

# POTASSIUM IODIDE IN CHILD CARE FACILITIES

## FACTS FOR PARENTS/GUARDIANS

**What is this program all about?** To protect children's health in the event of a nuclear power plant (NPP) emergency, the Division of Child Development, in conjunction with the Division of Public Health, has developed a plan to distribute and administer potassium iodide (KI) to children when recommended by state health officials. Other steps that may be taken to protect children during a NPP emergency include evacuation and relocation, or sheltering-in-place, as necessary.

**What is potassium iodide and why should it be used in the event of an emergency at the nuclear power plant (NPP)?** 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 is often identified by its chemical symbol, KI.

KI is also made into a non-prescription, over-the-counter medication. It may be used to protect the thyroid during a NPP emergency involving a release of radioactive iodine (RAI). If KI is taken prior to or soon after exposure to RAI, it blocks the thyroid's uptake of RAI and reduces an exposed person's risk of developing thyroid cancer and other thyroid diseases later in life.

**Does taking KI mean that the children don't have to evacuate in a nuclear power plant (NPP) emergency?** **NO!** Taking KI is NOT a substitute for evacuation. It is very important that children leave the area immediately and proceed to the designated relocation site or other facility when instructed by officials to do so. KI will protect only the thyroid gland from radioactive iodine. There are many kinds of radioactive materials besides radioactive iodine that could pose a threat in a NPP emergency. It is important to protect your whole body from radiation by leaving the area as soon as possible unless officials recommend staying in a sheltered place until it is safe to leave. This is also true if a NPP emergency occurs while you are at home with your family. One should follow the emergency response instructions released by state officials on the radio and television immediately.

**Why is it especially important for children to take KI?** Scientific studies have shown that children have the highest risk of damaging health effects from exposure to radioactive iodine. Infants and young children are more vulnerable to developing thyroid cancer and other thyroid diseases following exposure to radioactive iodine.

**Do facilities have the legal authority to distribute and administer KI to children?** Yes. The authority lies in recently adopted provisions of rules in 10A NCAC 09 .1720(k) and .0803(9) that state: "A parent may give a caregiver standing authorization to administer an over-the-counter remedy or medication as directed by the North Carolina State Health Director or designee, when there is a public health emergency as identified by the North Carolina State Health Director or designee. The authorization shall be in writing, may be valid for as long as the child is enrolled, and shall contain:

- (1) the child's name;
- (2) the signature of the parent;
- (3) the date the authorization was signed by the parent.
- (4) the date that the authorization ends or a statement that the authorization is valid until withdrawn by the parent in writing."

The Child Care Commission voted to adopt these provisions on \_\_\_\_\_. The rule will become effective May 1, 2004.

**Are parents/guardians required to give their permission for child care facility staff 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 or guardians must sign and return an authorization form to the child care facility that gives written permission for facility staff to administer KI in the event of an emergency.

**Who will distribute and administer KI?** Teachers and other facility staff designated by the administrator of the facility will have the responsibility of distributing and administering KI to children in an emergency.

**How will facilities 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 harmful 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 facilities of the decision.

**What is the recommended dosage for children?** The Food and Drug Administration (FDA) is the medical authority on KI in the United States. The FDA recommended dose for newborns and infants through age one month is 16 milligrams (mg). This is the amount of KI in one fourth of a 65 mg tablet. For children one month through three years of age, the recommended dose is 32 milligrams (mg) which is one half of a 65 mg tablet. For children and teenagers from age 3 through 18 years, the recommended dose is 65 mg. This is the amount in a whole 65 mg tablet or one half of a 130 mg tablet. Teenagers who weigh 70 kilograms or near 150 pounds should take a full adult dose of 130 mg. If dividing the tablet for children would take too long, the FDA has concluded that all children may take the full 130 mg tablet. KI has a somewhat bitter taste, so the dose can be taken or crushed and mixed with juice, chocolate milk or flat soda, to mask the taste. For smaller children it can be mixed with applesauce, pudding or something else the child likes.

**Are there any problems or side effects associated with taking KI?** The FDA has determined that KI is a safe and effective drug when used to prevent uptake of radioactive iodine by the thyroid. Side effects are usually mild and go away soon. About 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.

**Is there anyone who shouldn't take KI? People who have known allergies to iodine should not take KI.** There are two other very rare conditions, dermatitis herpetiformis and hypocomplementemic vasculitis, which 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 (24 to 48 hours) is generally safe for persons with existing thyroid disease. However, persons 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.

If you have any questions about whether your children should take KI, ask your doctor. The N.C. Division of Public Health has provided information on KI to the N.C. Medical Board, the N.C. Medical Society and the N.C. Board of Pharmacy, and these organizations have made it available to practitioners throughout North Carolina. Also, your doctor may find the American Academy of Pediatrics policy statement on KI in the June 2003 issue of the medical journal *Pediatrics*.

**How often must KI be taken to remain effective?** A single dose of KI remains effective for approximately 24 hours. It is unlikely that children would be under a child care facility's supervision for more than 24 hours following a nuclear power plant emergency. If a longer period were to occur, children would receive another dose every 24 hours until the threat of exposure to RAI has passed.

**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 web page on KI, at <http://www.epi.state.nc.us/epi/phpr/ki/ki.html>. You may also contact the Division of Public Health's public information officer at (919) 715-4174. Your local health department is also available to answer questions concerning KI.