

Precise ETT airway monitoring didn't exist— until now.

SonarMed™ airway monitoring system



In the NICU, unplanned extubations (UEs) are the most common adverse event during mechanical ventilation.¹ UEs can significantly impact patient safety. Interrupting the ventilation of a neonate could lead to respiratory deterioration, hypoxia and could trigger a cascade of potentially life-threatening physiological stressors. Also, reintubation after a UE can result in pharynx or tracheal trauma.^{1,2}

UEs can also lead to increased hospital costs and increased length of stay.³ As of today, there are only recommendations of standardizations and mitigation interventions for reducing UEs.⁴ Yet, some of the guidelines in these recommendations can add more stress to the intubated baby and can impact neonatal well-being, including:⁵

- ETT repositioning
- Re-taping or tape removal
- Suctioning of ETT
- Reintubation
- Administering CPAP

The SonarMed™ airway monitoring system may help clinicians manage patient airways with continuous, real-time monitoring of ETT position and patency.[†]

During an intubation, the SonarMed™ airway monitoring system helps:



Reduce unplanned extubations by measuring the location and movement of the ETT tip within the trachea



Monitor ETT movement toward a smaller or larger passageway by measuring the circumference of the patient's trachea at the tip of the ETT



Optimize suctioning practice by identifying the location and extent of obstructions within the ETT

[†]The SonarMed™ airway monitoring system should not be used as the sole basis for diagnosis or therapy and is intended only as an adjunct in patient assessment.

Technology overview

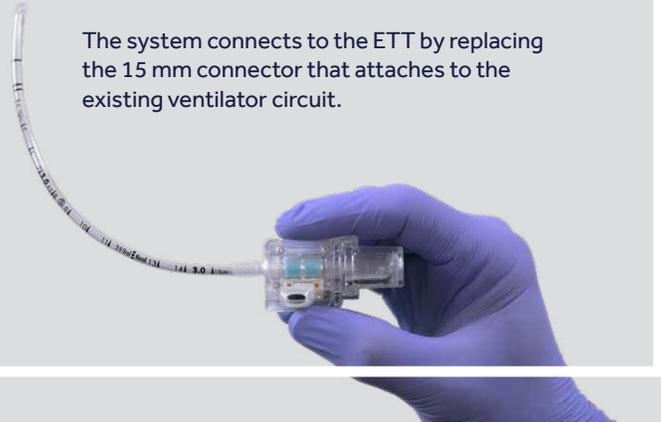
The SonarMed™ airway monitoring system uses acoustic reflectometry to emit sound waves through the ETT and measures them as they return to the sensor.

The system analyzes the timing and amplitude of the echoes to estimate the position and integrity of the ETT. Immediate audible alerts then inform clinicians when movement or obstructions are detected.

The easy-to-read screen displays status changes of the ETT and monitors the correction of the tube location to the optimal baseline position.



The system connects to the ETT by replacing the 15 mm connector that attaches to the existing ventilator circuit.



SonarMed™ monitor



Suctioning Y-connector



SonarMed™ sensor



Monitor mounting bracket



Sensor cable



Power adapter



Power cable

Ordering information

ORDER CODE	DESCRIPTION	UNIT OF MEASURE	QTY
AW-M0001	SonarMed™ system monitor	Each	1
AW-S025	Neonatal SonarMed™ sensor (2.5 mm)	Box	5
AW-S030	Neonatal SonarMed™ sensor (3.0 mm)	Box	5
AW-S035	Neonatal SonarMed™ sensor (3.5 mm)	Box	5
AW-S040	Pediatric SonarMed™ sensor (4.0 mm)	Box	5
AW-S045	Pediatric SonarMed™ sensor (4.5 mm)	Box	5
AW-S050	Pediatric SonarMed™ sensor (5.0 mm)	Box	5
AW-S055	Pediatric SonarMed™ sensor (5.5–6.0 mm)	Box	5
AW-MA002	SonarMed™ monitor mounting bracket	Each	1
AW-MA003	SonarMed™ system mounting pole—threaded with IV hooks	Each	1

Note: All sensors come with a suctioning Y-connector.

1. Hatch LD, Scott TA, Slaughter JC, et al. Outcomes, resource use, and financial costs of unplanned extubations in preterm infants. *Pediatrics*. 2020;145(6):e20192819.
2. Morii C. Prevention strategies for unplanned extubation in NICU—A literature review. *J Neonatal Nurs*. 2016;22(3):91-102.
3. Roddy DJ, Spaeder MC, Pastor W, et al. Unplanned extubations in children: impact on hospital cost and length of stay. *Pediatr Crit Care Med*. 2015;16(6):572-575.
4. Galiote JP, Ridoré M, Carman J, et al. Reduction in unintended extubations in a level-IV neonatal intensive care unit. *Pediatrics*. May 2019;143(5):e20180897.
5. Cong X, Wu J, Vittner D, et al. The impact of cumulative pain/stress on neurobehavioral development of preterm infants in the NICU. *Early Hum Dev*. May 2017;108:9-16.

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