

Hospimedia

INTERNATIONAL

Radiation-Free MRI of Childhood Tumors

A new imaging approach that searches young cancer patients' bodies for tumors without exposing them to radiation has been devised that could reduce the children's chance of developing secondary cancers later on in life. The new technique is a modification of magnetic resonance imaging (MRI) that

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EU Radiation Protection Initiative Issues New Directives on Dose Management

EUROSAFE, a radiation protection initiative from the European Society of Radiology (ESR) was finally launched at this year's ECR meeting in Vienna, in conjunction with a recently introduced EU Directive on dose management.

GE Healthcare (Chalfont St. Giles, UK; www.gehealthcare.com)

have taken a lead alongside other companies in driving the initiative forward and through its novel Dose Blueprint framework aims to ensure that radiology centers implement the initiative effectively.

"At the launch session here today the room was completely packed showing the concern felt

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Regional Hyperthermia Treats Malignant Tumors

A combination of multimodality therapy with regional hyperthermia improves the long-term survival of children with high-risk tumors with dismal prognosis. Developed by researchers at Heinrich-Heine-University (Düsseldorf, Germany; www.med.uni-duesseldorf.de), The HyperPEI protocol is designed for children

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Optoacoustic Ultrasound Fusion Can Eliminate Need for Breast Biopsies

A new dual-modality two-dimensional optoacoustic ultrasonic system called Imagio, may be effective in reducing the need for biopsies in patients with benign but suspicious-appearing breast masses on standard diagnostic breast ultrasound.

See article on page 3

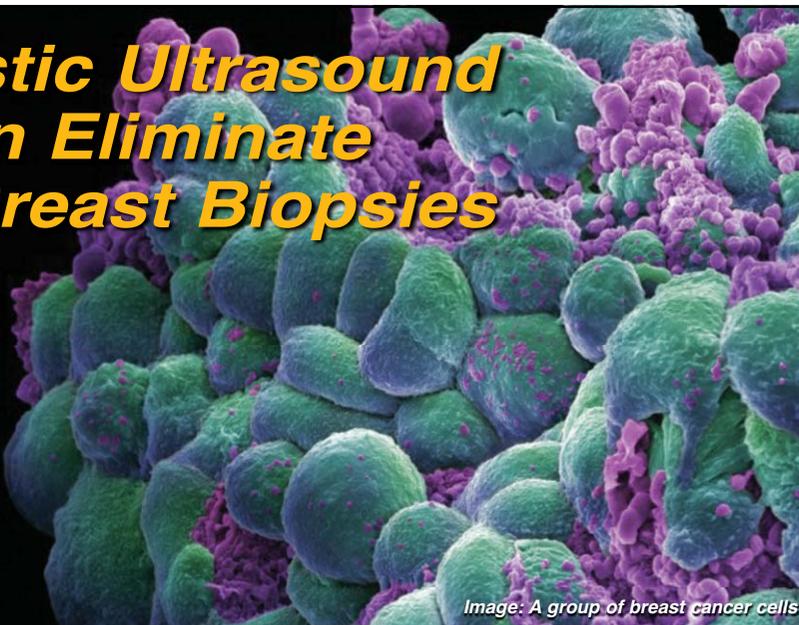


Image: A group of breast cancer cells

CT Does Not Interfere With Pacemakers

When the US health administrators issued an advisory in 2008 warning that computed tomography (CT) imaging might interfere with pacemakers or implantable cardioverter-defibrillators, the medical community needed more evidence to support the health agency's recommendations.

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Imaging Platform Combines Workflow and Image Management

A next-generation imaging platform is designed to achieve clinical productivity and improve cost-effectiveness. It uses a single data model to provide a system that offers relevant and diverse clinical data in one, entirely unified imaging management platform.

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New Breast Implants Contain RFID Technology

Breast implants with radiofrequency identification (RFID) chips can be simply externally scanned for retrieval of information in the event of a recall or other product query.

The Motiva Implant Matrix VelvetSurface PLUS and SilkSurface PLUS breast implants are a made of a soft,

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Rectal Device Enables Easy Medication Delivery

A rectal device offers a discrete and comfortable route for giving drugs and liquids, particularly for patients with serious or terminal illness who often lose the ability to swallow.

The Macy Catheter is a Silicone-based disposable device, which once placed by a clinician, rests on a patient's

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SAFETY ANALYZER Fluke Biomedical

The ESA609 electrical safety analyzer integrates all functions needed to test medical devices when patient lead testing is no required. The system offers simple push-button operation, ensuring quick testing and fast transition between tests for complete basic testing in minutes.

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MEDICATION DISPENSER InstyMeds

The InstyMeds is a fully automated prescription medication dispenser that allows patients to fill prescriptions at the point of care. The system contains the most common medications prescribed by the facility, such as pain relievers and antibiotics, packaged in a bar-coded cartridge.

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ECG SYSTEM Mindray

The BeneHeart R12 features a user-friendly panel design that offers an 8-inch color display, and both soft and hard functional keys. The system has a 6.5-second start-up time, is compact and lightweight, and includes a 800-record storage capacity and long battery life.

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PATIENT DATA INTERFACE Seca

The wireless automated interface is designed to allow capture and viewing of weight and height measurements, and automated data transfer to EMRs. The wireless connection links information from the Welch Allyn Connex VSM with the Seca 360° system for easy accessibility.

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Ultra-Light Nasal Pillows Improve Users' Sleep

A new nasal pillows mask for continuous positive airway pressure therapy (CPAP) features a venting technology that reduces exhaust noise by 50%.

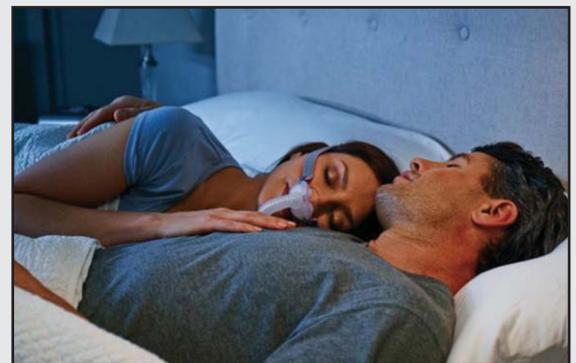
The ultra-quiet ResMed AirFit P10 nasal pillows mask weighs just 45 grams, and has only three parts, including a soft and stable auto-adjusting headgear that holds the mask snugly and comfortably in place, with a split-strap design that offers adjustability and stability while delivering a high level of facial freedom. The mask's key-clip nasal pillows seal on contact, with trampoline action that allows freedom of movement. A new exhaust mesh vent, dubbed QuietAir, diffuses exhaled air with minimal disturbance to patients or their bed partners.

Simple one-click action makes assembling the pillow to the frame and cleaning the AirFit P10 quick and easy. For added convenience to both providers and the patients themselves, the AirFit

P10 has color-coded cushion sizing, with small, medium, and large sizes in the standard AirFit P10 system, and extra-small, small, and medium sizes in the AirFit for Her system, which features headgear designed especially for women. The ResMed AirFit P10 nasal pillows mask is a product of ResMed (San Diego, CA, USA; www.resmed.com), and has been approved by the US Food and Drug Administration (FDA).

"The AirFit P10's light weight and ultra-quiet performance also translates directly into better compliance," said Jon Yerbury, vice president of ResMed's sleep-disordered breathing strategic business unit. "Our internal research has shown that the AirFit P10 provides an average of 40 more minutes of sleep per night than ResMed's current market-leading nasal pillows mask."

Nasal pillows are a type of CPAP mask consisting of plastic inserts that slip directly into the nos-



trils. They are an excellent option for claustrophobic patients or those who cannot tolerate having a large mask across the face or blocking the eyes. In addition, they are more suitable for men with facial hair such as large mustaches or beards that may have trouble getting a seal with a standard CPAP mask that fits over the nose or around the mouth.

Image: The AirFit P10 nasal pillows mask, designed for positive airway pressure therapy (Photo courtesy of ResMed).

ECG Tool Analyzes Ischemic Heart Disease

A multifunctional cardiac assessment system for exercise stress testing set new standards for the future of electrocardiography.

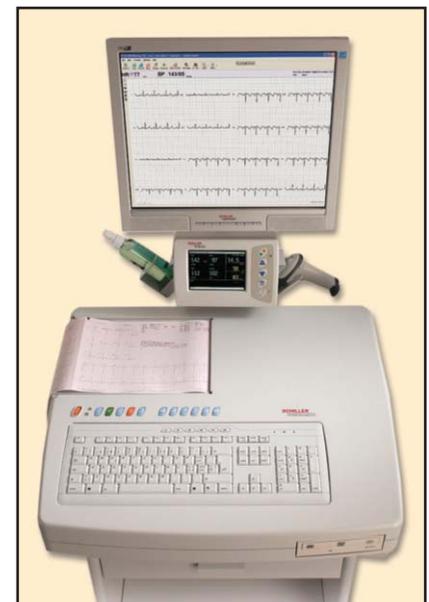
The CS-200 Excellence is equipped with the 3rd Generation Intel Core i7 CPU, which speeds up the entire system, as well as a very high sampling rate of 8,000 Hz per channel, allowing the accurate recording of even slight changes in the electrocardiogram (ECG). The i7 CPU core allows 16-channel resting and exercise ECG measurement with 24-bit resolution of the ECG signal; QTC calculation (user-defined); autonomous emergency ECG; automatic measurement and interpretation; and repeated analysis of the 10-second ECG.

An array of high-performance analysis and diagnostic tools enhance the multifunctional diagnostic system, which has also been fitted with groundbreaking HyperQ technology for coronary artery disease (CAD) screening

and acute coronary syndrome (ACS) detection. When combined with the CS-200 Excellence, HyperQ enables the detection of depolarization changes in both resting and exercise ECGs by means of automated analysis of the high-frequency QRS components.

The CS-200 Excellence also helps to optimize digital workflow by offering connectivity to electronic medical records (EMRs), the SEMA cardiology information system, and picture archiving and communications systems (PACS). Results are displayed on a 24-inch liquid crystal display (LCD) monitor, while an integrated thermal printer and rechargeable battery ensure immediate real-time printouts at any time. The CS-200 Excellence is a product of Schiller (Baar, Switzerland; www.schiller.ch).

Image: The CS-200 Excellence cardiac assessment system contains ECG measurement software which accurately measures recorded cardiac signals (Photo courtesy of Schiller).



Radial Head Prosthesis System Helps Restore Elbow Function

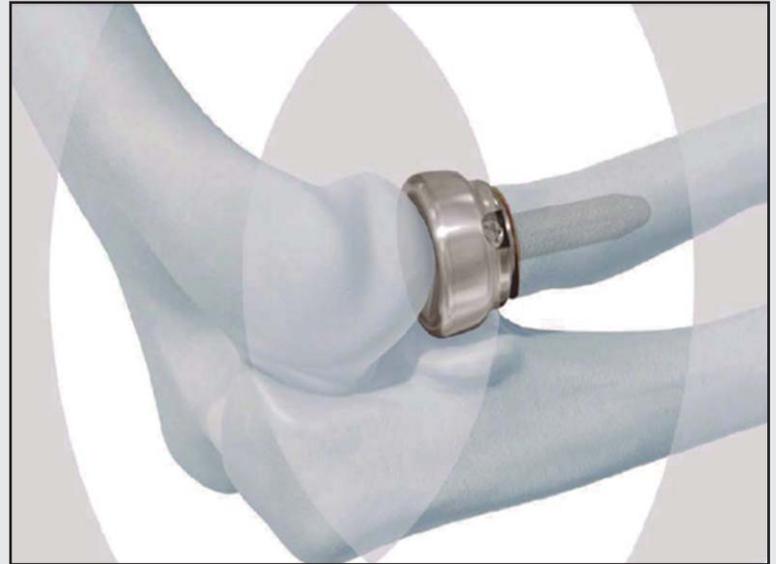
A modular radial system enables surgeons to restore appropriate elbow joint height, promoting joint stability after reconstruction.

The DePuy Synthes Radial Head Prosthesis System is intended for primary and revision joint replacement of the radial head. The system is also indicated for replacement of the radial head for degenerative or post-traumatic disabilities, primary replacement after fracture of the radial head, for symptomatic episodes after radial head resection, and for revision procedure following unsuccessful radial head arthroplasty.

The system is of modular design, consisting of 24 radial heads and 10 radial stems, allowing for 240 possible implant combinations. The radial head is side loading, allowing for in-situ insertion and assembly, and requiring a smaller incision

than a top loading head. The radial head itself is round and symmetrical to allow for ease of sizing and implantation, and includes an integrated connection screw that engages with the taper locking assembly, along with a full line of simple instrumentation.

The radial stem part has a fluted design for rotational stability, and is available either in straight or curved forms; the straight stem has a beveled tip to allow for insertion into the medullary cavity, whereas the curved tip conforms to the physiological bend of the proximal radius. The stem also has a thin collar that helps to guide the head into the stem, and the device's surface is roughened by chemical etching to promote bony growth. The Radial Head Prosthesis System is a product of DePuy Synthes (West Chester, PA, USA; www.depuysynthes.com),



a Johnson & Johnson (New Brunswick, NJ, USA; www.jnj.com) company.

"This system is a comprehensive solution for the radial head replacement that permits the surgeon to choose whether a long or short stem is best for the proximal radius," said Harry Hoyen, MD, of the department of orthopedic surgery at MetroHealth Medical Center (Cleveland, OH, USA). "With the

system, a novel surface etching permits on-growth and stability; the head element can be placed onto either stem and is designed to take into account the proximal radio-ulnar joint and radiocapitellar articulation for each respective size."

Image: The Radial Head Prosthesis System for primary and revision joint replacement of the radial head to restore joint function (Photo courtesy of DePuy Synthes).

Surgery Preferable for Herniated Lumbar Discs

For patients with herniated discs in the lumbar spine, surgery leads to greater long-term improvements compared to nonsurgical treatment, according to a new study. Researchers at Dartmouth-Hitchcock Medical Center (Lebanon, NH, USA; www.dartmouth-hitchcock.org) and Dartmouth College (Hanover, NH, USA; www.dartmouth.edu) conducted an eight-year follow-up of the Spine Patient Outcomes Research Trial (SPORT). The study enrolled 501 participants with lumbar intervertebral disc herniation, and 743 observational cohorts at 13 spine clinics in 11 US states. Interventions involved standard open discectomy or nonsurgical treatment, such as physical therapy, exercise, and pain-relieving medications. The main outcome measures were changes from baseline in the SF-36 Bodily Pain and Physical Function scales and the modified Oswestry Disability Index (ODI).

The results showed that when outcomes were compared for patients who actually underwent surgery, pain scores averaged about 11 points lower in the surgery group. Measures of physical functioning and disability showed similar differences. Surgery also led to greater improvement in outcomes such as sciatica symptoms, patient satisfaction, and self-rated improvement. But while average outcome scores were better with surgery,

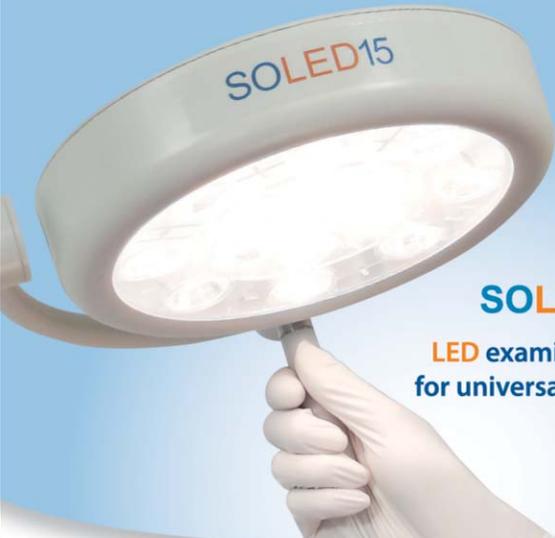
many patients did have significant improvement with nonsurgical treatment, especially the one-third of patients who were slated for surgery but chose not to have operative treatment. The study was published in the January 1, 2014, issue of *Spine*.

"Surgery was superior to non-operative treatment in relieving symptoms and improving function; peak benefits are achieved within six months after surgery, and persist through eight years," concluded lead author Jon Lurie, MD, MS, and colleagues. "However, many patients treated without surgery also showed substantial improvements over time. Patients who crossed over to surgery were more likely to be dissatisfied with their symptoms, felt like their symptoms were getting worse, and had initially worse physical function and disability."

"Every patient in the SPORT study went through shared decision-making, during which they reviewed objective information about the risks and benefits of their treatment options. This allowed them to make an informed choice, in line with their own values," commented SPORT principal investigator James Weinstein, MD. "That about a third of these patients have continued to be satisfied with their choice is in large part due, I believe, to their being active participants in the initial decision-making process."



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