

Reference (include title, author, journal title, year of publication, volume and issue, pages)	Evidence level (I-VII)	Key findings, outcomes or recommendations
Bahadue FL, Soll R. Early versus delayed selective surfactant treatment for neonatal respiratory distress syndrome. <i>Cochrane Database of Systematic Reviews</i> 2012, Issue 11. Art. No.: CD001456. DOI: 10.1002/14651858.CD001456.pub2.	I	Key findings: Early surfactant administration to intubated infants with RDS significantly reduces the risk of pneumothorax, PIE, CLD, and neonatal mortality compared to delaying treatment of such infants until they develop worsening RDS.
Stevens TP, Blennow M, Myers EH, Soll R. Early surfactant administration with brief ventilation vs. selective surfactant and continued mechanical ventilation for preterm infants with or at risk for respiratory distress syndrome. <i>Cochrane Database of Systematic Reviews</i> 2007, Issue 4. Art. No.: CD003063. DOI: 10.1002/14651858.CD003063.pub3.	I	Key findings: Infants with RDS treated with early surfactant replacement therapy with extubation to NCPAP are less likely to need mechanical ventilation, less likely to develop BPD and air leaks, than infants who were later selectively given surfactant replacement. They also found evidence that a lower treatment threshold (FIO ₂ < 0.45) is associated with greater reductions in the incidence of air leak syndromes and BPD; additionally, a higher treatment threshold (FIO ₂ at study > 0.45) was associated with increased risk of PDA.
El Shahed AI, Dargaville PA, Ohlsson A, Soll R. Surfactant for meconium aspiration syndrome in term and late preterm infants. <i>Cochrane Database of Systematic Reviews</i> 2014, Issue 12. Art. No.: CD002054. DOI: 10.1002/14651858.CD002054.pub3.	I	Key findings: In infants with meconium aspiration syndrome, surfactant administration may reduce the severity of respiratory illness and decrease the number of infants with progressive respiratory failure requiring support with extracorporeal membrane oxygenation (ECMO). There was no statistically significant effect on mortality and no statistically significant reductions in any other outcomes studied (duration of assisted ventilation, duration of supplemental oxygen, pneumothorax, pulmonary interstitial emphysema, air leaks, chronic lung disease, need for oxygen at discharge or intraventricular haemorrhage)

<p>Ardell S, Pfister RH, Soll R. Animal derived surfactant extract versus protein free synthetic surfactant for the prevention and treatment of respiratory distress syndrome. <i>Cochrane Database of Systematic Reviews</i> 2015, Issue 8. Art. No.: CD000144. DOI: 10.1002/14651858.CD000144.pub3.</p>	<p>I</p>	<p>Key findings: Animal derived surfactant extracts and protein free synthetic surfactant extracts are both effective in the treatment and prevention of respiratory distress syndrome. Comparative trials demonstrate greater early improvement in the requirement for ventilator support, fewer pneumothoraces, and fewer deaths associated with animal derived surfactant extract treatment.</p>
<p>Soll R, Özek E. Multiple versus single doses of exogenous surfactant for the prevention or treatment of neonatal respiratory distress syndrome. <i>Cochrane Database of Systematic Reviews</i> 2009, Issue 1. Art. No.: CD000141. DOI: 10.1002/14651858.CD000141.pub2.</p>	<p>I</p>	<p>Key findings: A more sustained response was seen in infants with RDS who are allowed multiple doses of exogenous surfactant. Improvements in oxygenation and ventilator requirements and a decreased risk of pneumothorax were also seen.</p>
<p>Jat KR, Chawla D. Surfactant therapy for bronchiolitis in critically ill infants. <i>Cochrane Database of Systematic Reviews</i> 2015, Issue 8. Art. No.: CD009194. DOI: 10.1002/14651858.CD009194.pub3.</p>	<p>I</p>	<p>Key findings: Use of surfactant therapy for infants with bronchiolitis who require mechanical ventilation showed favourable effects on duration of ICU stay, oxygenation, and CO₂ elimination. The studies, however, are few and small therefore evidence is insufficient to establish the effectiveness of surfactant therapy for bronchiolitis in critically ill infants. They identified the need for larger trials and a cost-effectiveness analysis.</p>
<p>Amizuka, T., Shimizu, H., Niida, Y., & Ogawa, Y. (2003). Surfactant therapy in neonates with respiratory failure due to haemorrhagic pulmonary oedema. <i>European Journal Of Pediatrics</i>, 162(10), 697-702.</p>	<p>IV</p>	<p>Key findings: The administration of exogenous surfactant was a useful adjunctive therapy for overcoming inhibitory activity against surfactant and for normalising the respiratory status of infants with haemorrhagic pulmonary oedema (HPE). HPE did not recur after surfactant treatment in all the infants.</p>