

TRENDS & TECHNOLOGY

Richa Saroa, MD

Associate Professor, Department of Anesthesiology & Intensive Care, Block D, Level V, Government Medical College, Chandigarh (India)

Portable, Calibration-Free Spirometer

nDD Medical technologies have unveiled a spirometer that does not need calibration as well as maintenance with a rechargeable battery. A color touchscreen is used to select settings and to review the readings, which are also interpreted to the ATS/ERS guidelines. The spirometer can connect to in-clinic EMRs to upload its readings via a Bluetooth connection to a paired PC or via a USB cable.

Source: Easy one Air Spirometer, nDD Medical Technologies, Switzerland. www.nddmed.com



Drip Assist Infusion Rate Monitor



Shiftlabs have introduced a device that automates the calculation of IV infusion drip rates and total infusion volumes while also being able to alert a nurse when a drip rate changes or stops. It has a benefit of accurate medication dosing as well as infusion time and cost savings. It allows the clinician to set the rate of a gravity IV drip while the technology automatically monitors drip rate and volume to ensure safe dosing. The device does not require calibration, needs minimal training, and operates using one AA battery, making it incredibly portable.

Source: Drip Assist, Shiftlabs. www.shiftlabs.com

On-Demand Portable iNO

Third Pole aims at developing next generation life-saving therapies capable of serving new cardio-pulmonary markets. Their initial product leverages an iridium spark electrode, calcium chloride scavenger and filter to deliver continuous inhaled nitric oxide (NO) generated from readily available ambient air. The technology could be integrated with standard ventilators, inhalers, or implantable devices, enabling the use of iNO for pulmonary hypertension and other diseases in ways never before seen.

Source: Third Pole, Boston, US. www.pole3.com



Forehead Pulse Oximeter

Masimo has introduced the TFA-1 disposable forehead sensor that lets clinicians get pulse oximetry readings from the forehead instead of the

fingertip thus avoiding the local inconsistencies. The device uses proprietary SET Measure-through Motion and Low Perfusion technology to provide accurate readings. It can measure oxygen saturation (SpO₂), pulse rate (PR), perfusion index (PI), and PVI, changes in the perfusion index that occur due to breathing.

Source: Masimo, CA. www.masimo.com

Miniature Sensor Measures Velocity of Blood Flow Below Skin

Kyocera Corporation Japan, has developed a tiny optical sensor for measuring blood flow within subcutaneous tissue. The sensor measures 1.6 mm by 3.2 mm and only 1 mm in height and can be integrated into various devices, including smartphones and wearable activity trackers.

Within the sensor is a laser that shines light onto the skin, and a photodiode that converts light returning from the skin into an electrical signal. By detecting and measuring the Doppler shift of the returning light compared to what the laser emits, the device can extrapolate how fast red blood cells are moving. The sensor only works on certain parts of the body that includes the ear lobe, fingers, and the forehead. Readings from such a device may help assess how injured tissue is healing, produce evidence of dehydration, and detect altitude sickness.

Source: Kyocera Corporation, Japan global.kyocera.com



Sedation Mask

Accutron, part of Crosstex International, unveiled its new AXESS nitrous oxide/oxygen nasal sedation mask that is designed to optimize comfort, minimize anxiety particularly in children, reduce opportunities for displacement, and allow for easy access to the mouth for dental and orthodontic procedures. It's lightweight and stays out of the way of the eyes and the nostrils as it doesn't have any protruding nipples within its interior. It works with a reusable scavenging circuit that sucks up unused gas and recycles it automatically without blowing toward the clinical staff. The scavenging circuit can be processed after each use using steam sterilization. It's available in three sizes, the smallest being for kids that has the option of having bubble gum or mint scent.

Source: Axess low profile nasal mask, Accutron, NY www.accutron-inc.com

