MightySat Rx Pulse Oximeter

Masimo's MightySat Rx pulse oximeter is available in three versions, features Masimo's SET Measure-Through Motion and Low Perfusion technology.

Using a tablet or smartphone clinicians can tap the data gathered by the Bluetooth-enabled MightySat Rx devices, displaying readings such as SpO2, pulse rate, and perfusion index obtained over a twelve hour period. It also provides Pleth Variability Index (PVI), an indication of the changes in the perfusion index that occurs during respiratory cycles.

Additional features are;

1. Signal I.Q.® to assess measurement confidence
2. Rugged, lightweight design for operation in challenging environments
3. Long battery life–up to 15 hours with two standard AAA alkaline batteries
4. Comfortable design with silicon finger pad to mold to patients' fingers

Philips Lumify, App-based Ultrasound System

Philips Lumify, a new ultrasound system uses your own tablet as the display and interface. It has a micro-USB plug on the far end. You simply download the Lumify app onto a compatible Android tablet, plug in the transducer into the micro-USB socket, and you've got yourself a proper ultrasound system.

Moreover, the app allows for easy sharing of scans, adding notations, and emailing it all between colleagues.

Esophageal Cooling Device

Advanced Cooling Therapy launched Esophageal Cooling Device (ECD), in effect creating a new category of regulated medical devices.

The ECD is used to cool patient body temperature via the esophagus. It is a disposable, single use device that has three channels, two of which are for running fluids and the third one for drainage and decompression.

http://www.businesswire.com/news/

home/20150624005300/en/Medical-Device-Firm-Advanced-Cooling-Therapy

Advanced Cooling Therapy Lisa Owens, 210-601-6647 lisaowens@regval.com

Drug Loaded Nanowires

Drug releasing implants can be of great benefit for long term treatment in a targeted area of the body. Researchers at Purdue University have come up with a new way of releasing drugs into the body in a controlled manner using tiny injectable nanowire implants.

The devices are made of polypyrrole, an organic electrically conductive polylmer. A small carpet made of these wires was grown over a gold base and loaded with dexamethasone, a corticosteroid. Applying an electromagnetic field over the wires caused them to release the drug. Turning off the EM field immediately stopped the drug release process.

http://www.sciencedirect.com/science/article/pii/S0168365915005647

Accuro

Rivanna Medical's smart phone-sized Accuro device is designed to guide a clinician using a needle or probe to a target within the human anatomy. The Accuro platform will be leveraged in future products to be used for vascular access, joint injection, thyroid biopsy, and nerve blockage. First commercial application of the platform is designed to guide clinicians to a first-attempt success in administering spinal anesthesia.It is a pocket-sized, self-contained, battery operated ultrasound instrument, much different from the standard probe/cable/screen approach.

Accuro consists of (a) an ultrasound system, (b) an ultrasound probe, and (c) a rotatable touchscreen display. The Accuro device's initial application facilitates spinal anesthesia needle guidance with real-time 3D navigation of the lumbar spine.

http://www.rivannamedical.com/accuro-.html

Making injections less painful

Students at Rice University are developing a new drug injector, Comfortably Numb, that will cool the skin before administering the medication.

The core of the unit works essentially like an ice pack, containing ammonium nitrate and water in separate compartments. When the device is activated, the two ingredients mix and an endothermic reaction cools down the flat metal tip of the Comfortably Numb. When pressed against the skin, the ice cold tip numbs the injection site.

http://news.rice.edu/2015/04/14/making-injections-less-painful/

New Camera Technique Detects Heart, Respiratory Rates

Researchers at Rice University have developed their own version of the technique for video-based recognition of persons' heart and breathing rates, which they call DistancePPG, that is able to compensate for different skin tones, patient movement, and the ambient lighting wherever it's being used.

The team used an algorithm that both averaged the color changes of the whole face and monitored individual areas as well.

Four basic steps in distancePPG: **Step (i)** Extract landmark points such as eyes, nose, mouth and face boundary from face image, **Step (ii)** Face is divided into seven regions, each region tracked over the video using computer vision tracker, **Step (iii)** Each tracked region is further divided into small regions of interest (ROI), **Step (iv)** DistancePPG computes the goodness metric associated with each ROI based only on the video recordings, and estimate camera-based PPG signal with much higher SNR (signal to noise ratio).

http://sh.rice.edu/distancePPG