low tidal volume is maintained to prevent ventilator-associated lung injury. Positive end-expiratory pressure (PEEP) is achieved when the airway pressure is maintained above atmospheric pressure. PEEP is used to prevent the lungs from collapsing.