

Topic Expert Group: Medical care and clinical practice

Management of Respiratory Distress Syndrome

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Target group

Newborn infants at risk of Respiratory Distress Syndrome (RDS) and parents

User group

Healthcare professionals, neonatal units, hospitals, and health services

Statement of standard

Newborn infants at risk of Respiratory Distress Syndrome (RDS) receive appropriate perinatal care including place of delivery, antenatal corticosteroids, guidance around optimal strategies for delivery room stabilisation, and ongoing respiratory support.

Rationale

The goal is to promote optimum survival without complications for newborn infants at risk of Respiratory Distress Syndrome (RDS), whilst minimising potential risks of adverse effects such as pulmonary air leak and bronchopulmonary dysplasia. Many available therapies for the management of RDS involve balancing benefits of treatment with potential risks. With modern practice it is essential that anyone involved in the care of newborn infants is able to comply within their setting to standards of care expected to achieve best outcomes. (1,2) Treatment of newborn infants with RDS requires access to specialist skills and equipment that are not readily available outside of the neonatal environment. The overall aim is to treat with early surfactant if it is needed, whilst at the same time trying to avoid unnecessary intubation and mechanical ventilation by maximising the use of non-invasive respiratory support and less invasive surfactant administration. (1,3,4) There are regularly updated European consensus guidelines both for supporting transition and managing RDS which form the basis of this standard, and provide more detail where required.(1,2) With implementation of regional training for standards such as less invasive surfactant administration it is possible at country-wide level to improve quality of care. (5)

Benefits

Short-term benefits

- Reduced mortality (5)
- Reduced pulmonary air leaks (pulmonary interstitial emphysema and pneumothorax) (4,6)
- Reduced need for invasive ventilation (4)

Long-term benefits

- Improved long-term neurodevelopment (7)
- Reduced healthcare costs (8)
- Reduced bronchopulmonary dysplasia (BPD) diagnoses (1,3,4)



Components of the standard

Component	Grading of evidence	Indicator of meeting the standard
For parents and family		
1. Parents are informed by healthcare professionals about Respiratory Distress Syndrome (RDS), survival rates/morbidity, treatment, and short- and long-term care. (9)	A (Low quality) B (High quality)	Patient information sheet
For healthcare professionals		
2. A unit guideline on management of RDS is adhered to by all healthcare professionals.	B (High quality)	Guideline
3. Training on detection and treatment of RDS in the neonatal intensive care unit (NICU) is attended by all healthcare professionals. (10)	A (Low quality) B (High quality)	Training documentation
4. A unit guideline to determine which pregnant women have to be transferred for care to a perinatal centre is adhered to by all healthcare professionals (see Birth & transfer). (11)	A (Moderate quality)	Guideline, audit report
5. Ensure all healthcare professionals involved in neonatal care are trained in the use of all modes of respiratory support including volume-targeted modes of synchronised ventilation, high frequency oscillation, nasal ventilation, CPAP, heated humidified high flow oxygen and blended oxygen. (12)	A (High Quality)	Training documentation
For neonatal unit		
6. A unit guideline to ensure a standardised approach to initial stabilisation after birth for newborn infants at risk of RDS is available and regularly updated, including	B (High quality)	Guideline
<ul style="list-style-type: none"> • access to blended oxygen (13) • access to CPAP from birth (3) • access to manual ventilation with devices that control pressures (14) • access to pulse oximetry from birth (15) 	A (High quality) A (High quality) A (Moderate quality) A (Low quality)	

7. A unit guideline is available and regularly updated including surfactant administration, criteria for intubation, and ventilation strategies with optimal lung protection. (1,12–19)	A (High quality) B (High quality)	Guideline
For hospital		
8. Training on management of RDS is ensured.	B (High quality)	Training documentation
9. Access to radiology, biochemistry, and blood gas analysis is provided throughout the 24 hours.	B (High quality)	Audit report
10. A unit guideline and evidence of quality improvement initiatives are available within the obstetric service to optimise the use of prenatal corticosteroid therapy (see Birth & transfer). (7)	A (High quality) B (High quality)	Guideline, audit report
For health service		
11. Women at risk for very preterm birth are referred in a timely fashion for expert care during pregnancy and delivery (see Birth & transfer). (20)	A (High quality)	Audit report

Where to go – further development of care

Further development	Grading of evidence
For parents and family N/A	
For healthcare professionals N/A	
For neonatal unit	
<ul style="list-style-type: none"> Update guidelines using the current European consensus guideline and ERC NLS Guidelines. 	B (High quality)
For hospital N/A	
For health service N/A	

Getting started

Initial steps
For parents and family
<ul style="list-style-type: none"> Parents are verbally informed by healthcare professionals about Respiratory Distress Syndrome (RDS), survival rates/morbidity treatment, and short- and long-term care.

For healthcare professionals

- Attend training on management of RDS.
- Appraise healthcare professional knowledge in the detection and treatment of RDS and identify gaps in knowledge and training.

For neonatal unit

- Develop and implement a unit guideline on management of RDS based on the European consensus guidelines.
- Develop information material on RDS for parents.
- Develop quality improvement plan for the management of RDS.

For hospital

- Support healthcare professionals to participate in training on management of RDS.

For health service

N/A

Source

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Lifecycle

5 years/next revision: 2027

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