

## Oxygen Therapy in Covid Pandemic. When to start? We learn Something Oct 2020

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Beta coronavirus is an RNA virus that causes the current global pandemic. Spontaneous respiratory ventilation is negative process produced by the respiratory muscles, within the thorax, between the pleura. The inter subject gas is the primary function. Elastic, inertial, gravitational, resistive must be overcome, a complex phenomenon that part of the brain, medullary, bridge, aortic arch, carotid bulb, frontal cortex, limbic area. The mechanical ventilator is a positive pressure equation of the resistive and elastic movement, in the airway ventilation, at positive pressure maximum pressures, plateau peep, the ventilator, has to overcome these forces. Inspiration is an active phenomenon of the diaphragm, expiration is passive and is subatmospheric. The contraction of the diaphragm causes the air volume to increase, and the pleural pressure will decrease as well as the alveolus. Asymptomatic patients with covid stage 1: decrease in elastance, pulmonary b lines in ultrasound, v/q imbalance, densities of glass ground by CT, with hypoxemia, there is a perfusion imbalance and the O<sub>2</sub> pressure lowers and increases the pCO<sub>2</sub> and the drive resp is activated to lower the PaCO<sub>2</sub>. Tidal volume self-injures and the other phenotype appears, respiratory work increases. When you start? For more than 30, saturation less than 90 percent if previous lung disease. The goal is to maintain more 94 percent according to the WMO.

The nasal cannulas is the first line treatment link at 6 liters. They can be curved or bell-shaped. This has the ear protector. A central nasal cannula connects to a capnograph. Oxygen masks are to have more oxygen from 5 to 8 liters. Adjust connects with capnograph. high concentration masks. Ecolite/10 - 15 liters per minute. Fixed concentration devices in COPD with venturi valve. Venturi with 40 percent valves is used adjustable concentrate. New masks are made of silicone and do not attack the skin. Prone ventilation with high tidal volume and ventilation, with decreased hydric volume, improves hypoxemia. If prone at admission, ventilation benefits from 36 hours, with ultrasonographic monitoring. Pattern b is a consolidation. How the prone works? Prone is works when you observed the gravity the air goes to the bases, because it has better circulation in the bases, homogenizes and recruits alveolus, does not affect the right ventricle, pulmonary pressure does not rise. It is necessary to pronar early, and the symptomatic patients with dyspnea, desaturation, respiratory frequency more 30, Guerin says they survive, improve mortality in those patients, in Covid 19 the protocol is the ratio PaO<sub>2</sub>/FiO<sub>2</sub> above 150 for 12 hours. Until the goals of oxygenation are reached, 20% increase in PaO<sub>2</sub>/FiO<sub>2</sub> 220 per cent, increase of 10 mmhg pao<sub>2</sub>, prone not pronar until q improves, non-invasive cpap ventilation i is controversial for aerosolization. But is useful in some cases with bio securities intense intubation is important. CO<sub>2</sub> is in lactate of the lung and pCO<sub>2</sub> is associated with an increase in mortality above 60 mmHg. Negative pressure room is recommended for high flow cannulas, taking care of aerolysation, these are in mild to moderate cases, and then the prone is awake and the alveolus are homogenized. The goal is to have a pattern A ultrasound, improve saturation, and decrease mortality in covid 19. We have a learning curve until today with oxigenoterapy in this terrible pandemic [1-8].

### Ethical Responsibilities

The authors declare that they have no conflicts of interest when writing the manuscript.

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