



STATE OF MARYLAND

DHMH

Maryland Department of Health and Mental Hygiene

201 W. Preston Street • Baltimore, Maryland 21201

Martin O'Malley, Governor – Anthony G. Brown, Lt. Governor – Joshua M. Sharfstein, M.D., Secretary

March 29, 2011

Dear Colleague,

As events unfold in Japan, many questions have arisen in the Maryland community regarding nuclear radiation: exposure, monitoring, treatment, screening and related travel guidance.

This update is intended to provide Maryland clinicians with the following information:

1. Update on current detectable levels of radioactive iodine (I-131) in air and rainwater in the United States, notably the Eastern U.S., including Maryland.
2. Methods for monitoring environment (air, water, food) in Maryland.
3. Information on Potassium Iodide for treatment of clinically significant levels of I-131.
4. Guidance for travelers arriving from or departing to Japan.

Clinical Recommendations

- ***Potassium Iodide (KI) is not recommended for any person at this time. The levels of radioactivity that have been found are many orders of magnitude below those for which KI is recommended.***
- ***Neither DHMH nor the CDC recommends any change in drinking water use. Public water supplies have been and continue to be safe sources of drinking water, including for pregnant women, children, and all other groups.***
- **CDC has posted guidance for travelers and clinicians advising travelers to/from Japan as well as guidance for humanitarian volunteers and business travelers visiting Japan at: <http://wwwnc.cdc.gov/travel/content/id/2511.aspx>. Additionally, important travel information can be found at: <http://travel.state.gov/>.**

Notes for reference: A Curie (Ci) is a unit of radiation activity (expressed in disintegrations per second). It is independent of the type of radioactivity (alpha, beta, or gamma). Alpha particles are two protons and two neutrons; they are slow and only important if absorbed internally. Beta particles are electrons; they can penetrate skin and tissue. Gamma particles are very high energy (like cosmic rays), and are all around us all of the time. A typical annual radiation exposure in Maryland is about 300 millirem (mrem) per year, mainly from cosmic rays, medical devices, and naturally occurring sources. A typical chest X-ray is 10-20 mrem.

Toll Free 1-877-4MD-DHMH – TTY/Maryland Relay Service 1-800-735-2258

Web Site: www.dhmh.state.md.us

Environmental Summary

As a result of the incident with the Fukushima nuclear plant in Japan, highly sensitive radiation monitors operated by EPA and others are detecting very low levels of radioactive material (Iodine-131, or I-131) in the air in the United States. These levels were expected and consistent with estimated releases from the damaged nuclear reactors and these levels are far below those of public health concern. Maryland has also detected very low concentrations of I-131 in rainwater. These levels of I-131 are of no clinical significance and present no public health risk. Two other states (Massachusetts and Pennsylvania) have also detected very low concentrations in rainwater. For more information on Maryland's findings, you can link to the DHMH home page www.dhmh.state.md.us and click on the [Iodine-131 Fact Sheet](#).

Maryland agencies are conducting on-going monitoring of air, precipitation, drinking water, milk, other food and environmental materials and continue to keep the public informed. For an overview of Maryland's radiation monitoring and preparedness, link to: <http://www.dhmh.state.md.us/pdf/overview.pdf>

Information from federal sources is also available to the public:

- The EPA has posted information on its website at: <http://www.epa.gov/japan2011/>
- CDC has posted FAQs on its website at: <http://emergency.cdc.gov/radiation/isotopes/iodine131surfacewater.asp>
- USA.gov continues to consolidate federal guidance related to this situation at: <http://www.usa.gov/Japan2011.shtml>

Background on Potassium Iodide (KI)

Treatment of significant I-131 exposure (for example, that associated with an acute catastrophic release from a nearby nuclear facility) is with potassium iodide (KI), which acts as a thyroid blocking agent (KI does not protect any other organs from I-131). I-131 is to be administered within 4 hours of exposure and continued for the period of active exposure. The protective effect of one dose of KI lasts approximately 24 hours.

Highest priority for KI usage is among children <19 years of age and pregnant/breastfeeding women. Adults over 40 years of age have the lowest risk of developing thyroid injury/cancer and the highest risk of having an allergic reaction to KI. There are medical contraindications (dermatologic and endocrine) to KI that should be considered prior to administration.

For more information on I-131 exposure and KI guidelines, please refer to: <http://wwwnc.cdc.gov/travel/content/2011-earthquake-tsunami-travel.aspx>


NOTE: At this time, there is no indication for any administration of KI for any reason in the United States. Maryland DHMH continues to advise that there is no reason for individuals to purchase or take KI at this time.

In Maryland, local health departments have plans for the emergency distribution of KI through multiple outlets. Maryland has access to additional supplies of KI, if needed, through the Strategic National Stockpile program.

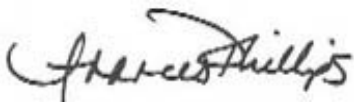
Background on Travel-Related Issues

If you have patients traveling to Japan, CDC has posted a compilation of links for travelers and their clinicians pertaining to radiation exposure at: <http://wwwnc.cdc.gov/travel/content/2011-earthquake-tsunami-travel.aspx>. Customs and Border Protection (CBP) routinely screens returning passengers to the United States. CDC is now providing additional guidance to CBP officers for the referral of passengers who are identified through this mechanism as being potentially contaminated with radioactive material. Active screening of arriving passengers traveling from Japan is not currently warranted.

Sincerely,



Joshua M. Sharfstein, M.D.
Secretary



Frances Phillips, R.N., MHA
Deputy Secretary, Public Health Services