



HHP CLINICAL BULLETIN

APPROPRIATE DIAGNOSTIC IMAGING

"The United States is a country of 300 million people who annually undergo around 15 million nuclear medicine scans, 100 million CT and MRI scans... Excessive testing is a problem for a number of reasons. For one thing, some diagnostic studies are harmful in themselves—we're doing so many CT scans and other forms of imaging that rely on radiation that they are believed to be increasing the population's cancer rates. These direct risks are often greater than we account for."

Atul Gawande, *The New Yorker*, May 11, 2015

► **Hawai'i Health Partners** is working toward the goal of providing the best possible care for patients in the most cost-efficient way. One way to achieve this is by reducing unnecessary tests and procedures ordered for patients, such as unnecessary imaging tests.

GET THE PICTURE

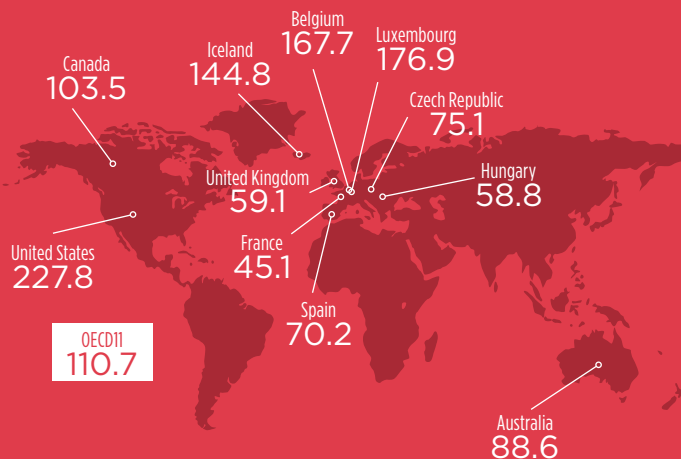
RATE OF USE



The use of imaging tests that rely on radiation, particularly CT scans, has grown dramatically. Currently, more than 80 million CT scans are performed each year in the U.S., up from 3 million in 1980.

US = MOST CT SCANS

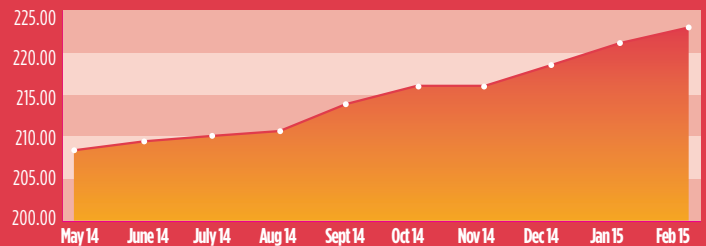
Recent health statistics reported by the Organization for Economic Cooperation and Development show that among 11 developed countries, the United States had the highest amount of CT scans administered per 1,000 patients, and FIVE times more than France, which had the lowest amount.



Number of CT exams per 1,000 population, 2007 (or latest year available). Numbers for Australia and France include exams for out-patients and private in-patients (excluding exams in public hospitals). Data Source: Organization for Economic Cooperation and Development, Health at a Glance 2009; OECD Indicators, December 2009, Web.

CT and MRI Utilization/1000 Members by Month

Hawai'i Health Partners physicians ordered over 19,000 CT and MRI studies last year, a rate that has been steadily increasing.



POTENTIAL RISKS



Imaging procedures that use ionizing radiation may pose an estimated lifetime risk of 1 cancer per 100 people with an exposure of 100 millisieverts (mSv).

The cancer risk from imaging radiation depends on a number of factors:



— **AGE.** The younger the patient, the higher the risk. Extra caution is warranted when ordering imaging tests for pediatric patients, and unborn fetuses are at even greater risk — imaging radiation should be avoided if possible in pregnancy. By contrast, patients older than 65 have practically no added cancer risk.



— **GENDER.** The risk is considerably higher for women.



— **BODY SIZE.** The larger the patient, the more radiation is absorbed during a procedure.

WHAT PHYSICIANS CAN DO

The benefits of an imaging procedure must outweigh the risks. Healthcare providers should work together to decrease radiation exposure for patients:



Ensure that an ordered procedure is necessary and appropriate. The referring physician and radiologist play key roles in this process. Make sure the imaging information will affect diagnosis or treatment and explain to your patient how you will use the information.



Avoid repeating tests unnecessarily. Checking the record for previous results (and asking the patient about results from other facilities) is an important, common sense measure. Ask the patient about previous test results; a test may have been performed elsewhere. Carefully weigh the utility and need for follow-up imaging.



Choose the correct procedure the first time. Appropriate use criteria from the American College of Radiology are available online at www.acr.org/ac. The criteria are easy to use and cover a wide range of imaging procedures.



Educate the patient and family about the risks and benefits of a procedure.

ONLINE RESOURCES FOR PHYSICIANS AND PATIENTS

A variety of websites are available that provide helpful resources for both physicians and patients, including education handouts, medical imaging record sheets, information on the benefits and risks of specific procedures, and other resources.

FOR REFERRING PROVIDERS



Image Wisely website.

Resources for referring providers. imagewisely.org



Image Gently website. Resources focused on pediatric imaging. imagegently.org



RadiologyInfo website. Information from the ACR on radiation benefits/risks and radiation exposures in specific procedures. radiologyinfo.org

FOR PATIENTS



Image Wisely website. Provides education handouts, medical imaging record sheets, and other resources for patients. imagewisely.org



Image Gently website. Provides education handouts, medical imaging record sheets, and other resources related to pediatric imaging. imagegently.org



RadiologyInfo website. Provides information on imaging procedures and lists estimated exposures for procedures that use radiation. radiologyinfo.org

This information is provided by

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Hawai'i Health Partners is an accountable care organization of independent physicians, employed Hawai'i Pacific Health physicians, and Hawai'i Pacific Health hospitals and clinics.

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