

# Hospimedia

## INTERNATIONAL

### Rapid Sepsis Detection Test to Save Lives

**A**n innovative mobile diagnostics platform will provide fast, cost-effective sepsis detection in as little as an hour.

Developed by a collaboration of researchers at the Fraunhofer Institute for Cell Therapy and Immunology (IZI) Leipzig, Germany; [www.izi.fraunhofer.de](http://www.izi.fraunhofer.de),

*Cont'd on page 4*

### Desktop Medicine Could Transform Medical Practice

**A**n emerging approach to medicine shifts emphasis from diagnosing diseases and treating symptoms to identifying risk-factors for medical conditions, and intervening before they develop.

Desktop medicine, as defined in a recent commentary by Jason Karlawish, MD, an associate pro-

fessor of medicine and medical ethics at the University of Pennsylvania School of Medicine (Philadelphia, USA; [www.med.upenn.edu](http://www.med.upenn.edu)), involves clinicians continuously gathering risk factor information from a patient's medical history, electronic medical record (EMR), or recent office visits, and

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### Ultrasound Technique Helps Dissolve Emboli

**A** new technique that combines the heat and energy of ultrasound with highly targeted delivery of clot-busting drugs appears to be an effective treatment for patients with acute massive pulmonary embolism (PE).

The innovative treatment is called ultrasound-accelerated catheter-directed thrombolysis (developed by EKOS Corp. [Bothell, Washington; [www.ekoscorp.com](http://www.ekoscorp.com)]).

*Cont'd on page 5*

## Real-Time Visualization of Tumor Metabolism Made Possible with New Imaging Technique

**R**esearch collaboration has produced the first results in human trials of a technique that offers the potential to rapidly evaluate the presence and aggressiveness of prostate tumors in real time by imaging the tumor's metabolism.

*See article on page 7*



*Image: Colored frontal X-ray image of the pelvis of a 66-year-old male patient being treated for prostate cancer*

### Radiation Reduced in Pediatric Cardiology

**A** protocol that uses continuous real-time radiation monitoring, low-dose imaging programs, and requires physician awareness of radiation dose, considerably reduced radiation exposure during electrophysiology procedures and catheter ablations to diagnose and treat heart arrhythmias in children.

Invasive cardiac electrophysiology is used to diagnose and treat abnormal heart rhythms, or

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### Wireless Telemetry System Monitors Patients

**A** patient-worn telemetry monitoring system has been successfully implemented at major hospitals worldwide, resulting in both clinical and cost benefits. The Infinity M300 provides the performance of a full-size patient monitor, but unlike traditional telemetry devices that just transmit the data to a remote viewing station, it includes built-in vital signs processing capabilities.

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### Oncology Treatment Evaluation Quantified

**I**n an effort to promote further the utility of positron emission tomography/computed tomography (PET/CT) imaging in assessing the effectiveness of oncology treatments, a new quantification tool to support PERCIST (PET response criteria in solid tumors) has been designed.

*Cont'd on page 12*

### Technique Treats Hepatocellular Carcinoma

**A** new technique called irreversible electroporation (IRE) holds promise for the treatment of hepatocellular carcinoma (HCC) and other soft tissue tumors. Researchers at the University of Pisa (Italy; [www.unipi.it](http://www.unipi.it)) and other institutions participating in an ongoing

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## ANTIBACTERIAL COATING ACEM

The antibacterial surface coating has been applied to surgical LED lamps as a titanium dioxide aqueous acrylic dispersion. The water-based acrylic paint dispersion provides a surface with bactericidal properties against GRAM-positive and GRAM-negative bacteria.

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## EXTRACTION CATHETER Atrium Medical

The Xpress-Way FX is a manual aspiration system designed for the removal of fresh, soft emboli and thrombi from coronary and peripheral vessels. Key benefits include enhanced accuracy and tracking, as well as anti-kinking.

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## SAFE LABEL SYSTEM Codonic

The SLS 500i is a complete solution for safe, fast, compliant labeling of medication in the OR. The system allows for the scanning of a vial, provides visual confirmation of the medication and strength, and automatically prints full-color labels containing important data, while the syringe is being filled.

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## HYBRID OPERATING ROOM Philips Healthcare

The Philips/Maquet Hybrid OR combines the sterility and instruments of a traditional operating room with the X-ray and ultrasound imaging systems, plus the radiation shields, of a cath lab. The Hybrid OR is intended for both minimally invasive, as well as open surgical procedures.

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## Contoured Pad Retracts Bowels During Surgery

A simple yet effective medical device safely retains the bowels away from the surgical field during abdominal surgery.

The Lap Pak is an innovative device made of soft, contoured, medical grade silicone that can be used in place of cotton pads during bowel packing, thus reducing accumulation of fibers and debris left in the surgical site. The shape of the device is supportive enough to cushion the bowels, safely distributing the pressure applied by retractor blades to hold the intestines gently and securely in place. Side flaps prevent the intestines from escaping and intruding into the surgical space. Various sizes make it suitable for almost all cases of open abdominal surgery, while the one-piece design reduces the probability of the device being left in the surgery site upon completion of the operation.

The one-piece design of Lap Pak enables quick and easy placement, in less than half the time taken to pack using traditional products. The device also facilitates monitoring of bowels,

and maintains tissue temperature and hydration. As a result, the Lap Pak reduces trauma and drying out of the bowels; and unlike cotton packing, it does not leave debris that causes adhesions and granulomas. The Lap Pak is a product of Seguro Surgical (Columbia, MD, USA; [www.segurosurgical.com](http://www.segurosurgical.com)).

"We believe that this elegantly simple device will improve the overall efficiency of laparotomies and generate substantial reductions in overall healthcare costs," said Steve Kubisen, PhD, president and CEO of Seguro Surgical. "The cost reduction potential and safety profile of this product will drive its rapid adoption within the surgical community."

During many open abdominal surgeries, surgeons use cotton gauze pads and retractor systems to hold the bowels away from the surgical site, a process called "bowel packing." Placing these pads and holding them in place correctly using a retractor system prior to commencing surgery is a time consuming process which has to be repeated as many as 2 or 3 times



during open abdominal surgery. Additionally, the gauze can dehydrate the bowel tissue during the surgery, and allows hard metal retractors to cause pressure points on the bowels and is commonly forgotten in the intestines. Once the surgery is complete the gauze pads are removed, leaving microscopic fibers and cotton based debris in the surgical site. When the abdominal organs are traumatized or exposed to foreign materials, inflammation and other repair

processes initiate formation of abnormal bands of tissue within the abdomen. Such adhesions may involve the bowels and other organs, including, in women, the reproductive organs. In many cases, this can lead to bowel obstruction, infertility in women, chronic pain, and complications during future surgeries.

*Image: The Lap Pak abdominal retraction device (Photo courtesy of Seguro Surgical).*

## Catheter-Based Aortic Valve Replacement Recommended for High-Risk Patients

A new clinical trial has established transcatheter aortic-valve implantation (TAVI) as a new standard of care for patients with severe aortic stenosis who cannot undergo surgery.

Researchers at NewYork-Presbyterian Hospital/Columbia University Medical Center (NYP; USA; [www.nyp.org](http://www.nyp.org)) and other institutions reported the results of the Placement of Aortic Transcatheter valves (PARTNER) trial, a multicenter, randomized, clinical trial comparing TAVI with standard therapy in high-risk patients. A total of 358 patients with aortic stenosis who were considered to be unsuitable candidates for surgery underwent randomization at 21 centers, including 17 in the United States. The control patients randomized for standard therapy received a combination of watchful waiting, medications, and

balloon aortic valvuloplasty. The primary end point was the rate of death from any cause over the duration of the study.

The results showed that at one year, patients who underwent TAVI showed a 45% reduction in the rate of death from any cause compared with patients who received standard therapy, and a 54% reduction in the combined end point of death from any cause or repeat hospitalization. Among survivors at one year, the rate of cardiac symptoms was significantly lower among patients who had undergone TAVI, as compared with those who had received standard therapy (25.2% versus 58%). The results were presented at the 22nd annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium, held during September 2010 in Washington DC (USA).

"Based on the reduction in mortality during the first year of the study, balloon-expandable TAVI should be the new standard of care in patients who are not suitable candidates for surgery," said coprincipal researcher and study presenter Martin B. Leon, MD, a professor of medicine at NYP.

The TAVI procedure takes about 90 minutes, compared with four to six hours for open-heart surgery. The replacement valve used is made of pericardial tissue leaflets hand-sewn onto a metal frame, and implanted via a catheter into the left ventricle. It is then positioned inside the patient's existing valve using a balloon to deploy the frame, which holds the valve replacement in place. The procedure is performed on a beating heart, without the need for cardiopulmonary bypass and its associated risks.