

SPECIAL EDITION

MARCH 2011:

RADIATION EXPOSURE & POTASSIUM IODIDE (KI)

In response to the growing anxiety in the aftermath of the recent earthquakes, tsunami and radiation leaks in Japan, the following information is provided by Centers for Disease Control (CDC) (www.bt.cdc.gov/radiation/japan/ki.asp)

KEY FACTS:

- **at this time (March 20th), CDC does not recommend that people in the United States take potassium iodide ("KI") or iodine supplements in response to the nuclear power plant explosions in Japan**
- **You should only take KI on the advice of emergency management officials, public health officials, or your doctor**

WHAT IS RADIATION?

Radiation is a form of energy that is present all around us. Different types of radiation exist, some having more energy than others.

WHAT IS RADIOACTIVE CONTAMINATION?

Radioactive contamination occurs when radioactive material is deposited in or on an object or person. Radioactive materials released into the environment can cause air, water, surfaces, soil, plants, buildings, people or animals to become contaminated.

WHAT IS POTASSIUM IODIDE?

Potassium iodide ("KI") is a form of non-radioactive iodine. Iodine is an important chemical needed by our bodies to make thyroid hormones. Most of the iodine in our bodies comes from the food we eat. "KI" is iodine in a medicine form.

WHAT DOES "KI" DO?

If radioactive iodine is released into the air after a radiological or nuclear event, it can be breathed into the lungs. In most cases, radioactive iodine in the body is quickly absorbed by the **thyroid gland**. After being absorbed, it can cause thyroid gland injury. Because "KI" acts to block radioactive iodine from being absorbed by the thyroid gland, it can help protect this gland from injury.

It is also important to know what "KI" *cannot* do. "KI" cannot protect parts of the body other than the thyroid from radioactive iodine. "KI" cannot protect the body from any radioactive elements other than iodine. If radioactive iodine is not present, then taking "KI" is *not* protective. To date (March 20), no radioactive iodine has been detected in the United States or U.S. territories.

HOW DOES "KI" WORK?

The thyroid gland cannot tell the difference between stable (non-radioactive) and radioactive iodine, and will absorb both of these substances. When a person takes "KI", the iodine in the medicine gets absorbed by the thyroid. When

the thyroid gland becomes "full", no more iodine – either stable or radioactive – is absorbed for the next 24 hours.

HOW WELL DOES "KI" WORK?

It is important to know that "KI" may not give a person 100% protection against radioactive iodine. How well "KI" blocks the radioactive iodine depends on several factors:

- how much time has passed between contamination with radioactive iodine and taking "KI" (the sooner a person takes "KI" after being exposed to radioactive iodine, the better it works to block radioactive absorption)
- the total amount of radioactive iodine to which a person is exposed, AND
- how fast KI is absorbed into the blood,

A single dose of "KI" protects the thyroid gland for 24 hours. **Taking a higher dose of "KI", or taking "KI" more often than recommended does not offer more protection and can cause severe illness or death.**

WHEN SHOULD I TAKE "KI"?

If a radiological or nuclear event occurs in the US, local public health or emergency management officials will tell the public if there is a need to take "KI" or other protective actions. **After a radiological event in the U.S., you should follow the instructions given to you by these local authorities.** Use only **FDA** (Food & Drug Administration) approved products, and use as directed!

The **EPA** (Environmental Protection Agency) monitors for radioactivity through a national network of monitoring stations called **RADNET**. Scientists are tracking the location of radioactive iodine released from the power plant in Japan, and, as of this writing (March 20), no radioactive iodine has been detected in the U.S.

Throughout the US, there are stockpiles (**SNS**, or strategic national stockpiles) of emergency supplies, including "KI", which will be distributed in the event our Nuclear Emergency Response Plan is activated.



Rather than responding with denial or anxiety, begin to prepare yourself and family by gathering emergency supplies, making and practicing a family disaster response plan, and getting educated!

There is an enormous amount of material available – you may begin by contacting your local public health agency's disaster management office, or by searching the following websites for information about disaster response plans and emergency supply kits:

www.fema.gov/hazard/nuclear
www.nlm.nih.gov/medlineplus/radiationemergencies
www.redcross.org/portal/site/en/menuitem.d8aaecf214c576bf971e4cfe4318aa0/?vg...
www.be.cdc.gov/radiation/japan/ki.asp
<http://emergency.cdc.gov/preparedness/kit/disasters/>

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