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## ICU Volume 5 - Issue 1 - Spring 2005 - News and Innovations

### Products, Companies and Research

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#### Dräger - New Products, New Concepts

Dräger Medical released a portfolio of products and concepts at Medica 2004: a new concept for non-invasive critical care ventilation, the EvitaXL, a new disposable expiration valve for the Evita family of ventilators, the new D-Vapor desflurane vaporizer, Infinity® ChartAssist® VF2 and the Infinity® OneNet.

With EvitaXL, automated weaning is achieved through the knowledge-based SmartCare™/ PS weaning system at the end of the respiratory chain, which makes it possible to reduce intensive care stays and shorten the time for critical care ventilation. SmartCare combined with a software option for lung protective ventilation, the Lung Protection Package, allows settings to be optimized at the crucial outset of ventilation, when the course of a disease can be impacted most. Early results from a multicentre study in five European hospitals, lead by Professor L. Brochard, indicate that using SmartCare reduces the time for therapy and subsequently lowers costs. Preliminary results show a reduction in average time for weaning, duration of ventilation and length of stay (Brochard et al. 2004). The new setting tools in the Lung Protection Package include QuickSet™ (to set parameters directly in real-time), PressureLink (to simultaneously adjust inspiratory pressure and positive endexpiratory pressure), and the option to display recruitment trends. These functions can be used to control various recruitment manoeuvres. Other features such as the low flow PV loop manoeuvre can be used to record the elasticity of the lung during inspiration and expiration, and this information can be used to optimize EvitaXL settings.

#### GE Healthcare Introduces Engström Respiratory Carestation

GE Healthcare, a unit of General Electric Company, launched the first critical care respiratory carestation, the Engström Carestation, at the 2004 ESICM Congress in Berlin. The Engström Carestation offers integration throughout the care process, from the ICU to the step-down unit, enabling clinicians to integrate ventilation with monitoring modules capable of measuring advanced parameters.

The advanced features include:

- Integrated ventilation and monitoring;
- Plug-and-play modules providing advanced Datex- Ohmeda monitoring parameters;
- Ease of use with the simple and time-efficient user interface familiar from Datex-Ohmeda patient monitoring and anaesthesia equipment;

- Adaptability and flexibility to suit clinician's environment: a moveable screen, auxiliary power outlets and a compressor;
- Advanced aerosolized medication delivery with the Aerogen Aeroneb® Pro;
- Customizable screens for viewing e.g. waveforms, trends, end-tidal CO<sub>2</sub>, energy expenditure, gas exchange and metabolics;
- Non-invasive ventilation.

#### **Gurit Medical Business/Medisize Increases Expertise and Capacity in the Medical Sector**

Gurit Medical Business, a division of the Gurit-Heberlein Group, acquired Createchne AG, based in Nürensdorf, Zurich, with effect from 1 November 2004. The Gurit- Heberlein Group specializes in clearly defined areas of the chemical and synthetics technology sector. The Health are Division addresses two market segments: the dental sector and the medical and pharmaceutical industries, where the Group manufactures respiratory and disposable OEM products under clean-room conditions. Gurit is integrating Createchne into the international Medisize Group, as part of Gurit Medical Business. Medisize is a specialist developer and manufacturer of airway management disposables, concentrating on the anaesthesia and critical care markets.

With around 100 employees, Createchne manufactures high quality packaging, precision-dispensing and sealing systems, and disposable OEM products for some of the world's leading medical and pharmaceutical companies. The acquisition will put a wider range of production technologies and patented solutions at the disposal of Gurit Medical Business, while broadening its international customer base. It will also boost the Health Care Division's sales by approximately CHF 22 million annually.

#### **Maquet: Servo-i Ventilator now Supports Non Invasive Ventilation**

SERVO-i ventilators provide moderated and reliable treatment for all patient groups while offering maximum ease of use. Depending on the requirements of the particular ICU, the software based technology is specifically configured for neonatal, paediatric and adult patient groups.

A new version of the SERVO-i now supports both NIV and suction procedures. NIV supports ventilation in the Pressure Control and Pressure Support modes. When using NIV, comfortable, effective continuous adaptive leakage compensation is made possible by a high sampling rate and adjustment during breathing, rather than after each breath. To increase patient comfort when introducing a mask, ventilation can be started either manually or by patient trigger, and disconnects are detected automatically. Much of the new functionality is also available in the SERVO-s series.

The SERVO-s has been created as a pre-configured, user friendly basic solution. Specially designed to cater for weaning ventilator patients off the machines, the SERVO-s includes non-invasive ventilation (NIV) and biphasic ventilation (BiVent functions). A recent software update for SERVO-s and SERVO-i simplifies treatment and sets new standards in terms of ventilation comfort and quality.

#### **Radiometer Launches the New ABL800 FLEX Analyzer**

With the ABL800 FLEX blood gas analyzer, automated procedures ensure data accuracy and regulatory compliance, while two new supplementary services, FLEXCARE and FLEXPAC maximize analyzer uptime and simplify management. ABL800 FLEX can be configured to measure any combination of pH, blood gas, electrolyte, oximetry and metabolite parameters with just 95 µL of blood. Immediate on-screen verification of correct patient information and accession numbers from HIS/LIS or RADIANCE (Radiometer's STAT analyzer data management system) ensures 100% data accuracy, a prerequisite for correct billing. Authorized users can access patient results from any RADIANCE-connected analyzer in the hospital directly on the ABL800 FLEX screen. With FLEXCARE, in addition to regular on site checks, Radiometer proactively ensures analyzer uptime by running system checks via a remote connection. With FLEXPAC, inventory management is reduced to a few order numbers, simplifying the ordering process and eliminating excess stock.

#### **Research: Cost of Futility**

Dr Kanevetci and his colleagues at Akdeniz University Hospital in Turkey researched over a one year period the proportion, costs and prognosis of patients who were admitted to their ICU and who were not expected to survive according to their clinical experience. For the 145 patients who met the inclusion criteria, 83.4% died in the ICU, 3.4% died after ICU discharge, 7.6% were in a vegetative state, 4.8% in a severe neurological state and 0.7% in moderate neurological deficit when discharged from the hospital. Only one of the 145 patients included in the study had a moderate neurological deficit and survived. The total ICU stay was 2665 days and the mean daily ICU cost per patient 534.5 ± 157.5 USD. During this period, an important percentage 33.1% of the ICU beds had been occupied by patients who were not expected to benefit from ICU treatment. The total ICU costs of those patients during the study period were 1,424,495 USD. An abstract of this study is reported in the Official Journal of the European Society of Intensive Care Medicine (2004).

#### **Smiths - Emergency Airway Kit**

At Medica 2004 in Düsseldorf, Smiths Medical exhibited their Emergency Airway Kit for use by clinicians in civil and combat situations. Designed specifically for use in emergency situations, the Portex Cricothyroidotomy Kit (PCK) contains all the items required to establish emergency airway access. The kit is based on an innovative veress needle design that confirms entry in the trachea and indicates any subsequent contact with the posterior tracheal wall. Its 6mm bore Cricothyroidotomy tube enables spontaneous breathing and the Portex Soft Seal cuff secures the airway. The new device is supplied preassembled in compact robust packaging, making it ideal for inclusion in trauma bags.

#### **\$925 Million Acquisition Moves SMITHS into Medical Devices Big League**

On the 6th December, the Smiths Group announced their agreement to acquire the privately-held US medical device company, Medex, Inc. Smiths will pay the current owners of Medex \$625m in cash for the company's equity, subject to any closing adjustment, with completion expected early in 2005. The acquisition is anticipated to give Smiths Medical a leading position in anaesthesia and safety devices, to increase Smiths Medical's sales by a third and profits by nearly a half, and provide the company with a strong platform for international expansion.

Medex products are highly complementary with the Smiths Medical range, selling to the same customer base in hospitals and other healthcare locations. Medex is a leading supplier of infusion equipment used in critical care, specialising in intravenous infusion catheters which prevent needle-stick injuries. These products are aligned in the market with the Smiths Needle-Pro range of safety devices. Medex pre-packaged trays of single-use products for catheterisation procedures are similar to Smiths' kits for anaesthesia applications. Medex also makes advanced syringe pumps which incorporate medication error detection, while Smiths is the leading supplier of ambulatory infusion pumps in the worldwide market.

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