



JOHNS HOPKINS
M E D I C I N E

How are we fostering and improving the radiation benefit/risk dialogue?

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International Conference on Radiation Protection in Medicine: Achieving Change in Practice

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Roundtable Participants

- | | |
|-----------------------------|------------|
| • Patient Advocate | M. Murphy |
| • Communications Specialist | A. Shogren |
| • Pediatric Radiologist | R. Wolf |
| • Radiation Biologist | R. Kanda |
| • Medical Physicist | Mahesh |

Status of #9 of Bonn Conference

09



Foster an improved radiation benefit-risk-dialogue

- ❑ Increase awareness about radiation benefits and risks among health professionals, patients and the public;
- ❑ Support improvement of risk communication skills of health care providers and radiation protection professionals – involve both technical and communication experts, in collaboration with patient associations, in a concerted action to develop clear messages tailored to specific target groups;
- ❑ Work towards an active informed decision making process for patients.

- Achieved to certain extent
 - More so with health professionals
 - With patients and public – has increased heightened awareness on risks but less so about benefits
- Campaigns by WHO, Image Gently, Image Wisely, EuroSafe and many others have been successful
- Several efforts underway but more to be done
- Difficult but needs to be addressed

Radiation risks are often over-blown in proportion!

- **Media Hype!**
- **Induce fear in patients or general population and some time hinders from receiving needed imaging**
- **Addressing this issue should be part of dialogue**

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FINAL SPORTS

Let the hype begin

Clock is ticking toward Sunday. Full report, 1-4C
 ▶ 10 years ago, war was on our minds, 1C
 ▶ Coming Friday: Bonus Section

USA TODAY

NO. 1 IN THE USA

The Golden Globes
'Gladiator' wins best drama film

Julia Roberts, Tom Hanks honored for drama roles; Almost Famous named best comedy film ■ 1-2D
 ▶ The red carpet, 5D

ROBERTS SMILES FOR ERIN BROCKOVICH

Monday, January 22, 2001

Newsline

News ■ Money ■ Sports ■ Life

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Get the latest news, stocks, scores and more right now at USA TODAY'S 24-hour online news site, all with a clean new interface. Plus, a stand-alone Tech section.

Asia stocks mixed overnight

Japan's Nikkei average is down 137 points, 1.0%, to 13,852 early today. Hong Kong's Hang Seng index is up 136 points, 0.8%, to 10,660.

CT scans in children linked to cancer later

By Steve Sternberg USA TODAY

Each year, about 1.6 million children in the USA get CT scans to the head and abdomen — and about 1,500 of those will die later in life of radiation-induced cancer, according to research out today.

What's more, CT or compared tomography scans given to kids are typically calibrated for adults, so children receive up to six times the radiation needed to produce clear images, a second study shows. These doses are "way bigger than the sorts of doses that people at Three Mile Island were getting,"

David Brenner of Columbia University says, "Most people get a tenth or a hundredth of the dose of a CT."

Both studies appear in February's American Journal of Roentgenology, the nation's leading radiology journal. The first, by Brenner and colleagues, is the first to estimate the risks of "radiation-induced fatal cancer" from pediatric CT scans. Used a decade ago, CT scans took too long to perform on children without giving them anesthesia, so they're still, today's scanners spiral around the patient in seconds, providing cross sections, or "slices," of anatomy.

Doctors use CT scans on children to search for cancers and ailments such as appendicitis and kidney stones.

"There's a huge number of people who don't just receive one scan," says Fred Mettler of the University of New Mexico, noting that CT scans are used for diagnosis and to plan and evaluate treatment. "The breast dose from a CT scan of the chest is somewhere between 10 and 20 mremograms. Nobody wants to think long and hard about giving your young daughter 10 to 20 mremograms unless she really needs it."

Mettler recently published a study showing that 11% of the CT scans at his center are done on children younger than 15, and they get 70% of the total radiation dose given to patients. Children have more rapidly dividing cells than adults, which are more susceptible to radiation damage. Children also will live long enough for cancers to develop.

Researchers led by Lane Donnelly at Cincinnati's Children's Hospital found that children often get radiation doses six times higher than necessary. Cutting the adult dose in half would yield a clear image and cut the risk a life amount, Brenner says. "Radiologists genuinely believe the risks are small," he says. "I suspect they've never been confronted with numbers like this."

2001

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RADIATION RISKS

The surprising dangers of CT scans and X-rays
 Patients are often exposed to cancer-causing radiation for little medical reason, a Consumer Reports investigation finds

Published: January 27, 2015 06:00 AM

2015

The New York Times | http://nyti.ms/1hUyUjq

JHNS HOPKINS MEDICINE

THE OPINION PAGES | OP-ED CONTRIBUTORS

We Are Giving Ourselves Cancer

By RITA F. REDBERG and REBECCA SMITH-BINDMAN JAN. 30, 2014



2014

Radiation Injuries in CT – Rare but Possible!

The New York Times

Health

WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | SPORTS | OPINION

THE RADIATION BOOM

After Stroke Scans, Patients Face Serious Health Risks

By WALT BOGDANICH
 Published July 31, 2010

When Alain Reyes's hair suddenly fell out in a freakish band circling his head, he was not the only one worried about his health. His co-workers at a shipping company avoided him, and his boss sent him home, fearing he had a contagious disease.

FACEBOOK

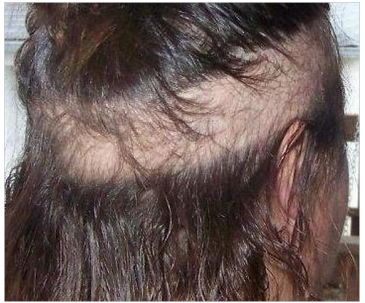
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RECOMMEND

COMMENTS



2010



2011

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THE TREE OF LIFE
 SUMMER

March 5, 2011

West Virginia Hospital Overradiated Brain Scan Patients, Records Show

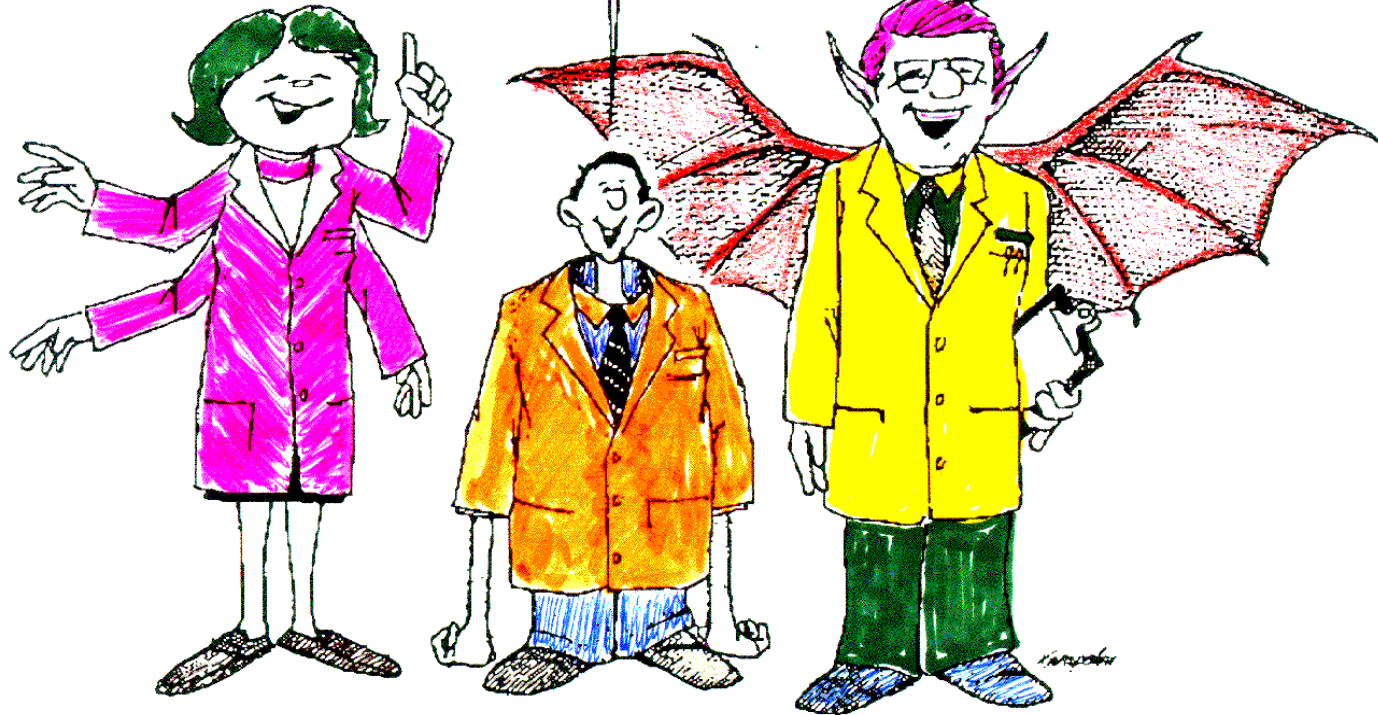
By WALT BOGDANICH

A large West Virginia hospital **seriously overradiated patients** suspected of having strokes with **CT scans for more than a year after similar episodes prompted federal officials to alert hospitals nationwide** to be especially careful when using those types of scans, interviews and documents show.

Radiation Benefits/Risk Dialogue

- Depends on type of radiation exposure
- Imaging – B/R dialogue with patients & public, especially due to lack of evidence regarding risk
- Therapy – B/R dialogue which include impact of additional imaging

My father was a radiologist and assures me that radiation is **NOT** hazardous

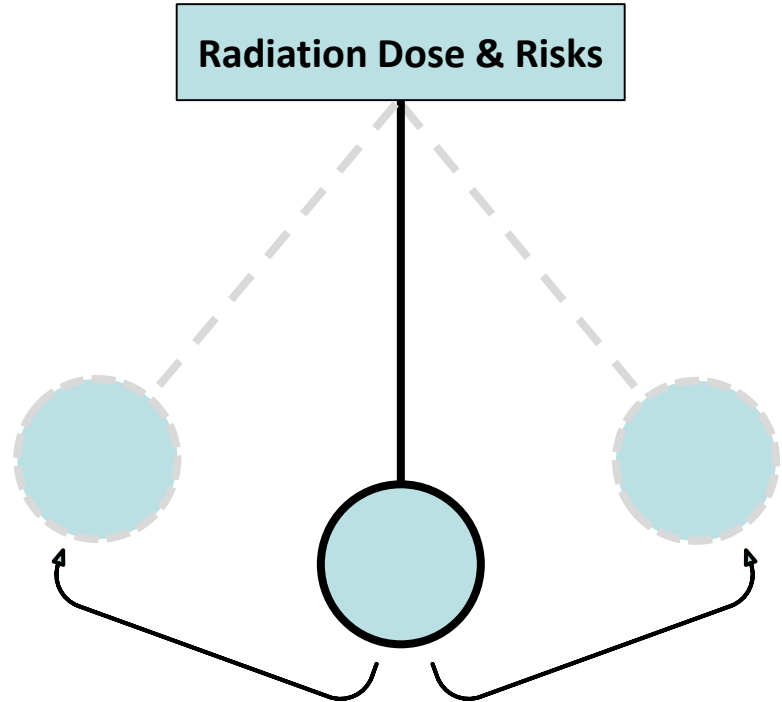


Radiation Benefits/Risk Dialogue

- **Universal acceptance of benefits in air-travel, highway driving or use of consumer products often overlooking risks are good examples to emulate on how to create similar acceptance regarding radiation exposures**

Need for Balance

- **Past:** concerns on radiation risks was not universally recognized
- **Now:** concerns on radiation risks can sometime go extreme impacting image quality
- **Balancing Radiation Dose and Risks with Image Quality is key**



Where do we go next?

- Speaking to the choir: current status
- Need to take B/R dialogue directly to other side
 - Patients and general public
 - Physicians ordering imaging studies
- Provide scientific yet pragmatic solutions
- Wrapping “scientific information” in an “humanities blanket” is key to foster the dialogue
- However, “blanket” is currently tattered and needs strengthening

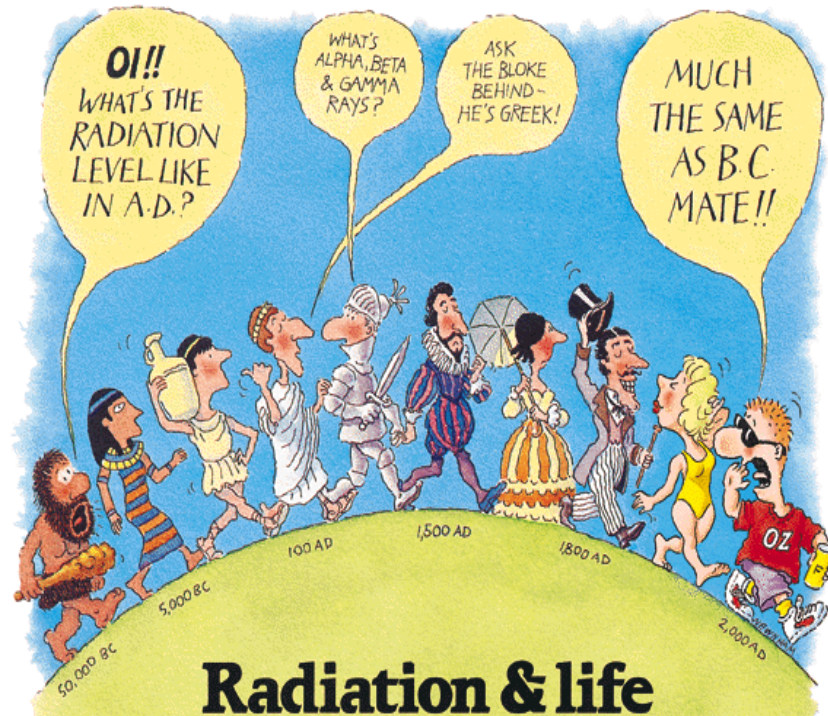
Risk Perception and Communication

- **What you said was not necessarily what you meant!** →



- **What you said was not necessarily what he heard!** →





Radiation & life

"Life on earth has developed with an ever present background of radiation. It is not something new, invented by the wit of man; radiation has always been there."

Eric J Hall, Professor of Radiology, College of Physicians and Surgeons, Columbia University, New York. "Radiation and Life".