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## ICU Volume 6 - Issue 1 - Spring 2006 - News and Innovations

### Industry

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#### HAMILTON MEDICAL: RAPHAEL XTC

[www.hamilton-medical.com](http://www.hamilton-medical.com)

In March 2006 at ISICEM in Brussels, Hamilton Medical will launch the Raphael XTC, a single ventilation solution for both noninvasive positive pressure ventilation (NPPV) and invasive ventilation. Combining the RAPHAEL platform with a single-limb breathing circuit and a large monitor, the RAPHAEL XTC is suitable for stepdown or -subacute care units, long-term care centres, ICUs, recovery rooms or transit. To adapt to frequently changing leakage conditions, HAMILTON MEDICAL has developed trigger technology that automatically and continuously adjusts the trigger threshold to the leakage.

The RAPHAEL XTC is an Intelligent Ventilation solution that features Adaptive Support Ventilation (ASV), a closed-loop mode of ventilation for the respiratory management of patients from intubation to weaning. ASV requires no mode changes during ventilation. It employs lung-protective rules and adjusts the respiratory pattern based on the patient's pulmonary mechanics and spontaneous respiratory activity. Studies show that ASV facilitates shorter times on the ventilator, while at the same time less user interaction is required and fewer alarms occur (Sulzer et al. 2001; Cassina et al. 2003).

#### MAQUET: MRI-compatible SERVO-i

[www.maquet.com](http://www.maquet.com)

MAQUET has launched its MRI compatible SERVO-i, which enables the same ventilator system to be used in the intensive care unit and in the magnetic resonance imaging (MRI) facilities, for the treatment of all categories of patients. This makes it possible for continuous care, with the patient connected to the same ventilator from the ICU bed to the MRI examination and back. SERVO-i can now be used everywhere in the hospital and also in airborne or road transport. These new capabilities of the product will be officially introduced at the International Symposium on Intensive Care and Emergency Medicine (ISICEM) in Brussels, March 21-24, 2006, where Maquet will also present a non-magnetic cart and other non-magnetic mounting solutions, which can be used in MRI rooms.

#### Respironics® Launches BiPAP® Focus™ Noninvasive Ventilator

[manuela.leurent@respironics.com](mailto:manuela.leurent@respironics.com)

[www.respironics.com](http://www.respironics.com)

Respironics have released the BiPAP® Focus™ Noninvasive Ventilator, a basic BiPAP delivery system designed specifically for the institutional setting.

Ventilatory assistance is provided to stable, less acute patients with respiratory insufficiency or failure. Features of the BiPAP Focus System include:

- M Digital Auto-Trak Sensitivity
- M Large easy-to-use user interface
- M Display of patient parameters
- M Pressure bar graph
- M Easy to use alarms
- M Backup battery

The BiPAP Focus includes Respironics' proprietary Digital Auto-Trak™ Sensitivity that assures optimum triggering and cycling sensitivity throughout changing breathing patterns and leaks. This eliminates the need for a perfect seal of the patient interface and constant adjustment while promoting patient-ventilator synchrony. The pressure bar graph indicates patient breaths and pressure ranges. Pressure alarms are automatically set to 5 cm/H<sub>2</sub>O above IPAP and below EPAP settings, minimizing nuisance alarms. An integral backup battery system maintains

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patient ventilation in the event of an interruption in power, also allowing intra-hospital patient transport from one care area to another with uninterrupted ventilatory care.

**ZOLL: ResQPOD® Circulatory Enhancer**

[www.zoll.nl](http://www.zoll.nl)

Impedance threshold devices (ITD) have been given a Class IIa recommendation by the American Heart Association (AHA) in its new guidelines for CPR and emergency cardiac care. The AHA report that the use of the ITD has been shown to improve circulation during CPR and increase the return of spontaneous circulation (ROSC) in cardiac arrest patients (AHA Guidelines for CPR and emergency cardiac care 2005).

Advanced Circulatory System's ResQPOD® Circulatory Enhancer – sold in Europe by Zoll Medical Corporation – helps increase blood flow to the heart and brain during assisted ventilation. It works in conjunction with all standard resuscitation techniques and equipment. The ResQPOD uses proprietary technology that increases circulation by regulating airflow into the lungs during the chest wall recoil (or decompression) phase of CPR. In multiple preclinical investigations and seven different published clinical studies with patients in cardiac arrest, the ResQPOD has been shown to increase blood return to the heart and blood flow to the vital organs during CPR (Aufderheide et al. 2005; Pirralo et al. 2005; Thayne et al. 2005 (in press); Wolcke et al. 2003; Plaisance et al. 2000 2004 & 2005).

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