

# Use Radiation Like Porcupines Make Love: Very Carefully

By W. GIFFORD-JONES, M.D.

It's said that elephants never forget. Neither does the body forget radiation. The human body has a natural computer that tabulates every bit of radiation to which it is exposed during a lifetime.

Radiation has great benefits in diagnosing disease when used wisely, but is potentially harmful when used carelessly. So how much risk is there of developing radiation-induced cancer?

A report in *Consumer Health* says that 60 million computerized tomography (CT) scans were performed in the United States in 2007. This compares with 30 million 10 years ago. And according to Dr. David Brenner, director of the Center for Radiological Research at Columbia University Medical Center in New York, one-third of these tests may not have been necessary.

Remember there are radiation tests and there are radiation tests. For example, some doctors believe it prudent to search for early disease in coronary arteries. Consequently, an increasing number of CT angiography scans are being done to detect calcification in these vessels—one indication of trouble.

But these CT scans comprise not just a single exposure to radiation. Rather, they require 64 exposures. This is 200 times the radiation received from a standard X-ray of the chest. Few patients are aware of this huge difference in radiation exposure.

So how dangerous is this test? A report in the *Journal of the American Medical Association* in 2007



**THE BODY'S MEMORY:** The human body's memory of radiation is like an elephant's memory—it never forgets.

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says that one in every 1,300 patients 60 years of age who undergo CT angiography, may develop cancer as a result. That's not too risky unless you're that one patient.

As well, full-body CT scans are offered by some clinics in North America. One Hawaiian resort markets it as a "peace of mind service." Catchy advertising of this kind makes some medical consumers say, "What have I got to lose? After all, a scan could detect a serious problem that could kill me." But full-body scans also provide a lot of radiation.

A report from the Mayo Clinic claims that some clinics use old or substandard equipment that provides poorly detailed images, leaving patients with a false sense of security. Thinking themselves 100 percent perfect, they may forego their regular medical examinations.

The best protection from needless radiation is a good family doctor, one who will guide you away from questionable tests that require radiation.

The American Cancer Society has now added virtual colonos-

copy to its approved list of procedures. This CT scan produces a three-dimension picture of the colon to diagnose large bowel malignancy. But traditional colonoscopy makes more sense because it does not involve radiation. Besides, if virtual colonoscopy detects a polyp in the colon, traditional colonoscopy has to remove it.

At this point, I can hear readers say, "But surely there must be some tests requiring radiation that are prudent to undergo now and then, and not worry about them."

Dental X-rays are required when specific problems are suspected. Some dentists also believe that full mouth X-rays are needed every five to eight years. But when there are no symptoms, gums are healthy, and dental hygiene is excellent, I prefer to circumvent them.

Tests for bone mineral density are helpful to spot signs of early osteoporosis so corrective treatment can be initiated. It's also conventional wisdom that mammograms should be done at regular intervals. But it's controversial whether this is of benefit to women in their 40s with no risk factors for breast cancer.

Magnetic resonance imaging (MRI), which does not employ radiation, can be utilized to detect lesions in the breast and lung. But due to its increased sensitivity, the MRI often spots eccentricities that turn out to be unimportant, causing needless worry.

My advice is to avoid X-rays and CT scans unless your doctor orders them. It's also wise to get copies of radiation tests if you plan to move to another location and doctor. And request that technicians provide a shield to protect the thyroid gland and reproductive organs from radioactive rays.

At the moment, no one knows how many people in this country develop cancer due to excessive radiation. Until they do, use radiation as the porcupine makes love—very, very carefully.

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