

August 26, 2008  
Volume 14:Issue 13

To: All Emergency Medicine Physicians  
Contracts Affected: All Lines of Business

## Radiation Safety Awareness Initiative

We are pleased to inform you that BlueCross BlueShield of Western New York will begin a Radiation Safety Awareness Initiative in September in conjunction with National Imaging Associates (NIA), our nationally recognized Radiology Benefits Manager. We are taking this proactive approach in order to improve patient safety and raise awareness regarding radiation exposure.

As you know, radiation exposure from medical imaging is a rapidly growing patient safety issue. Patients are exposed to nearly **six times** more radiation from medical diagnostic tests than they were in 1980. The largest contributors to the increase in medical radiation exposure are CT scans and nuclear medicine.

### How is your patient identified?

At-risk patients are identified through radiology claims provided to NIA by BlueCross BlueShield twice a year for analysis of radiation exposure based on those claims.

“At-risk” patients are those with cumulative radiation exposure equal to or over a level identified as detrimental to long-term health, putting them at an increased risk of developing radiation-associated complications such as cancer.

### How are providers notified if a patient is identified at risk?

Providers are notified by telephone or by an online alert at the time a radiology procedure is reviewed for preauthorization. A provider alert letter will also be sent via fax or mail. Since **emergency medicine physicians are exempt from the preauthorization process, you will not receive notification of a patient's exposure level.** Imaging studies ordered and performed in the ER setting will be used, however, when calculating a patient's estimated radiation exposure.

### When ordering diagnostic testing in the emergency setting, the following may be taken into consideration:

- The risk versus the benefit of the radiology study.
- How the results of this study will help in managing this patient.
- If this ionizing radiation study is the best one to perform.
- If there are other tests such as ultrasound, lab or endoscopy testing which would be a more appropriate initial investigative study.

- over -

- The necessity of repeating a CT scan, especially in young girls and young women due to the radiation dose to breasts and ovaries.
- A patient's prior history of imaging studies. Discuss this with the radiologist.

### How radiation exposure is measured

Radiation exposure estimates are measured in milliSeiverts (mSv). Radiation effective dose is the amount of radiation received by the patient and depends on many factors including distance from the source, time of exposure, overall body and organ size, location and nature of tissue exposed. Although there is some variation in the amount of radiation received, studies suggest a significant increase in risk of cancer at radiation effective dose estimates of 50 mSv. Reaching this effective dose is not uncommon in patients having multiple CT and/or nuclear imaging studies.

The following table illustrates the estimated effective radiation dose of common medical procedures:

<b>Table 1. - Radiation Dose Comparison <sup>1</sup></b>		
<b>Diagnostic Procedure</b>	<b>Typical Effective Dose (mSv)</b>	<b>Number of Chest X rays (PA film) for Equivalent Effective Dose</b>
<b>Chest X-ray (posterior/anterior film)</b>	0.02	1
<b>Skull X-ray</b>	0.07	4
<b>Lumbar spine</b>	1.30	65
<b>I.V. urogram</b>	2.50	125
<b>U.S. background radiation</b>	3.00	150
<b>Upper G.I. exam</b>	3.00	150
<b>Barium enema</b>	7.00	350
<b>CT head</b>	2.00	100
<b>CT abdomen</b>	10.00	500

If you have any questions regarding this bulletin, please contact project coordinator Lorri Hagner, RN, at 1-716-887-8964 or National Imaging Associates at [www.radmd.com](http://www.radmd.com).

---

<sup>1</sup> U.S. Food and Drug Administration, Center for Devices and Radiological Health. Adapted from European Commission, Radiation Protection Report 118, "Referral guidelines for imaging." Directorate-General for the Environment of the European Commission, 2000.