

Potassium Iodide in Schools

Facts for Teachers, Administrators, and Staff

1. What is potassium iodide (KI) and why should it be used in the event of an emergency at the nuclear power plant?

Potassium Iodide is a type of salt that is added to table salt in small amounts so that people have sufficient iodine in their diet to maintain normal healthy thyroid function. It often is identified by its chemical symbol, KI.

KI is also made into a non-prescription medication that can be used to protect the thyroid during a nuclear emergency involving a release of radioactive iodine (RAI). If KI is taken prior to or soon after exposure to RAI, it saturates the thyroid with stable iodine, thereby blocking uptake of harmful radioactive iodine. Blocking radioactive iodine uptake greatly reduces one's risk of developing thyroid cancer and other thyroid diseases caused by radioactive iodine later in life.

2. Does taking KI mean that I don't have to evacuate in a radiological emergency?

NO! Taking KI is NOT a substitute for evacuation. It is very important that you leave the area immediately and proceed to the designated relocation school or other facility if you are instructed to do so. KI will protect only the thyroid gland from radioactive iodine. There are many kinds of radioactive materials that could pose a threat in a nuclear power plant emergency, and it is important that you protect your whole body from radiation by leaving the area as soon as possible.

3. Why is it especially important for children to take KI?

Scientific studies have demonstrated conclusively that children have the highest risk of damaging health effects from exposure to radioactive iodine. These studies have shown that the younger children are, the more vulnerable they are to developing thyroid cancer and other thyroid diseases following exposure to radioactive iodine.

4. Do schools have the legal authority to distribute and administer KI to students?

Yes. Legal authority is found in North Carolina State Law 115 C-307 Duties of teachers, subsection c), entitled 'Provide Some Medical Care to Students'. Part ii states, "It is within the scope of duty of teachers, including substitute teachers, teacher assistants, student teachers, or any other public school employee when given such authority by the board of education or its designee, to give emergency health care when reasonably apparent circumstances indicate that any delay would seriously worsen the physical condition or endanger the life of the pupil."

5. Must parents allow the school to administer KI to their children?

No. Participation in the program is voluntary. **However, if radioactive iodine (RAI) is released during a nuclear power plant emergency and there is evidence that exposure will occur, the use of KI is strongly recommended by the FDA and**

other scientific and medical authorities (including the American Academy of Pediatrics) to protect children's' thyroids from the harmful effects of RAI.

Parents who do not want their children to receive KI may decline to be involved in the program by providing a written opt-out notice to the school. Without an opt-out notice on file, children may receive KI in an emergency situation. Parents may revoke their decision to opt -out of the program in writing at any time during the school year.

6. Who will distribute and administer KI?

Teachers and other school staff designated by the local school system will have the responsibility of distributing and administering KI to children in an emergency.

7. Should teachers and other school staff take KI?

Although the risk to adults from radioactive iodine is much less compared to children, the Division of Public Health recommends that adults also take KI in an emergency. Each school will have a sufficient supply of KI for all students and staff.

8. How will schools be notified of an emergency and told to administer KI or take other actions?

If a nuclear power plant emergency occurs, the Emergency Alert System and the media (radio and TV) will notify the public of protective actions that should be taken. Depending on the nature of the event, these instructions may include evacuating to a designated relocation site, staying inside, and taking KI.

The State Health Director (or other authorized person), usually after consulting with state radiation protection staff, will determine if KI should be administered to prevent exposure to radioactive iodine. A decision to administer KI will be communicated to the local health director and local emergency management officials who will notify schools of the decision.

9. Where will KI be distributed once a RAI emergency is declared?

The KI will be stored at all schools within a 10-mile radius of nuclear power plants. Depending on the scenario, KI may be distributed and administered to students at the school, in transit to, or at designated relocation sites.

10. What is the recommended dosage for adults and school-aged children and how should it be taken?

The Food and Drug Administration (FDA) is the medical authority on KI in the United States, The FDA's recommended dosage for adults is 130 milligrams (whole tablet) every 24 hours until the threat of radioactive iodine exposure has passed. The recommended dosage for children and teenagers, ages 3 to 18 years, is 65 milligrams. Current supplies of KI are comprised of scored 130-mg tablets that can be divided in half. Therefore, each student should receive at least half of a 130-mg tablet. Teenagers approaching adult weight (70 kilograms or 150 pounds) may receive a whole tablet. If the emergency situation is such that dividing the tablets in half would cause significant delay in KI administration to students, the FDA has concluded that

administration of a whole 130 mg tablet to school-age children would not be harmful. Because KI has a somewhat bitter taste, it may be taken or crushed and mixed with juice, chocolate milk, or flat soda, to mask the taste.

11. Are there any problems or side effects associated with taking KI?

KI is a very safe and effective drug for preventing uptake of radioactive iodine by the thyroid. Side effects are usually mild and insignificant.

Approximately 17.5 million people (10.5 million children and 7 million adults) in Poland took KI following the Chernobyl nuclear power plant accident. Most did not experience any side effects. Mild side effects included gastrointestinal distress in about 2% of children and rash in about 1% of children and adults. There were only two allergic reactions to iodine, both of which occurred in adults with known iodine allergy.

State and federal health experts overwhelmingly agree that for almost everyone the benefits of taking KI far outweigh the risks.

12. Is there anyone who shouldn't take KI?

There is only one absolute contraindication to taking KI in an emergency. **People who have known allergies to iodine should not take KI.** There are two other very rare conditions, dermatitis herpetiformis and hypocomplementemic vasculitis that have been associated with an increased risk of iodine allergy. Persons with these illnesses should also avoid KI.

The FDA has determined that short term dosing (over a 24 to 48-hour period) is generally safe for persons with existing thyroid disease. However, anyone with Graves' disease, autoimmune thyroiditis, or another thyroid disorder should consult with their doctors BEFORE an emergency, to determine whether they can safely take KI.

Because KI readily crosses the placenta and is excreted in breast milk, pregnant women and breast-feeding women should take KI to protect their thyroid but should not take more than one dose. After taking KI, these women should check with their doctor to make sure their child's thyroid is functioning normally.

If parents of your students have any questions about whether their children should take KI, encourage them to ask their doctors. The NC Division of Public Health has provided information on KI to the NC Medical Board, the NC Medical Society, and the NC Board of Pharmacy, all of whom have made it available to practitioners in NC. IN addition to these information sources, the American Academy of Pediatrics policy statement on KI in schools may be found in the June 2003 issue of the medical journal Pediatrics.

13. How often must KI be taken to remain effective?

A single dose of KI remains effective for approximately 24 hours. We anticipate that students will not be under school supervision for more than 24 hours during a nuclear power plant emergency. If a longer period were to occur, students would receive

another dose of KI every 24 hours until the threat of exposure to radioactive iodine has passed.

14. Where can I go to get more information on KI?

For more information on KI, you can visit the North Carolina Department of Health and Human Services webpage on KI, at <http://www.ncpublichealth.com/ki.htm>. You may also contact the Division of Public Health's public information officer (919) 715-4174. Your local health department is also available to answer questions concerning KI.

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