

Hazards of CT scans overstated

December 1 2007

Concerns over possible radiation effects of CT scans detailed in a report yesterday in the *New England Journal of Medicine* should not scare people away from getting medically needed CT scans, as the scans play a critical role in saving the lives of thousands of people every day, according to an official with the American Association of Physicists in Medicine (AAPM).

In a statement issued Friday, Dr. John M. Boone, chairman of AAPM's science council, says that the "science community remains divided" over the radiation dose effects of CT scans and that the findings in the Journal article were based on "flawed assumptions" and were not conclusive. While agreeing with the Journal article's authors, Drs. David Brenner and Eric Hall, that CT scans should only be used judiciously and when medically necessary, Boone says CT experts in the AAPM "feel that much of the message of this article may be misconstrued or misunderstood by the press or by the public who may not be experts in CT."

Brenner and Hall, in their article, said that while they save lives and speed diagnosis, the 62 million CT scans done in the United States each year may soon be responsible for 2 percent of all cancers. They further suggested that their "back of the envelope" estimate is that about a third of all CT scans are unnecessary.

Boone responds in his statement that the assumptions about the hazards of CT scan radiation exposure "remain controversial, even among experts in radiation biology." The method of determining risk used in the



article is derived from Japanese citizens exposed to large amounts of radiation during the atomic bomb attacks on Hiroshima and Nagasaki in World War II, and the extrapolation of those extremely high radiation exposure rates down to the low CT exposures "remains very controversial," Boone says.

Another "significant flaw" in the article was the attempt to compare the Japanese bomb victims to "patients receiving CT in the US in 2007," Boone says. The article "did not correct for the many underlying confounding age dependent variables that differ between (the Japanese population) and older Americans, such as the incidence of obesity and diabetes."

Boone encourages patients who have had CT scans, or are slated for CT exams in the next few weeks, to "discuss with their physicians not only the radiation risks of the CT examination, but the risks of not having the diagnostic information that CT provides."

While Boone notes that Brenner and Hall are "esteemed scientists and respected experts in radiation risk . . . the conclusions of the Brenner article are based on statistics and many statistical assumptions (and not) on the actual observation of somebody dying from having a CT scan."

Source: National Institute of Standards and Technology

Citation: Hazards of CT scans overstated (2007, December 1) retrieved 27 April 2024 from <u>https://medicalxpress.com/news/2007-12-hazards-ct-scans-overstated.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.