

Surfactant

Surfactant...how it works

- Reduces surface tension, improves lung compliance, stabilizes lung volumes at a lower pulmonary pressure
- It's secondary function is to enhance macrophage activity, mucous clearance, and decrease inflammation

Who gets surfactant

- Premature infants <32 weeks
- Meconium aspiration
- Post-pulmonary hemorrhage
- Pneumonia

Contraindications

- ◉ Active pulmonary hemorrhage
- ◉ Hemodynamically unstable
- ◉ Congenital diaphragmatic hernia
 - > Studies showed that there was no change in the outcome of CDH patients with or without surfactant administration

Other uses

- Post-cardiac surgery ARDS
- Severe RSV with respiratory failure
- Some infants who were given multiple doses of surfactant have been shown to have a decreased incidence of necrotizing enterocolitis

Complications

- ◉ Et tube plugging
- ◉ Hemoglobin desaturation
- ◉ Bradycardia/tachycardia
- ◉ Apnea
- ◉ Pulmonary hemorrhage
- ◉ Volutrauma

- Before administration, Curosurf should be slowly warmed to room temp
- Curosurf can rapidly affect oxygenation and lung compliance, so ventilator changes may be necessary
- Adverse effects include: bradycardia, hypotension, ET tube blockage, and desaturation
- Suction ET tube before administration
- Do not suction ET tube for one hour after administration
- Up to two repeat doses may be given, if necessary
- Surfactant replacement therapy is indicated for: preterm infants with surfactant deficiency resulting in RDS, term infants with sepsis, pulmonary hemorrhage, or meconium aspiration

○ Procedure

- > place patient in neutral supine position
- > confirm placement of ET tube
- > suction ET tube
- > attach surfactant ballard to ET tube
- > draw up ordered does of Curosurf
- > insert catheter to safe suction number and instill Curosurf dose as a bolus over 1 minute while patient is on ventilator
- > hand-bagging should be avoided, use Neo-Tee if possible
- > remove catheter after entire dose is administered

How to connect the survanta ballard to the ET tube

attach Curosurf syringe



attach ventilator circuit

attach to ET tube

Did it work?

- ◉ Reduced FiO₂ requirements
- ◉ Decreased work of breathing
- ◉ Improved aeration
- ◉ Improved lung compliance
- ◉ Decreased ventilator support