

BLES[®]

bovine lipid extract surfactant

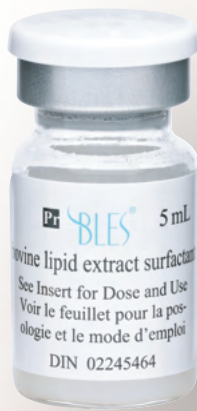
Pulmonary Surfactant for
the treatment of premature
infants suffering from Neonatal
Respiratory Distress Syndrome

*The market leader for
pulmonary surfactant in Canada*



MADE IN CANADA 

*Their Inspiration
is Our Inspiration*



Summary product information

Therapeutic classification: Lung surfactant (bovine)

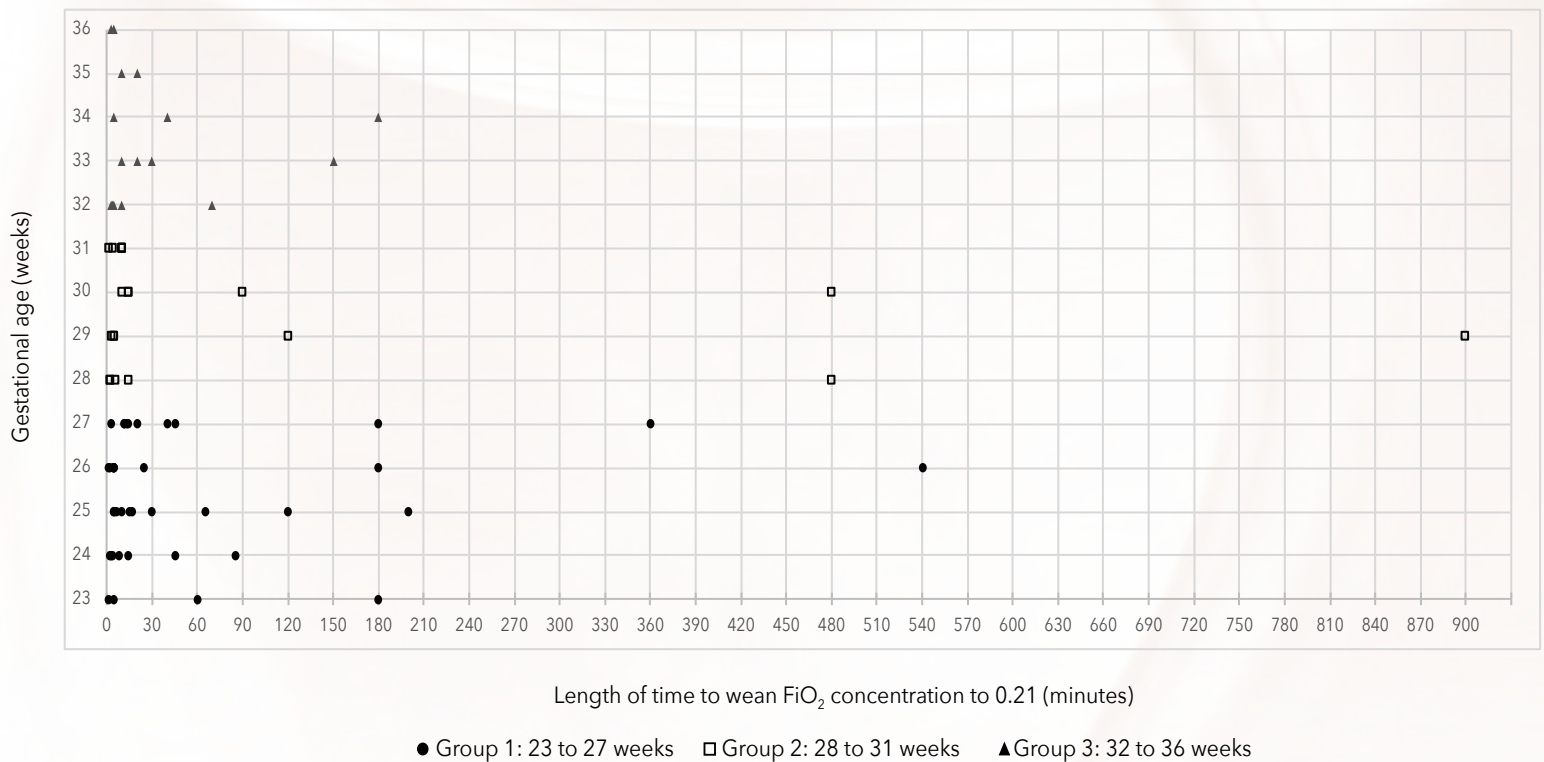
Route of administration: Intratracheal instillation

Dosage form: Suspension

Strength: 27 mg phospholipid/mL

Fast clinical response

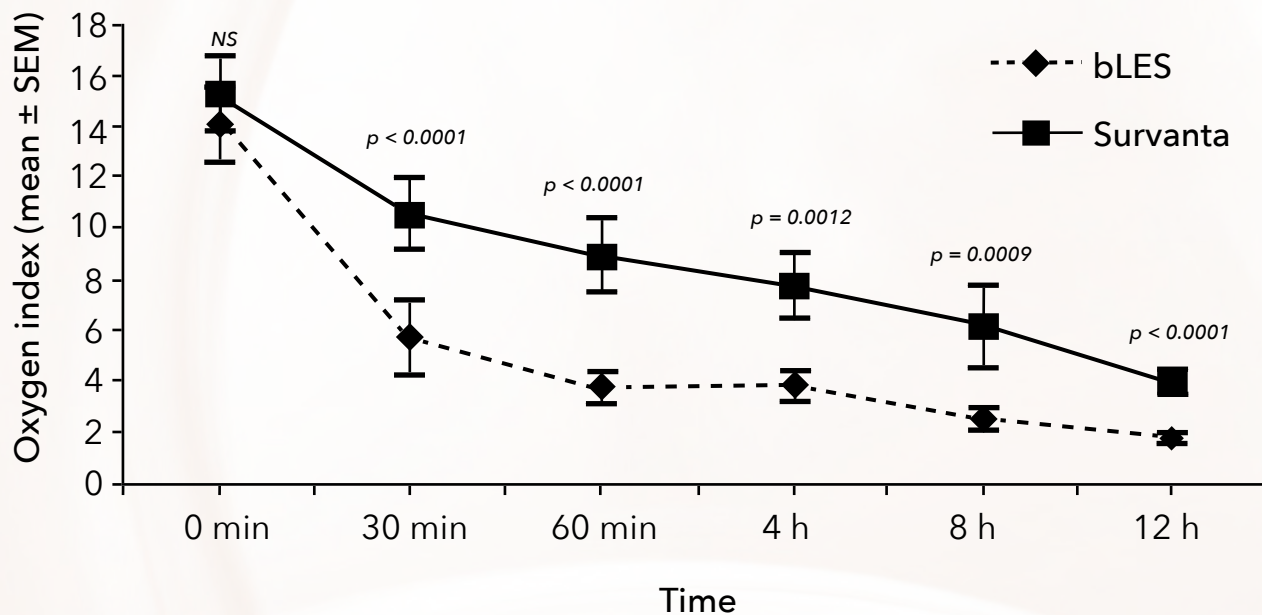
- Patients have weaned to room air (FiO_2 concentration = 0.21) in as little as **one minute**.¹
- The median length of time to wean a patient to room air was **10 minutes** across all birth weights and gestational ages.¹



¹ Stockley, E., Valotaire, R., Miller, M., da Silva, O. Effects of bovine lipid extract surfactant administration in preterm infants treated for respiratory distress syndrome. Health Sci Rep. 2018;e34.

BLES® vs. Survanta®

- BLES® has been demonstrated to have a faster response time than Survanta®. In a clinical trial comparing BLES® and Survanta®, BLES® was associated with a more rapid and sustained improvement in oxygenation within 30 minutes post-administration when compared with Survanta®.²



Single dose treatment success

- Most patients require only one dose of BLES®. Recent data found that 88% (72 out of 82) of preterm infants required only a single dose of BLES® to wean FiO₂ concentration to 0.21.¹

All natural with no additives

- BLES® is an all-natural surfactant with no additives or supplemental components.

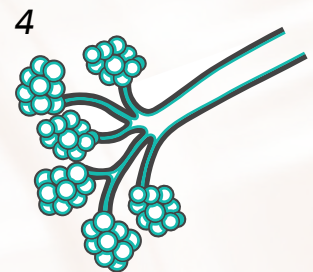
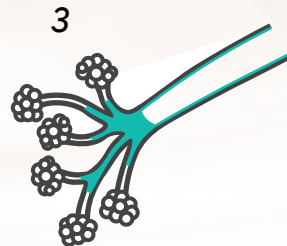
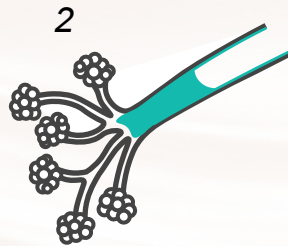
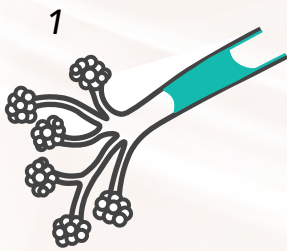
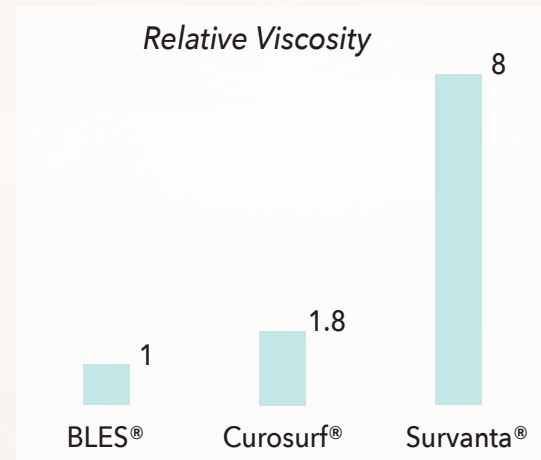
² Lam BBC, Ng YK, Wong KY. Randomized trial comparing two natural surfactants (Survanta vs. bLES) for treatment of neonatal respiratory distress syndrome. *Pediatr Pulmonol*. 2005 Jan;39(1):64-p.

Low viscosity, higher volume

- BLES® has the **lowest viscosity** of all commercially available pulmonary surfactants in Canada.^{3,4,5}

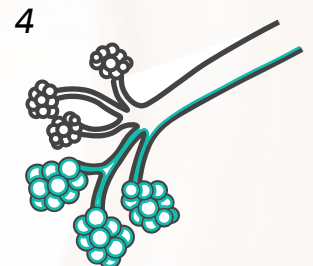
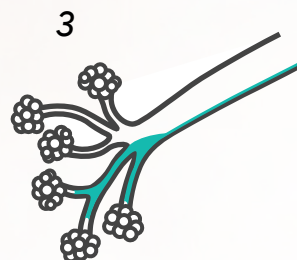
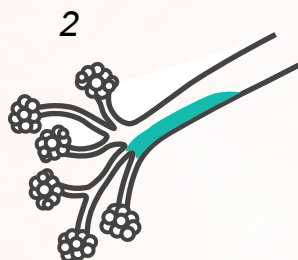
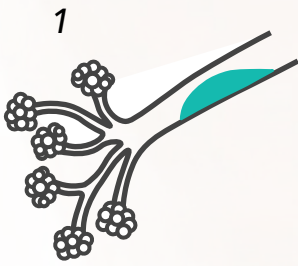
- Lower viscosity allows quicker spreading in fewer breaths and more uniform distribution throughout the lungs, contributing to a relatively fast response time.⁶

- Higher volumes of surfactant produce more uniform distribution throughout the lungs, and increases the chances of proper distribution, improving the response to treatment.⁷



Liquid plug propogation.

Dissipation along surface tension gradients.



Lack of liquid plug results in insufficient distribution of surfactant in the lungs.⁸

³ Thai, L.P.A., Mousseau, F., Oikonomou, E.K., J.F. On the rheology of pulmonary surfactant: Effects of concentration and consequences for the surfactant replacement therapy. Colloids. Surf. B. 2019;178:337-345.

⁴ Lewis, J. F., Goffin, J., Yue, P., McCaig, L. A., Bjarneson, D., Veldhuizen, R. A. Evaluation of exogenous surfactant treatment strategies in an adult model of acute lung injury. J Appl Physiol. 1996;80(4):1156-64.

⁵ In-house testing; not peer reviewed.

⁶ Nouraeyan, N., Lambrinakos-Raymond, A., Leone, M., Sant'Anna, G. 2014. Surfactant administration in neonates: A review of delivery methods. Can J Respir Ther. 2014;50(3): 91-95.

⁷ Espinosa, F. F., and R. D. Kamm. Meniscus formation during tracheal instillation of surfactant. J Appl Physiol. 1998;85(1): 266-272.

⁸ Blood, A. Peridosing effects of surfactant administration: treating the lung without harming the brain [PowerPoint Slides]. Retrieved from www.nicuuniversity.org/Portals/1/Downloads/PeridosingEffectsOfSurfactantAdministration.pdf.

Proven success with LISA and InSurE

- BLES® can be administered either via the LISA method (less invasive surfactant administration) or the InSurE method (Intubate Surfactant Extubate).
- The low viscosity of BLES® allows for successful administration with both methods and rapid spreading in the distal airways.
- BLES® is compatible with BLEScath™, a purpose-built thin catheter for the LISA method.^{9,10}

Intact lung lavage extraction process

- BLES® is the only surfactant in Canada that is derived from an intact lung lavage process, ensuring the lowest level of potential contaminants.¹¹

The only commercially available surfactant with a frozen shelf-life

- Hospitals can store BLES® frozen below -10°C for up to 36 months. Alternatively, hospitals can store BLES® refrigerated upon receipt of the hospital for up to 10 months and record the new expiry date in the space provided on the vial labelling.

BLES® should be warmed to room temperature, but no higher than body temperature before being administered. Warming can be accomplished in the following ways (times are approximate):

Method of Warming	Refrigerated Vials	Frozen Vials
In the hand	5 min.	10 to 15 min.
On the counter	20 min.	60 min.
In a 37°C water bath	2 min.	5 min.

Once at room temperature, gently invert the vial to suspend the lipid and disperse any agglomerates. Do not shake the vial.

⁹ BLES® Product Monograph, January 31, 2022.

¹⁰ BLEScath™ Instructions for Use (IFU) MD0102A.

¹¹ Chen, C. M., Chang, C. H., Chao, C.H., Wang, M.H., Yeh, T.F. Biophysical and chemical stability of surfactant/budesonide and the pulmonary distribution following intra-tracheal administration. Drug Deliv. 2019; 26 (1): 604-6119

Cost effective

- BLES® is the **most affordable surfactant** per mL and per patient kg in Canada.^{12, 13}
- BLES® is available in multiple vial sizes to minimize the cost per patient. The different sizes may be used in combination to avoid potential waste of product.
- BLES® often only requires one dose to wean patients to a FiO₂ concentration of 0.21.¹

Dosing chart

Weight (grams)	Total Dose (mL)	Weight (grams)	Total Dose (mL)
600-650	3.2	1301-1350	6.8
651-700	3.5	1351-1400	7.0
701-750	3.8	1401-1450	7.2
751-800	4.0	1451-1500	7.5
801-850	4.2	1501-1550	7.8
851-900	4.5	1551-1600	8.0
901-950	4.8	1601-1650	8.2
951-1000	5.0	1651-1700	8.5
1001-1050	5.2	1701-1750	8.8
1051-1100	5.5	1751-1800	9.0
1101-1150	5.8	1801-1850	9.2
1151-1200	6.0	1851-1900	9.5
1201-1250	6.2	1901-1950	9.8
1251-1300	6.5	1951-2000	10.0

Training available

Please contact us for access to a series of training videos, personalized on-site or virtual training sessions.

Get in touch



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¹² Data obtained from IQVIA Solutions Canada Inc.

¹³ Germain, A., Nouraeyan, N., Claveau, M., Leone, M., Sant'Anna, G. Optimal surfactant delivery protocol using the bovine lipid extract surfactant: a quality improvement study. J Perinatol. 2020 Oct 3; 1-7. doi: 10.1038/s41372-020-00846-1. Online ahead of print.