

SURFACTANT (also known as Poractant)

Trade Name	Curosurf® (Douglas)
Class	Natural Surfactant (porcine)
Mechanism of Action	Distribution throughout the airways, decreasing alveolar surface tension and increasing functional residual capacity.
Indications	<p>Indication 1: Congenital surfactant deficiency (RDS): Prophylaxis (ideally within the first hour) Rescue RDS on CXR, CPAP/NIPPV, FiO₂ > 0.3</p> <p>Indication 2: Surfactant inhibition - Meconium Aspiration or Sepsis¹</p>
Contraindications	None of clinical relevance reported.
Supplied As	Vials of 1.5 mL(120mg) and 3mL (240mg) at a concentration of 80mg/mL of phospholipids.
Dilution	None required.
Dosage	<p>Surfactant dosing should be pragmatic with a dose range between 100-200mg/kg. This means that the closest vial size should be used and the whole vial(s) given so as not to waste any surfactant.</p> <p>Indication 1: RDS Dosing</p> <p>Dose 1:100mg/kg (1.25mL/kg) via ETT as a short bolus if RDS at birth after receiving at least 1 dose of steroids >12 hrs prior to birth</p> <p>200mg/kg (2.5mL/kg) via ETT in 1-2 aliquots if RDS at birth after an incomplete steroid course, defined as <12 hrs between steroid dose and birth</p> <p>200mg/kg (2.5mL/kg) via ETT in 1-2 aliquots if rescue treatment is needed</p> <p>Dose 2: 100mg/kg (1.25mL/kg) 12 hours after the first dose if ventilated, with an O₂ requirement and extubation is not imminent. To be directed by the consultant.</p> <p>Indication 2 : Meconium aspiration / Sepsis 100mg/kg (1.25mL/kg) for first + second doses</p>
Interval	12 hourly
Compatible With	Sodium chloride 0.9%
Incompatible With	N/A

Administration	<p>Warm the vial by hand (8 mins) or in room air (20 mins) prior to use (not to use artificial warming methods).</p> <p>Solution should NOT be shaken (may affect structure).</p> <p>Use the surfactant needle-free administration system. If this is not available, then draw up with a needle and cut a feeding tube to the length of the ETT (not longer as may cannulate the right main bronchus). If giving via a MIST catheter then the surfactant can be drawn up with the needle-free kit but administered down a separate MIST catheter.</p> <p>Baby to lie supine with head in the midline. Volumes > 1.5mls may be given in more than one aliquot. After the aliquot withdraw catheter and ventilate until stable for the next aliquot.</p> <p>Do not suction for at least 1 hour post administration.</p>
Monitoring	<p>Check for correct ET tube placement prior to administration. Continuous heart rate and oxygen saturation monitoring during administration; ventilator settings may need adjusting.</p>
Stability	<p>Settling may occur: swirl, don't shake.</p>
Storage	<p>2-8°C in fridge,</p> <p>Amount required is withdrawn in a sterile manner; used ampoule may be returned to the fridge (ie: re-cooled if within 24 hours of warming), for up to 24 hours after first opened/warmed.</p> <p>Date and time when ampoule first used should be recorded on the ampoule. Ampoules may be re-cooled only once.</p>
Adverse Reactions	<p>ET tube obstruction (hypoxia, bradycardia, hypercarbia, apnoea). Hypertension.</p>
Metabolism	<p>Pneumocyte-metabolised: recycled.</p>
Comments	<p>Diluted surfactant has been used in severe meconium aspiration syndrome. Discuss with consultant first.</p> <p>Lavage: 5mL/kg of dilute Curosurf (1:5) with saline in 1mL aliquots³</p>
References	<ol style="list-style-type: none"> 1. Lotze A et al. J Pediatr. 1998 Jan; 132(1):40-7. 2. Zola EM et al. J Pediatr. 1993 Mar; 122(3):453-459. 3. Lam B et al. Pediatrics 1999 May; 103(5 Pt 1):1014-8. 4. Findlay RD et al. Pediatrics 1996 Jan;97(1):48-52. 5. Halliday HL et al. ADC 1993;69:276-80 6. Ramanathan R et al. Am J of Perinatology 2004;21(3):109-119 7. Product monograph for Curosurf (Chiesi Pharmaceutici)
Updated By	<p>Jan Klimek, March 2001 (original surfactant profile) P Schmidt & B Robertshawe November 2005 A Lynn, N Austin March 2012 A Lynn, B Robertshawe July 2012 (re-order profile) A Lynn, B Robertshawe February 2022</p>