# BRIEF ADMINISTRATION GUIDE

(For more detailed guideline information please see the following pages)

**Indications**:
- Treatment and prophylaxis of respiratory distress syndrome[1-4,10]
- Treatment of secondary surfactant deficiency, e.g. meconium aspiration syndrome or sepsis/pneumonia[2,5-9]

**Route**: Endotracheal tube[3-5]

**Dose**:
- Initial dose: 100 – 200 mg/kg[1,3,5]
- Subsequent dose(s): 100 mg/kg at 6 to 12 hourly intervals if required[1,3,5]
- Usual maximum total dose 400 mg/kg for RDS[1,3]

**Supplied as:** Poractant alfa 80 mg/ml (120 mg/1.5 ml or 240 mg/3 ml) vial[1,3]

## Preparation and administration:

- Prior to use, the vial should be slowly warmed to room temperature (can be warmed in hand or stood at room temperature) and gently turned upside down, without shaking, to obtain a uniform suspension[1,4,6]
- Visually inspect for discolouration, do not use if present[1,4]
- Assess patency and position of the ETT prior to administration. Clear the trachea of secretions if required[4,6]
- Slowly withdraw the prescribed dose from the vial(s) into a syringe through a large gauge needle (≥ 20 gauge)[4]
- Administer the dose via the endotracheal tube in 2 equal aliquots as tolerated with the neonate in neutral supine position[4]
- Do not suction the airways for one hour after installation unless signs of significant airway obstruction occur[7]
- Used vials with residual drug should be discarded[1,5]

## Monitoring:

- Monitor oxygen saturation continuously and blood gases on request, adjusting oxygen therapy and ventilator support accordingly[1,4,5]
- Continuous ECG and heart rate monitoring[1,4]

## 1. Purpose and scope

To facilitate the safe and effective use of poractant alfa in the Neonatal Intensive Care Unit (NICU).

## 2. Drug

| | |
|---|---|
| **Drug** | Poractant alfa, Curosurf® |
| **Drug action** | Poractant alfa is a pulmonary surfactant which lowers surface tension at the air-liquid interface of the alveoli during ventilation and stabilizes the alveoli against collapse during expiration, ensuring adequate gas exchange is maintained throughout the whole ventilation cycle[1,4,5]. |
| **Indications** | • Treatment and prophylaxis of respiratory distress syndrome (RDS)[1-4,10]<br>• Treatment of secondary surfactant deficiency, e.g. meconium aspiration syndrome (MAS) or sepsis/pneumonia[2,5-9] |
| **Presentation** | Poractant alfa 80 mg/ml (120 mg/1.5 ml or 240 mg/3 ml) vial[1,3]<br>Each vial contains phospholipid fraction from porcine lung, sodium chloride, water for injection[1]. White to creamy white suspension[5] |
| **Route** | Endotracheal tube[3-5] |
| **Dose** | • Initial dose: 100 – 200 mg/kg[1,3,5]<br>• Subsequent dose(s): 100 mg/kg at 6 to 12 hourly intervals if required[1,3,5]<br>• Usual maximum total dose 400 mg/kg for RDS[1,3] |
| **Contraindications** | • Hypersensitivity to poractant alfa or any component of the formulation[1,4] |
| **Precautions** | • Use in infants weighing less than 700 g is not established[3,11] |
| **Incompatibilities** | • Do not mix with any other medications or fluids |
| **Adverse effects** | • Transient episodes of bradycardia, decreased oxygen saturation, hypotension, or endotracheal tube blockage may occur[2-5]<br>• Rare: pulmonary haemorrhage[2-4] |

## 3. Administration

| | |
|---|---|
| **Competency for administration** | This procedure should only be carried out by a medical officer, nurse practitioner, or clinical nurse specialist. |
| **Preparation & Administration** | • Prior to use, the vial should be slowly warmed to room temperature (can be warmed in hand or stood at room temperature) and gently turned upside down, without shaking, to obtain a uniform suspension[1,4,6]<br>• Visually inspect for discolouration, do not use if present[1,4]<br>• Assess patency and position of the ETT prior to administration. Clear the trachea of secretions if required[4,6]<br>• Slowly withdraw the prescribed dose from the vial(s) into a syringe through a large gauge needle (≥ 20 gauge)[4]<br>• Administer the dose via the endotracheal tube in 2 equal aliquots as tolerated with the neonate in neutral supine position[4]<br>• Do not suction the airways for one hour after installation unless signs of significant airway obstruction occur[7]<br>• Used vials with residual drug should be discarded[1,5] |

| | |
|---|---|
| **Observations and management** | • Monitor oxygen saturation continuously and blood gases on request, adjusting oxygen therapy and ventilator support accordingly[1,4,5]<br>• Continuous ECG and heart rate monitoring[1,4] |
| **Special considerations (audit, funding, storage)** | • Store vials in the refrigerator (2 to 8°C) and protect from light[1]<br>• Unopened vials that have been warmed to room temperature one time may be refrigerated within 24 hours and stored for future use. Vials should not be warmed and returned to the refrigerator more than once[1,5] |
| **Rescue medication** | Discontinue immediately and seek urgent medical assistance if anaphylaxis or severe adverse reactions occur. Administer adrenaline and maintain airway as appropriate. |

## 4. References


1. Douglas Pharmaceuticals Ltd. Curosurf Endotracheopulmonary Instillation Suspension Data Sheet. 09 September 2004. Available from: http://www.medsafe.govt.nz/profs/datasheet/c/Curosurfinj.pdf
2. British National Formulary for Children. September 2016-2017. Pharmaceutical Press, London, 2016.
3. New Zealand Formulary for Children (NZFC). 2018. Poractant alfa. Accessed 7th September 2018. Available from: https://nzfchildren.org.nz/nzf_1917
4. Lexicomp. Poractant alfa: Pediatric drug information monograph. Uptodate. Accessed 7th September 2018. Available from: https://www.uptodate.com.
5. Truven Health Analytics Inc. Pediatrics and Neofax®. 2018. Poractant alfa monograph. Accessed 6th September 2018. Available from: http://www.micromedexsolutions.com.
6. Ainsworth SB. Neonatal Formulary: Drug Use in Pregnancy and the First Year of Life 7th ed. John Wiley & Sons Incorporated; 2014.
7. Canterbury DHB Neonatal Services. Surfactant Drug Information Sheet. March 2016. Available from: http://www.cdhb.health.nz/Hospitals-Services/Health-Professionals/Neonatal-Clinical-Resources/Neonatal-Drug-Information-Sheets.
8. Chinese Collaborative Study Group for Neonatal Respiratory Diseases. Treatment of severe meconium aspiration with porcine surfactant: a multicentre, randomized, controlled trial. Acta Paediatrica 2005;94(7): 896–902.
9. El Shahed AI, Dargaville PA, Ohlsson A, Soll R. Surfactant for meconium aspiration syndrome in term and late preterm infants. Cochrane Database of Systematic Reviews 2014, Issue 12. Art. No.: CD002054. DOI: 10.1002/14651858.CD002054.pub3
10. Ardell, S., Pfister, R.H. and Soll, R., 2015. Animal derived surfactant extract versus protein free synthetic surfactant for the prevention and treatment of respiratory distress syndrome. *Cochrane Database Syst Rev*, *8.*
11. Auckland DHB Newborn Services. Poractant alpha Drug Protocol. July 2010. Available from: http://www.adhb.govt.nz/newborn/DrugProtocols