

## **INOMAX® (nitric oxide) gas, for inhalation Mechanism of Action Video Transcript**

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**[00:00]**

### **(Indication and Contraindication)**

INOMAX® (nitric oxide) gas, for inhalation is indicated to improve oxygenation and reduce the need for extracorporeal membrane oxygenation in term and near-term (>34 weeks gestation) neonates with hypoxic respiratory failure associated with clinical or echocardiographic evidence of pulmonary hypertension in conjunction with ventilatory support and other appropriate agents.

INOMAX is contraindicated in the treatment of neonates dependent on right-to-left shunting of blood.

Please see full Important Safety Information at the end of this video, and visit [INOMAX.com](http://INOMAX.com) for Full Prescribing Information.

**[00:42]**

Optimal oxygenation of the pulmonary vasculature is vital. In order for this to occur, ventilation and perfusion matching, or V/Q matching, is required.

**[0:55]**

Healthy neonates can achieve the ideal V/Q ratio of approximately 1.

**[1:00]**

But in those with hypoxic respiratory failure associated with pulmonary hypertension, V/Q mismatching negatively impacts oxygenation.

**[1:07]**

One cause of V/Q mismatching could be intrapulmonary shunting, which can cause the V/Q ratio to be less than 1.

**[1:15]**

Another cause of V/Q mismatching could be the creation of dead space, where there is adequate ventilation but poor perfusion. This could cause the V/Q ratio to be greater than 1.

**[1:28]**

Inhaled nitric oxide, or iNO, is an inhaled pulmonary vasodilator that can improve V/Q matching when there is pulmonary hypertension.

**[1:36]**

How does iNO address V/Q mismatch?

**[1:40]**

Inhaled nitric oxide is delivered with ventilatory support

**[1:46]**

and with ventilatory support has a preferential affinity for well-recruited alveoli.

**[1:50]**

Once in the alveoli, inhaled nitric oxide diffuses into the smooth muscle of the arteriole.

**[1:57]**

There, inhaled nitric oxide activates transduction pathways,

**[2:00]**

relaxing the smooth muscle cells,

**[2:07]**

which results in selective and local vasodilation of the pulmonary vasculature

**[2:12]**

and, in turn, improves V/Q matching.

**[2:19]**

**(Logo appears)**

INOMAX<sup>®</sup> (nitric oxide) gas, for inhalation, also known as inhaled nitric oxide, is an FDA-approved drug that selectively dilates the pulmonary vasculature.

**[2:31]**

INOMAX is rapidly inactivated by hemoglobin. Because it is inhaled, INOMAX minimizes systemic vasodilation. Nitrate, the predominant metabolite of nitric oxide, is rapidly cleared by the kidneys.

**[2:46]**

INOMAX can help restore VQ matching in your vulnerable patients. When you have a neonate patient who suffers from V/Q mismatching due to hypoxic respiratory failure associated with pulmonary hypertension, think INOMAX, because every moment counts.

**[3:03]**

### **Important Safety Information**

INOMAX is contraindicated in the treatment of neonates dependent on right-to-left shunting of blood.

Abrupt discontinuation of INOMAX may lead to increasing pulmonary artery pressure and worsening oxygenation.

Methemoglobinemia and NO<sub>2</sub> levels are dose dependent. Nitric oxide donor compounds may have an additive effect with INOMAX on the risk of developing methemoglobinemia. Nitrogen dioxide may cause airway inflammation and damage to lung tissues.

In patients with pre-existing left ventricular dysfunction, INOMAX may increase pulmonary capillary wedge pressure leading to pulmonary edema.

Monitor for PaO<sub>2</sub>, inspired NO<sub>2</sub>, and methemoglobin during INOMAX administration.

INOMAX must be administered using a calibrated FDA-cleared Nitric Oxide Delivery System.

**[4:10]**

**(References)**

(no voice over)

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5. Rossaint R, Falke KJ, Lopez F, et al. Inhaled nitric oxide for the adult respiratory distress syndrome. *N Engl J Med.* 1993;328(6):399-405.
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