Don't skip necessary tests for fear of radiation risk

Baylor College of Medicine
HOUSTON -- (May 18, 2010) -- Radiation exposure from diagnostic medical imaging is low and should not cause concern about any future harmful effects, said a radiologic scientist from Baylor College of Medicine [1].
"People should not skip necessary medical imaging procedures, such as mammography, radiography (x-ray) and computed tomography (CT), because they are afraid the radiation exposure might cause cancer," said Dr. Stewart Bushong, professor of radiology [2] at BCM. "There is no measurable increased risk when imaging procedures are administered appropriately."

It is important to understand the different kinds of imaging procedures and the amount of radiation exposure, Bushong said. "When you look at the amount of radiation exposure in each, the doses are very low."

Radiation dose is measured in millisieverts, or mSv.

Procedures and doses

Bushong ranked common diagnostic imaging procedures from low to high dose and pointed out that natural background radiation contributes approximately 3 mSv each year to our individual radiation dose.

- Mammography: a diagnostic procedure to detect breast tumors by the use of X-rays (0.1 mSv).
- Radiography: an X-ray of a bone or particular body part (1 mSv).
- Positron emission tomography or PET scan: a technique to examine the metabolic activity in various tissues, especially in the brain (5 mSv).
- Fluoroscopy: examination of body structures using a fluoroscope. These are commonly used to examine the lungs and gastrointestinal tract (10 mSv).
- CT scan: uses special X-ray systems and computers to create cross-sectional images of the body (10 mSv).

"Many people think magnetic resonance imaging (MRI) and diagnostic ultrasound result in radiation exposure, but they do not," said Bushong. "These tests are harmless."

Approximately 100 mSv would be an example of a dose of radiation which could cause concern, Bushong said.

Guidelines set

Bushong said the average amount of medical radiation exposure has been on the rise, but many professional organizations are keeping a close eye on such radiation exposures and any inappropriate overutilization.

"We worry about people who are frequently having these tests repeated when they do not need repeats, especially children," said Bushong. "Organizations including the American College of Radiation, American Association of Physicists in Medicine, Radiological Society of America, and the Center for Devices and Radiological Health have convened to address these concerns."

These organizations have set guidelines on radiation exposure doses and developed educational programs to reduce unnecessary and inappropriate diagnostic medical imaging.

Bushong said patients should not be scared or refuse necessary examinations.

"Diagnostic medical examinations are very effective at detecting many conditions early, helping to implement effective treatment plans," said Bushong. "Patients should discuss any concerns they may have about radiation exposure with their doctors."

SOURCE [3]

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