

Triple-A Investment in Patients' Health

IAEA Promotes Awareness, Appropriateness, Audit of Ionizing Radiation in Medicine

Around the world doctors are sending patients to undergo diagnostic imaging procedures that use ionizing radiation to show what's happening inside the body.

These procedures include a wide variety of technologies, ranging from the standard bone X-Ray to highly precise computer-controlled imaging of metabolic processes, such as the body's use of sugar. Although these tests are valuable, researchers have found that they are often being overused in both the developed and the developing world.

Recent studies in developed countries indicate that more than 20% of examinations may not be appropriate; the over-prescription can be as high as 45% in special cases, and up to 75% for specific techniques.

Jim Malone, Robert Boyle Professor of Medical Physics at Trinity College, in Ireland, works closely with the IAEA in its campaign to improve patient protection. Malone says many prescribing physicians don't properly understand the risks of these procedures, or if those risks outweigh the potential benefit to each patient. Therefore they are unable to properly determine if the procedure is necessary or not.

The IAEA is hoping to tackle the problem with its "AAA" initiative – promoting **Awareness** about radiation risks; **Appropriateness** to ensure that those referred for radiological examinations really need them; and **Audit** to check the effectiveness of the referral and related processes.

Urgency

"Fixing this problem will require a lot of effort, years of work, and money. But the cost of doing nothing, the price paid in human lives and human health will be far worse," says Renate Czarwinski, Head of the IAEA Radiation Safety and Monitoring Section.

A recent American College of Radiology white paper notes that "The rapid growth of CT and certain nuclear medicine studies may result in an increased incidence of radiation-related cancer in the not-too-distant future."

Lodewijk Van Bladel, senior expert in radiological protection at Belgium's Federal Agency for Nuclear Control, says "The principles of the AAA initiative can easily be used everywhere. We are convinced that both the prescribers and the radiologists have the patients' best interest in mind. So what we need to do is give them the tools and guidance in order to care for patients better".

In both developed and developing countries, there are cultural barriers to change that must be addressed through awareness building.

In Kenya for example, people in rural areas believe all x-rays are therapeutic, and will cure their illnesses. They will therefore travel from doctor to doctor to be referred for an x-ray by each one.

And in Brazil doctors and patients are stuck in the x-ray for everything culture. "Patients feel more comfortable with a diagnosis if it's accompanied by a radiograph," says Maria Inês Calil Cury Guimarães, Medical Physicist and expert in radiological protection at Universidade de São Paulo, in Brazil. "This started decades ago when there was a tuberculosis epidemic. And for many years x-rays were used as a means of early diagnosis for TB."

Van Bladel says, "What we call creating awareness and assuring appropriateness is something we can do a lot about by educating, by informing, by providing guidance. And in the end we want doctors to be able to verify whether or not the quality of the care they're providing is good enough."

Other Initiatives

Both the IAEA and the European Commission have active radiation protection programmes for patients, and successfully promote this area through education, training, scientific and technical projects, publications and educational/advisory materials, including those freely downloadable from the web.

-- *By Sasha Henriques, IAEA Division of Public Information*
