RSNA 2006 B-roll

Satellite Feed Coordinates
Monday, Nov. 27, 2006
10:00 AM to 10:15 AM ET
Galaxy 11, Transponder 10, (C-BAND), Downlink Frequency: 3900 Vertical

Monday, Nov. 27, 2006
1:00 PM to 1:15 PM ET
Galaxy 11, Transponder 10, (C-BAND), Downlink Frequency: 3900 Vertical

Script

Slate:

RSNA 2006 logo

Slate:

This "Advances in Radiology" B-roll is provided by the Radiological Society of North America (RSNA) to illustrate press conferences presented Nov. 27 – 29 at the RSNA 2006 Scientific Assembly and Annual Meeting.

Slate:

Radiologists and allied professionals are gathering in Chicago this week for the 92nd Scientific Assembly and Annual Meeting of the Radiological Society of North America (RSNA), the world's largest medical meeting.
(Image of McCormick Place in Chicago)
(Image(s) of clusters of attendees)
(Image(s) of meeting sessions and exhibits)

Slate:

This B-roll contains six segments.

Stations are free to use these visuals according to the embargo dates and times for each segment. All times are Eastern Time zone.

Preceding each segment is a written description of its content.

Slate:

To schedule interviews with study presenters or for additional information, call the RSNA Newsroom 1-312-949-3233 from Nov. 25 – 30.

After Nov. 30, call Maureen Morley at 1-630-590-7762.

News releases and abstracts are posted at www.rsna.org/press06

Slate:

Segment 1
"Elasticity Imaging Identifies Cancers and Reduces Breast Biopsies"
Embargoed for release at 10 a.m. ET, Monday, Nov. 27

Slate:

A new ultrasound technique allows radiologists to accurately distinguish benign from malignant breast lesions. Using elasticity imaging, researchers correctly identified both cancerous and harmless lesions in nearly all of the cases studied. The findings were presented today at the annual meeting of the Radiological Society of North America (RSNA).

Slate:

"In our work, elasticity imaging has been found to have high specificity," said Richard G. Barr, M.D., Ph.D., professor of radiology at Northeastern Ohio Universities College of Medicine and radiologist at Southwoods X-Ray and MRI in Youngstown. "If our results can be reproduced in a large, multicenter trial, this technique could significantly reduce the number of breast biopsies required."

Slate:

The American Cancer Society (ACS) estimates that 212,920 women will be diagnosed with breast cancer in the United States this year. Early detection through screening is the best way to combat cancer at its early, most treatable stage. While mammography is the standard breast cancer screening exam, screening with magnetic resonance imaging (MRI) or ultrasound may be more effective for high-risk patients or women with dense breast tissue.

Slate:

MRI and ultrasound depict more breast lesions than mammography but have low specificity, meaning they are less effective at distinguishing benign from malignant lesions, resulting in a high number of invasive biopsies. ACS reports that 80 percent of breast lesions biopsied are found to be benign.

Slate:

Dr. Barr used a real-time, free-hand, elasticity imaging technique in correlation with a routine ultrasound exam to study 166 lesions identified and scheduled for biopsy in 99 patients. Lesions were measured for the largest length on both the standard ultrasound image and the elasticity image. Lesions where the elasticity image was smaller than the standard image were characterized as benign, and lesions where the elasticity image was larger were characterized as malignant.

Slate:

Ultrasound-guided biopsies were performed on 80 patients with 123 lesions. Biopsy showed that elasticity imaging correctly identified all 17 malignant lesions and 105 of 106 benign lesions, for a sensitivity of 100 percent and a specificity of 99 percent.

"Our ability to find lesions in the breast has increased significantly over the last 10 years but at the expense of an increased number of biopsies," Dr. Barr said. "This technique could significantly reduce the number of biopsies and increase the confidence of women that a detected lesion is truly benign."

Slate:

The following visuals show:

1. Footage showing a breast ultrasound procedure.
2. Real-time imaging for comparison: Image on left is conventional ultrasound; on the right is the elasticity image. The lesion is a biopsy-proven invasive ductal carcinoma of the breast.

Note the lesion is larger on the elasticity image than the conventional ultrasound image, which highly suggests the lesion is malignant.

Slate:

3. Biopsy Proven Invasive Ductal Carcinoma. The image on the left is a conventional ultrasound image. The image on the right was acquired at the same time with the same signals and is the elasticity image. The lesion in the elasticity image is much larger than the image in the conventional ultrasound, which we have found to correspond to a malignant lesion.

Slate:

4. Biopsy Proven Benign Fibroadenoma. The image on the left is a conventional ultrasound image. The image on the right was acquired at the same time with the same signals and is the elasticity image. The size of the fibroadenoma is smaller on the elasticity image when compared to the conventional ultrasound image. Our initial results suggest this decrease in size on the elasticity image occurs in benign lesions.

Slate:

Segment 2
"Radiologists Attempt to Solve Mystery of Tut's Demise"
Embargoed for release at 11 a.m. ET, Monday, Nov. 27

Slate:

Egyptian radiologists who performed the first-ever computed tomography (CT) evaluation of King Tutankhamun's mummy believe they have solved the mystery of how the ancient pharaoh died. The CT images and results of their study were presented today at the annual meeting of the Radiological Society of North America (RSNA).

Slate:

Ashraf Selim, M.D., radiologist at Kasr Eleini Teaching Hospital, Cairo University in Egypt, was part of an international team of scientists that studied the 3,300-year-old mummy of King Tut in Egypt. Using a mobile multi-detector CT scanner, the researchers performed a full-body scan on the king's remains, obtaining approximately 1,900 digital cross-sectional images.

Slate:

With the help of the CT images, researchers estimated King Tut's age at death to be between 18 and 20 years. His height was 180 centimeters or approximately 5 feet 11 inches. The researchers discovered a possible premortem fracture to the femoral (thigh) bone. While they cannot assess how the injury occurred, the findings suggest that the injury may have been an open wound that became infected and ultimately fatal.

Slate:

Since King Tut was first examined by x-ray in 1968, revealing what appeared to be a bone fragment in his skull, it has been widely speculated that a blow to the head killed the boy king. However, Dr. Selim and colleagues found several pieces of evidence to the contrary. In the cranial cavity, they found loose bone fragments that were not covered with the intracranial solidified embalming material. These bone fragments matched exactly a defect within the first vertebra in the neck. They found no evidence of skull fractures.

Slate:

Dr. Selim's team did not escape the so-called curse that is said to plague anyone who disrupts the remains of the boy king.

"While performing the CT scan of King Tut, we had several strange occurrences," he said. "The electricity suddenly went out, the CT scanner could not be started and a team member became ill. If we weren't scientists, we might have become believers in the Curse of the Pharaohs."

Slate:

Artifacts from the tombs of King Tut and other royals buried in the Valley of the Kings are part of "Tutankhamun and the Golden Age of the Pharaohs," an exhibition currently at Chicago's Field Museum.

Slate:
The following visuals show:

1. CT images of King Tut
    - Body with arms extended, no longer crossing over waist as originally reported in 1925.
    - 3-D head, showing slight misalignment of the incisor teeth with an overbite.
    - CT image of the left knee showing a peculiar fracture of the lower part of the thigh bone with the dense embalming material covering its edges (arrow) suggesting its occurrence before embalmment, or in other words, shortly before death.
    - Images of the right and left upper and lower jaws, demonstrating well-developed teeth with partially erupted right lower and both left wisdom teeth.
2. CT series of Tut's head (sagittal and coronal).

Slate:

Segment 3
"MRI Shows Brains Respond Better to Name Brands"
Embargoed for release at 5 a.m. ET, Tuesday, Nov. 28

Slate:

Your brain may be determining what car you buy before you've even taken a test drive. A new study gauging the brain's response to product branding has found that strong brands elicit strong activity in our brains. The findings were presented today at the annual meeting of the Radiological Society of North America (RSNA).

Slate:

"This is the first functional magnetic resonance imaging (fMRI) test examining the power of brands," said Christine Born, M.D., radiologist at University Hospital, Ludwig-Maximilians University in Munich, Germany. "We found that strong brands activate certain areas of the brain independent of product categories."

Slate:

"Brain branding" is a novel, interdisciplinary approach to improve the understanding of how the mind perceives and processes brands. Using modern imaging methods, researchers are

now able to go beyond marketing surveys and gather information on how the brain responds to a particular brand at the most basic level.

Slate:

While in the fMRI scanners, the volunteers were presented with a series of three-second visual stimuli containing the logos of strong (well-known) and weak (lesser-known) brands of car manufacturers and insurance companies.

Slate:

A brief question was included with each stimulus to evaluate perception of the brand. The volunteers pressed a button to respond using a four-point scale ranging from "disagree" to "agree strongly." During the sequence, the fMRI acquired images of the brain, depicting areas that activated in response to the different stimuli. In addition to the questions asked during the scanning, the volunteers were given questionnaires prior and subsequent to fMRI.

Slate:

The results showed that strong brands activated a network of cortical areas and areas involved in positive emotional processing and associated with self-identification and rewards. The activation pattern was independent of the category of the product or the service being offered. Furthermore, strong brands were processed with less effort on the part of the brain. Weak brands showed higher levels of activation in areas of working memory and negative emotional response.

Slate:
The following visuals show:

1. Footage of a subject undergoing fMRI and view from control room.
2. Stills of fMRI results of subjects' brain activation for different brands.

- Significant activations were found in the anterior insula left-hemipheric in well-known brands, e.g. car manufacturers. This brain area is associated with processing of positive emotional stimuli.
- In weaker brands the activations in the anterior insula were bilateral. The right anterior insula is a brain area, which is activated by processing more negative emotional stimuli.

Slate:

Segment 4
"Violent Video Games Leave Teenagers Emotionally Aroused"
Embargoed for release at 12:45 p.m. ET, Tuesday, Nov. 28

Slate:

A new study has found that adolescents who play violent video games may exhibit lingering effects on brain function, including increased activity in the region of the brain that governs emotional arousal and decreased activity in the brain's executive function, which is associated with control, focus and concentration. The findings were presented today at the annual meeting of the Radiological Society of North America (RSNA).

Slate:

"Our study suggests that playing a certain type of violent video game may have different short-term effects on brain function than playing a nonviolent—but exciting—game," said

Vincent P. Mathews, M.D., professor of radiology at Indiana University School of Medicine in Indianapolis.

Slate:

Dr. Mathews and colleagues randomly assigned 44 adolescents to play either a violent video game or a nonviolent video game for 30 minutes. The researchers then used functional magnetic resonance imaging (fMRI) to study brain function during a series of tasks measuring inhibition and concentration. One test used emotional stimuli and one did not.

Slate:

fMRI measures the tiny metabolic changes that occur when a part of the brain is active. These changes will appear as a brightly colored area on the MR image, indicating the part of the brain that is being used to process the task. The two groups did not differ in accuracy or reaction time for the tasks, but analysis of the fMRI data showed differences in brain activation.

Slate:

"During tasks requiring concentration and processing of emotional stimuli, the adolescents who had played the violent video game showed distinct differences in brain activation than the adolescents who played an equally exciting and fun—but nonviolent—game," Dr. Mathews said. "Because of random assignment, the most likely factor accounting for these differences would be the group to which the volunteers were assigned."

Slate:

The researchers hope to conduct additional research on long-term effects of violent video game exposure and the impact of these brain functioning differences.

"Additional investigation of the reasons for and effects of this difference in brain functioning will be important targets for future study, but the current study showed that a difference between the groups does exist," Dr. Mathews said.

Slate:

The following visuals show:

1. Soundbites: Vincent P. Mathews, M.D., professor of radiology at Indiana University School of Medicine in Indianapolis.
2. Footage of subject preparing for and undergoing fMRI.
3. Dr. Mathews reviewing imaging results of the study.
4. Screenshots of fMRI results of subjects' brain activation.

Slate:

Segment 5
"Breast Cancer Treatment Procedure Gives Women More Options"
Embargoed for release at 10 a.m. ET, Wednesday, Nov. 29

Slate:

A new minimally invasive approach to partial breast irradiation provides another treatment option for women with breast cancer. The researchers presented their findings today at the annual meeting of the Radiological Society of North America (RSNA).

Slate:

"Women with breast cancer have many serious decisions to make in a short amount of time, including decisions regarding radiation therapy," said Lora D. Barke, D.O., assistant professor at Feinberg School of Medicine, Northwestern University and Northwestern Memorial Hospital in Chicago. "This procedure, which uses ultrasound to precisely guide balloon catheter placement to the lumpectomy site for partial breast irradiation treatment, removes one weighty decision women must make before surgery."

Slate:

In treatment with breast brachytherapy, the cancerous breast lump is surgically excised, and radiation is directed only to the portion of the breast surrounding the lumpectomy site. This approach maintains the likelihood of destroying the tumor but reduces the risk of damaging healthy tissue far from the tumor site.

Slate:

Since the target is smaller, brachytherapy allows for a shorter treatment regime—averaging five to seven days, compared to conventional whole-breast, external beam radiation, which may take six to seven weeks.

Slate:

"Our research shows that immediate placement of the balloon catheter is unnecessary and may add to cost. Radiologists can wait until receiving the final pathology, and then safely and efficiently insert the catheter with ultrasound guidance immediately before the patient begins brachytherapy," Dr. Barke explained.

Slate:

The researchers studied ultrasound guidance of balloon catheter placement into the lumpectomy cavities of 75 new patients with early-stage breast cancer seven to 47 days after their lumpectomies. After successful insertion of the catheter, patients received twice-a-day brachytherapy treatments for one week.

The investigators concluded that ultrasound-guided placement of partial breast irradiation balloon catheters is safe, efficient and minimally invasive. Insertion of the catheter with local anesthesia took less than five minutes. The total procedure, including preparation time, averaged 25 minutes.

Slate:

The following visuals show:

1. Soundbites: Lora D. Barke, D.O., assistant professor, Feinberg School of Medicine, Northwestern University and Northwestern Memorial Hospital in Chicago.
2. Soundbites: Krystyna Kiel, M.D., radiation oncologist, Northwestern Memorial Hospital.
3. Footage of patient undergoing catheter placement with ultrasound guidance.
4. Animation of breast brachytherapy procedure.

Slate:

Segment 6

"Got Inexpensive Contrast Agent? Milk Plays New Role in Imaging"

Embargoed for release at 12 p.m. ET, Wednesday, Nov. 29

Slate:

In a new twist on the slogan “milk does a body good,” radiologists are testing use of the dairy staple as a contrast agent in gastrointestinal imaging exams—with excellent results. The researchers reported their findings today at the annual meeting of the Radiological Society of North America (RSNA).

Slate:

“We are able to achieve similar bowel distension and enhancement as we see with the commonly used contrast agent, VoLumen,” said Lisa R. Shah-Patel, M.D., a radiology resident at St. Luke’s-Roosevelt Hospital in New York City. “In addition, we found that patients are more willing to drink milk because it is part of their daily lives, and they know what to expect.”

Slate:

Computed tomography (CT) imaging of the gastrointestinal tract is often done for abdominal pain. When the condition calls for visualization of the small intestinal wall, a negative oral contrast agent should be used. VoLumen is a barium-based oral contrast agent that works with intravenous contrast to allow better visualization of the bowel wall and clearer delineation between the bowel cavity and soft tissue.

Slate:

“There are several advantages to milk. Patients are more willing to drink milk than VoLumen, and it costs a fraction of the price,” Dr. Shah-Patel said. “We hope that substituting milk for other contrast agents will reduce the number of people who refuse imaging tests because they do not want to drink the oral contrast, especially children.”

Slate:
The following visuals show:

1. Footage of patient undergoing abdominal CT exam.
2. CT images showing milk and VoLumen as contrast agents.

Slate:

Portions of this B-roll were filmed at or provided by:
Indiana University Hospital
Northwestern Memorial Hospital
The University of Chicago Hospitals
Cytyc Corporation

Slate:

To schedule interviews with presenters or for additional information, call the RSNA Newsroom at 1-312-949-3233 from Nov. 25 – 30.

After Nov. 30, call Maureen Morley at 1-630-590-7762.

News releases and abstracts are posted at www.rsna.org/press06