Respiration: a guide to the latest equipment

When an unwell term or a premature infant requires respiratory support on the neonatal unit, mechanical invasive ventilators or non-invasive support from CPAP (continuous positive airway pressure) machines and high flow nasal cannula may be used to support the infant's respiratory system. These devices deliver necessary oxygen and heated and humidified air to the baby's lungs via PIP (peak inspiratory pressure) and/or PEEP (positive end-expiratory pressure) to ensure adequate lung inflation, to prevent lung collapse and maintain lung functional residual capacity (FRC). This respiratory assistance supports infants in breathing more easily, allowing them to maintain their energy for growth. Various monitors are used to measure the baby's heart rate and respiratory rate. In this issue of *Infant*, we examine recent innovations in medical equipment to support newborn respiration.



Providing seamless high quality and precise controlled infant ventilation, **SLE6000** is SLE's most versatile ventilator, available from Inspiration Healthcare. SLE specialises in infant ventilation and the SLE6000 is optimised for the smallest of patients. The SLE6000 infant ventilator is said to be the 'all in one' solution for critical care, high dependency and non-invasive respiratory support. High frequency oscillation ventilation includes power and waveform shape for active volume control with lower pressure and optimal frequency range for lung protective ventilation. **SLE6000 Oxygenie** helps to achieve a stable SpO₂ and reduces the need for manual adjustments.

The SLE6000.

CPAP therapy delivers a heated and humidified blend of air and oxygen while at the same time generating a continuous distending pressure throughout the respiratory cycle to maintain FRC of the lungs.

The Fisher & Paykel Healthcare **Bubble CPAP** system includes circuits, a pressure-relief manifold and Bubble CPAP generator. The system is designed to provide constant pressure and can be used in conjunction with the **F&P 850** humidification system to provide humidified air to support baby's respiratory system.



The **HAMILTON-HF90** from Hamilton Medical provides precise oxygen delivery and advanced customisation of settings to suit both the patient's individual needs and hospital protocols. Comprehensive data monitoring and sophisticated trend analysis facilitate informed decisions and insight-driven care. The HF90 features an intuitive and user friendly design with a responsive software interface for easy handling and interaction.

A space saving design and easy cleaning promote efficiency, convenience and simpler maintenance. The intuitive user interface offers smooth and responsive multitouch functionality even with medical gloves. It has both

automatic and manual brightness adjustments, with clear and crisp visuals and virtual troubleshooting guidance.



The HF-90.

Eakin Healthcare's Swivel Y-Piece has three-point rotation, which enables smooth movement when maintaining a fixed tracheal tube. The three-point rotation allows for gentle repositioning of the infant, which results in minimal torque to the tracheal tube. The rotational force is transferred to the inspiratory and expiratory limbs and the limbs can be independently repositioned with reduced risk of disconnection.



The Swivel Y-Piece.



Pulse CO-Oximeters.

Masimo's respiratory and cardiac monitoring system Eve combines clinically proven Masimo SET Measure-through Motion and Low Perfusion pulse oximetry with step-by-step guided workflows to standardise critical congenital heart disease (CCHD) screenings.

Eve simplifies the CCHD screening process, per an established protocol, by providing visual instructions, animations, an automatic synchronisation algorithm and a detailed, easy-to-interpret display of screening results, says Masimo. On-screen animations provide visual guidance to assist clinicians through the screening process, including sensor placement. Customisable settings allow clinicians to incorporate perfusion index measurement, which may increase sensitivity to detection of CCHD.

> The Infant Supplier Guide provides a searchable database of equipment used for the care of sick and premature infants. Visit: www.infantjournal.co.uk/supplierguide.html



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