

## RADIOLOGICAL PROTECTIVE DRUGS

### I. PURPOSE

To establish procedures for the distribution and administration of radiological protective drugs, as a supplemental protective measure to evacuation or sheltering in place, to emergency workers, institutionalized individuals (individuals who cannot be evacuated in a timely manner) and the general public living within the 10-mile Emergency Planning Zone (EPZ). These procedures will be used for pre- and post- event distribution activity. (Currently, the only radiological protective drug used in North Carolina is potassium iodide)

### II. SCOPE

- A.** The NC Department of Health & Human Services/Division of Public Health (DHHS/DPH) will establish a program to ensure that sufficient numbers of potassium iodide (KI) tablets are conveniently and strategically located near the 10-mile EPZ zones of commercial nuclear power facilities affecting North Carolina. This program will ensure that sufficient tablets are available for:
1. Residents of each 10-mile EPZ
  2. Institutionalized individuals and staff located within each 10-mile EPZ
  3. Other identified populations at risk from exposure to radioactive iodine.
- B.** The program will ensure that tablets are made available to the general public on a voluntary basis (pre-event) and that tablets are located conveniently and strategically for post-event distribution. Each school within the 10-mile EPZ will have a supply of KI tablets sufficient for each assigned student, faculty and other staff member to receive one tablet if necessary during a nuclear power facility event.
- C.** The North Carolina Division of Emergency Management (NCEM) in coordination with the Department of Environment and Natural Resources/Radiation Protection Section (DENR/RPS) will establish a monitoring and replacement program to ensure that a sufficient number of KI tablets are available for use by emergency workers assigned duties during an event involving a commercial nuclear power facility.
- D.** The KI tablets for distribution to institutionalized individuals and the general public will be stored at the Local Health Departments (LHDs) or other LHD-designated location(s), under the control of local health directors. The KI tablets for emergency workers will be stored at the County Emergency Management Agency or other EM-designated location(s).
- E.** DHHS/DPH will coordinate with LHDs and County Emergency Management agencies to determine the number of KI tablets required for institutionalized persons and the general public within the 10-mile EPZ. NCEM will coordinate with County Emergency Management agencies to determine the number of KI tablets required for emergency workers.

- F. Once the number of tablets is determined, DHHS/DPH and NCEM will coordinate procurement of all KI for distribution to the LHDs and County Emergency Management agencies.

### III. **CONCEPT OF OPERATIONS**

#### A. **ORGANIZATION**

1. **STATE**

- a. Department of Crime Control and Public Safety (CCPS)
- b. Department of Environment & Natural Resources (DENR)
- c. Department of Health & Human Services (DHHS)
- d. Department of Public Instruction (DPI)

2. **LOCAL**

- a. Local (County or District) Health Department
- b. County Emergency Management Agency
- c. Local School Board / Superintendent
- d. Local Charter and Private School Board
- e. Local American Red Cross (ARC) Chapters

3. **PRIVATE**

- a. Duke Energy
- b. Progress Energy
- c. North Carolina Pharmacy Society

#### B. **RESPONSIBILITIES:**

- 1. Local Health Departments (LHDs), supported by the County Emergency Management agency, will be responsible for the distribution of KI tablets to the public (general public & institutionalized individuals/staff) residing within the 10-mile EPZ.
- 2. County Emergency Management agencies, supported by the LHD will be responsible for distribution of KI tablets to emergency workers assigned duties inside the 10-mile EPZ.
- 3. DHHS/DPH will be responsible for the development and distribution of health-related informational materials on KI, to include background information, dose and dosing schedule, adverse effects, and other pertinent information. This information will be provided to both LHDs and County Emergency Management agencies for use in creating materials

for the general public, institutionalized individuals and local school systems.

4. DHHS/DPH, based on population figures provided to NCEM and LHD distribution records, will obtain sufficient KI tablets for distribution to the general public & institutionalized individuals by LHDs.
5. NCEM, will obtain sufficient KI stocks for County Emergency Management agencies for distribution to emergency workers assigned duties inside the 10-mile EPZ.
6. The LHDs will provide appropriate education and training to local staff and volunteers involved in the distribution of KI to the public.
7. Utilities owning or operating commercial nuclear power facilities with all or a portion of a 10-mile EPZ in North Carolina will be responsible for the following:
  - C. Providing local Health Department and Emergency Management agencies 10-mile EPZ population information when evacuation time studies are completed for the individual commercial nuclear power facility.
  - D. Including information regarding the availability of KI for residents of the 10-mile EPZ in their public information documents.

#### **IV. EXECUTION**

##### **A. DIRECTION AND CONTROL**

1. KI is a radiological protective drug which can be obtained over-the-counter (without doctor's prescription). Scientific studies have shown KI to be effective in blocking the absorption of radioactive iodine by the thyroid if taken at the correct time and in the proper dosage prior to or soon after exposure to radioactive iodine. The effectiveness of KI diminishes as the time between exposure to radioactive iodine and administration of KI increases. (Very little effective blocking occurs after four hours).
2. The U.S. Food and Drug Administration (FDA), has determined that most people can safely take KI. A small percentage of individuals (2% or less) may experience minor side effects of short duration such as nausea, GI upset, and skin rash. DHHS/DPH has elected to adopt FDA's recommendations and guidelines (FDA Guidance Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies, Dec 2001) as part of its KI policies and procedures.

#### **WARNING**

**Individuals who are allergic to iodine or who have either of two rare skin disorders associated with allergy to iodine (dermatitis herpetiformis and hypocomplementemic vasculitis), should not take KI. Anyone who is unsure about whether or not they can safely take KI should consult their physician prior to an event if possible.**

3. It is best to administer KI ASAP, especially to children and infants who have the greatest risk of adverse effects from RAI. When possible, the FDA dose guidelines should be followed. In some emergency situations this may not be possible.
4. Pregnant women and newborns should not receive more than one dose of KI and should be checked by their doctor soon after taking KI to make sure thyroid function remains normal.
5. The FDA-recommended dose varies depending on a person's age and weight. **Figure 1** contains a table and additional FDA information concerning recommended age-specific doses.
6. Only one dose according to the **Figure 1** table should be administered per 24-hour period.
7. To divide the tablets into 1/2, 1/4, or 1/8 portions, use a pill cutter or a sharp knife on a hard surface. Crush the doses for infants and small children into a powder and mix with applesauce, pudding or something else the child likes.
8. If exposure to radioactive iodine has occurred or is imminent and dividing the tablets would delay administration of KI thereby resulting in unnecessary exposure to radioactive iodine, a single 130 or 65 mg tablet (as determined by age) can be administered.
9. Should dose projections indicate or an actual release from a nuclear power facility contain radioactive iodine (detectable beyond the site boundary), an advisory for emergency workers to ingest KI will be made. This decision will be made by one of the following:
  - a. the State Health Director (or designee),
  - b. the Local Health Director (or designee)
  - c. Radiation Protection Section Chief (or designee)

State Radiation Assessment Field Teams (DENR/Rad Protection, Ag Dept, etc) due to the unique nature and location of their response areas are authorized to ingest KI upon notification of an actual release containing radioactive iodine or detection of any level of radioactive iodine.
10. The notification for administering KI to emergency workers will be made via telephone contact with the County EOC's by Emergency Services and Human Services sections at the SEOC.
11. If the release contains radioactive iodine detectable beyond the site boundary at levels equal to or greater than 5 Rem, an advisory will be made to administer KI to the general public. This decision will be made by one of the following:

- a. the State Health Director (or designee),
  - b. the Local Health Director (or designee)
  - c. Radiation Protection Section Chief (or designee)
12. The notification for administering KI to the public will be made via the Emergency Alert System and the media (radio and TV).

**NOTE:**

**KI should NOT be administered to the general public before public health authorities issue an advisory for administration.**

13. Stocks of KI should be stored in a secure climate-controlled area that is dry and at normal room temperature (60 to 85 degrees) and low humidity.

**B. PRE-EVENT DISTRIBUTION**

1. **NORTH CAROLINA DEPARTMENT OF HEALTH & HUMAN SERVICES WILL:**

- a. Provide individual LHDs, having a portion of their county within the 10-mile EPZ, with adequate stocks of KI for distribution to the general public within the 10 mile EPZ and institutions with individuals that cannot be readily evacuated in an emergency. Provide individual LHD with KI stock for 10-mile EPZ schools identified for evacuation sufficient for each assigned student, faculty and staff.
- b. Coordinate with NCEM to obtain information about the resident and transient populations of the 10-mile EPZ for each commercial nuclear power facility affecting North Carolina.
- c. Coordinate with DENR/RPS to obtain and review current health-related information on KI. Provide directions and other appropriate informational materials (as outlined in Section III. B-3 above) on KI for distribution to the general public and others.
- d. Review annually available KI stocks (amount and expiration date) with 10-mile EPZ LHDs . DHHS/Public Health will request additional stocks from the NRC or other Federal agencies/sources or contract with FDA-approved pharmaceutical companies as necessary if additional stocks are required.

2. **NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES WILL:**

- a. Coordinate with DHHS/DPH (through the DENR/RPS) in obtaining and reviewing current health-related information on KI.
- b. Assist DHHS/DPH in the development of appropriate informational materials on KI (as outlined in Section III. B-3 above) for distribution to the general public and others.

3. NORTH CAROLINA DEPARTMENT OF CRIME CONTROL & PUBLIC SAFETY WILL:
  - a. Coordinate with individual nuclear power facility Emergency Preparedness organizations to obtain current population information, as required by NRC, on the 10-mile EPZ resident and transient populations for each commercial nuclear power facility affecting North Carolina.
  - b. Provide DHHS/DPH and DENR/RPS summary population information on the 10-mile EPZ resident and transient populations for each commercial nuclear power facility affecting North Carolina.
  - c. Provide individual County Emergency Management agencies with adequate stocks of KI for distribution to emergency workers assigned duties during an event involving a commercial nuclear power facility.
  - d. Periodically review emergency worker KI stocks (amount and expiration date) with EPZ County Emergency Management agencies to ensure adequate stocks are available. NCEM will purchase KI from FDA-approved pharmaceutical companies if additional stocks are required.
  
4. LOCAL HEALTH DEPARTMENTS WILL:
  - a. Receive and stockpile KI from DHHS/DPH at the LHD main office (or other LHD-designated location) for distribution to the general public, 10-mile EPZ schools and identified institutions with individuals that cannot be readily evacuated.
  - b. Establish dates, times and locations for pre-event "outreach" distribution of KI in coordination with surrounding EPZ counties. After distribution dates, times and locations have been determined and coordinated, provide distribution information to the local media (TV and radio stations and newspapers) to facilitate public participation. Locations for the pre-event "outreach" distribution to the public should be within the 10-mile EPZ.
  - c. Develop a local "signature form" that can be used by LHD personnel and volunteers during pre-event distribution. This form is for documenting the names, addresses and amounts of KI individuals are receiving.
  - d. Arrange for the delivery or otherwise coordinate the pick-up of the KI and associated informational materials and transport them to the local distribution sites.
  - e. Be responsible at the distribution sites for:

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- (i) Insuring that all personnel involved in distributing KI are provided appropriate education and training on KI (to be able to accomplish at a minimum Items 2 - 5 below).
  - (ii) Insuring that KI recipients receive the appropriate number of KI tablets.
  - (iii) Insuring that KI recipients receive pertinent informational materials.
  - (iv) Insuring that KI recipients provide their name and address on the signature form identified in IV. B. 3(c) above and that the number of tablets received is recorded on the form.
  - (v) Return to the LHD (or other designated KI storage site), on the next working day following the distribution day(s), all forms and any remaining stocks of KI.
- f. Periodically make KI available to the public during regular business hours, at its Central Office or other designated location(s). Distribution information provided to the public and the media should include this information as well as a telephone number for both local and state health officials that the public may call for further information.
- g. Contact NC DHHS/DPH for restocking, when stocks of KI and or information materials appear low.
- h. Conduct additional "outreach" distribution as deemed necessary by local health and emergency management officials to meet changes in local population distribution.
- i. Establish or modify current Memorandum of Understanding (MOU) with local school board/superintendent. Develop similar MOU documentation for participating charter & private school boards. Documents should cover the following items:
- (i) Coordination with local and state school system (DPI) to identify and stock 10-mile EPZ schools with adequate KI for all students, faculty and other school staff (at least one tablet for each individual).
  - (ii) Informational materials on KI developed by DHHS/DPH for distribution to school administrators, faculty and other school staff and to parents/guardians of all students. Materials should include information detailed in III.B 3. above.
  - (iii) Develop and provide education and training to faculty, school nurses, and other school staff on KI distribution and administration procedures.
  - (iv) Provide consultation to local school board/administration

regarding development of KI distribution and administration procedures.

- (v) Designate a secure location at the school to store the allocated KI. Storage location will be in accordance with the storage requirements designated by the manufacturer. (See Section IV. A 9).

4. LOCAL EMERGENCY MANAGEMENT WILL:

- a. Maintain a separate stockpile of KI for distribution to emergency workers assigned duties inside each 10-mile EPZ. If the stockpile is maintained at the LHD (or other designated LHD facility) it should be clearly labeled for emergency worker use only.
- b. Develop distribution plans for providing KI to emergency workers when individual radiation monitoring (dosimetry) equipment is issued.
- c. Review, annually, emergency worker assignments to ensure that adequate stocks of KI and health-related informational materials are available.
- d. Contact NCEM for additional stocks of KI and DHHS/Public Health for additional stocks of informational materials if KI stocks or informational materials are low.

5. LOCAL SCHOOL BOARD / SUPERINTENDENT (PUBLIC, CHARTER & PRIVATE) WILL:

- a. Coordinate with the LHD and DPI to identify all 10-mile EPZ schools. Relocation schools should also be identified as possible sites for stockpiles of KI.
- b. Coordinate with the LHD to stockpile adequate KI (as previously defined) at the identified schools for distribution/administration to students, faculty and other school staff as necessary.
- c. Establish or modify current Memorandum of Understanding (MOU) with local health department. Develop similar MOU documentation for participating charter & private school boards. Documents should cover the following items:
  - (i) Coordination with local and state school system (DPI) to identify and stock 10-mile EPZ schools with adequate KI for all students, faculty and other school staff (at least one tablet for each individual).
  - (ii) Informational materials on KI developed by DHHS/DPH for distribution to school administrators, faculty and other school staff and to parents/guardians of all students. Materials should include information detailed in III.B 3. above.

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- (iii) Develop and provide education and training to faculty, school nurses, and other school staff on KI distribution and administration procedures.
  - (iv) Provide consultation to local school board/administration regarding development of KI distribution and administration procedures.
  - (v) Designate a secure location at the school to store the allocated KI. Storage location will be in accordance with the storage requirements designated by the manufacturer. (See Section IV. A 9).
  - (vi) Assurance of adequate KI (as defined above) for students, faculty and staff at each 10-mile EPZ school.
  - (vii) Assure appropriate storage conditions and security for KI.
  - (viii) Maintain an inventory record and expiration date(s) of KI.
  - (ix) Notify LHD of inadequate supplies or expired stocks.
  - (x) Develop KI procedures for each 10-mile EPZ school.
  - (xi) Provide orientation of school faculty, nurses, and other staff in procedures for distribution and administration of KI in a nuclear power facility emergency.
  - (xii) Provide KI informational materials to parents/guardians of all students and tracking of permission status from parents/guardians for KI administration to their children.
  - (xiii) Distribute/administer KI during a nuclear power facility emergency following authorization from appropriate state or local officials.
  - (xiv) Report to LHD director (or designee) information on the distribution/administration of KI following a nuclear power facility event, including number of doses distributed/administered, location (at school of evacuation site), and the number and nature of any observed or reported adverse effects.
- c. Establish procedures to notify, annually, parents/guardians of the availability of KI for administration to students at each 10-mile EPZ school.
- (i) Develop forms/documentation to notify parents/guardians of the presence of KI in the school for administration to students.

- (ii) Develop forms/documentation for parents/guardians to accept/decline KI for their child in a nuclear power facility emergency.

6. INDIVIDUAL SCHOOL PRINCIPALS (PUBLIC, CHARTER & PRIVATE) WILL:

- a. Ensure distribution and return of forms/documentation to notify parents/guardians of the presence of KI in each 10-mile EPZ school for administration to students in a nuclear power facility emergency.
- b. Develop a tracking system for students identified NOT to receive KI.
- c. Designate a secure location at the school to store the allocated KI. Storage location will be in accordance with the storage requirements designated by the manufacturer. (See Section IV. A 9).
- d. Develop individual school procedures for the storage, inventory, maintenance, distribution and administration of KI.
- e. Ensure orientation of school faculty, nurses, and other staff on the procedures for KI distribution/ administration.
- f. Ensure distribution and administration of KI in a nuclear power facility emergency following authorization from appropriate state or local officials

**C. POST-EVENT DISTRIBUTION:**

1. NORTH CAROLINA DEPARTMENT OF HEALTH & HUMAN SERVICES (DHHS) WILL:

- a. Provide a SERT representative from the Division of Public Health (Epidemiology Section Chief, State Epidemiologist or designee) to act on behalf of the State Health Director on matters concerning the administration of radiological protective drugs. The DHHS/DPH representative can authorize the distribution and administration of KI to emergency workers, institutionalized individuals and the general public once the determination is made that radioactive iodine is present at levels of public health concern.
- b. As a member of the SERT, consult with the SERT Radiation Protection representative, to determine if radioactive iodine is present at levels of public health concern and the need to authorize the distribution and administration of KI to emergency workers, institutionalized individuals and the general public.

Following consultation with the Chief, DENR/RPS (or designee) advise the SERT Leader to direct the distribution and administration of KI.

- c. The State Health Director (or designee) is empowered to authorize and recommend the administration of KI following determination of radioactive iodine at levels of public health concern. The State Health Director (or designee) will then advise the SERT Leader of the recommendation to administer KI to emergency workers, institutionalized persons, and the general public.
- d. If the State Health Director (or designee) cannot be contacted, or a decision is time critical, the Local Health Director is empowered to authorize administration of KI to emergency workers, institutionalized persons, and the general public.
- e. If State or local Health officials cannot be contacted during an emergency, the Chief, DENR/RPS (or designee) is empowered to recommend administration of KI.
- f. Advise local health directors of affected counties of any decision to administer KI. Notification will be made verbally with hard copy backup (FAX or Electronic copy) for local documentation.

2. NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES (DENR) WILL:

- a. Through DENR/RPS assess any releases occurring during an event for the presence of radioactive iodine and determine the severity level of radiation release and report the level to the SERT Leader.
- b. As a member of the SERT, consult with the SERT Division of Public Health representative to determine if radioactive iodine is present or imminent at levels of public health concern and the need for distribution and administration of KI to emergency workers, institutionalized individuals and the general public.
- c. Once DENR/RPS determines the presence or imminent presence of radioactive iodine at levels of public health concern (as determined by DHHS/DPH), the Chief DENR/DPH (or designee) will consult with the State Health Director (or designee), on the need for the distribution and administration of KI to emergency workers, institutionalized individuals and the general public.
- d. Following consultation, Chief, DENR/RPS (or designee) advise the SERT Leader to direct the distribution and administration of KI.

3. NORTH CAROLINA DEPARTMENT OF CRIME CONTROL & PUBLIC SAFETY (CCPS) WILL:
- a. Have the SERT Leader direct distribution and administration of KI when advised by the DHHS/DPH representative of the need for KI.
  - b. Advise local County Emergency Management agencies when the SERT Leader directs the distribution and administration of KI to emergency workers, institutionalized individuals and the general public. Notification will be made using the following:
    - (i) Decision Line
    - (ii) Selective Signaling System
    - (iii) Commercial Phone (Conference Call)
    - (iv) Hard copy (FAX or Electronic copy)
    - (v) Additional notifications will be made through Emergency Services (LE & FD) and Human Services (LPH).
  - c. Assist DHHS/DPH through State Operational Response Team (SORT), to obtain additional KI supplies from the Strategic National Stockpile.
3. LOCAL HEALTH DEPARTMENTS WILL:
- a. Ensure the Local Health Director (or designee) authorizes and recommends distribution and administration of KI to emergency workers, institutionalized persons, and the general public under one of the following conditions:
    - (i) State Health Director (or designee) cannot be contacted
    - (ii) A decision is time critical
  - b. Coordinate with County Emergency Management Agency to assure local notification of emergency workers, schools, institutions, and the general public of a decision to distribute/administer KI when radioactive iodine is present or imminent at levels of public health concern.
  - c. Ensure that available local stocks of KI and associated educational materials that have not been pre-distributed are distributed in an expeditious manner to pre-designated locations within the county.
  - d. Ensure that KI will be held at the pre-designated locations by the responsible agency until directed by the local health director (or designee) or local emergency management director (or designee) to distribute the KI to evacuees.
  - e. Distribution of KI will be one (1) tablet per individual requesting KI following screening for possible contamination. If identified as

contaminated, KI tablet will be distributed following decontamination.

- f. Initiate distribution of one (1) tablet per individual awaiting entry to the reception center if screening for radiation contamination will delay administration of KI.
- g. Ensure that the responsible distribution center agency will retain the KI at the center for the duration of operation of the center. After the center is closed, the responsible center agency will return remaining stocks of KI to the LHD.

4. COUNTY EMERGENCY MANAGEMENT WILL:

- a. Maintain a stockpile of KI for distribution to the emergency workers assigned duties during an event involving a commercial nuclear power facility, if the stockpile is not kept at the LHD or other LHD-designated facility. Assure that stockpiles of KI kept at the LHD or LHD-designated facility are clearly labeled for emergency worker use only
- b. Coordinate with LHD to assure local notification of emergency workers, schools, institutions, and the general public of a decision to distribute/administer KI.
- c. Distribute to emergency workers KI and dosimetry badges prior to their deployment to duty locations.
- d. Assist LHD with ensuring available local stocks of KI that have not been distributed are distributed in the most expeditious manner possible to pre-designated locations within the county.
- e. Assist LHD with ensuring that KI will be held at the distribution center by the responsible agency until directed by the local health director (or designee) or local emergency management director (or designee) to distribute the KI to evacuees. Distribution will then be one (1) tablet per individual requesting KI.
- f. When stocks of KI and or informational materials are low, contact DHHS/DPH for restocking.

4. INDIVIDUAL SCHOOL PRINCIPALS/ADMINISTRATORS WILL:

- a. Ensure timely evacuation of assigned students, faculty and staff as directed by the County Emergency Management agency.
- b. Distribute/administer KI as directed only **AFTER** receiving notification from the State Health Director/Local Health Director (or designee).
- c. **AFTER** receiving notification from the proper authority, ensure

that distribution/ administration of KI to identified students is in accordance with school procedures.

**NOTE**

**If KI has not been distributed / administered prior to relocation, assure that all school stocks of KI are transported with the students to the relocation school.**

- d. Ensure that parents/guardians are informed of students who were administered KI.
- e. Ensure that all stocks of KI are transported with the students to the relocation school, if KI has not been administered prior to evacuation.
- f. Once all students are picked up, return any remaining stocks of KI to the LHD for redistribution.

V. **FIGURES**

## FDA RECOMMENDED AGE-SPECIFIC DOSES FOR ADMINISTRATION OF KI

Age Group	KI Dosage**	Amount of 130 mg Tablet	Amount of 65 mg Tablet
Adults over 18 years	130 mg	1 tablet	
Over 3 yrs to 18 years *	65 mg	1/2 tablet	1 tablet
Over 1 mo to 3 years	32 mg	1/4 tablet	1/2 tablet
Birth to 1 month	16 mg	1/8 tablet	1/4 tablet

\* Adolescents approaching adult size 150 pounds (approximately 70 kilograms) should receive a full 130 mg tablet.

\*\* Young children may safely receive a full 65 mg tablet if exposure to radioactive iodine has occurred or is imminent and dividing the tablets would delay administration of KI thereby resulting in unnecessary exposure to radioactive iodine. If exposure to radioactive iodine exceeds 24 hours, additional administration of KI may be necessary. Public health officials will provide specific recommendations for infants and pregnant women if repeat dosing is required.

"These recommendations are meant to provide the best current guidance on safe and effective use of KI to reduce thyroidal radioiodine exposure and thus the risk of thyroid cancer. FDA recognizes that, in the event of an emergency, some or all of the specific dosing recommendations may be very difficult to carry out given their complexity and the logistics of implementation of a program of KI distribution. The recommendations should therefore be interpreted with flexibility as necessary to allow optimally effective and safe dosing given the exigencies of any particular emergency situation. In this context, we offer the following critical general guidance: *across populations at risk for radioiodine exposure, the overall benefits of KI far exceed the risks of overdosing, especially in children, though we continue to emphasize particular attention to dose in infants.*" (Bold italic font added by FDA for emphasis)

(FDA Guidance KI in Radiation Emergencies - Q & A, Dec 2002)

Figure 1

**GUIDANCE FOR THE ADMINISTRATION OF POTASSIUM IODIDE (KI) FOR  
EMERGENCY WORKERS, INSTITUTIONALIZED PERSONS AND THE  
GENERAL PUBLIC**

**DURING AN ATMOSPHERIC RELEASE OF RADIOACTIVE IODINE  
FROM A NUCLEAR POWER PLANT (NPP)**

1. **EMERGENCY WORKERS (any person engaged in operations required to minimize the effects of a fixed nuclear facility emergency)** – The appropriate county or state agencies may authorize the administration of Potassium Iodide (KI) when any thyroid exposure (not a whole body exposure) is reasonably suspected, projected, or confirmed. There is no Protective Action Guide (PAG) dose number to be used as a trigger level.
2. **INSTITUTIONALIZED PERSONS (within the 10-mile EPZ)** – The appropriate county or state agencies may authorize the administration of KI any time a thyroid exposure (not a whole body exposure) of 5 Rem or greater is reasonably suspected, projected, or confirmed to an institutionalized person. The PAG dose trigger level will be 5 Rem Committed Dose Equivalent (CDE) to the thyroid.
3. **GENERAL PUBLIC (within the 10-mile EPZ)** – The appropriate county or state agencies may authorize the administration of KI any time a thyroid exposure (not a whole body exposure) of 5 Rem or greater is reasonably suspected, projected, or confirmed to the General Public. The PAG dose trigger level will be 5 Rem CDE to the thyroid.
4. **AUTHORIZED AGENCIES OR DESIGNATED PERSONS WHO CAN RECOMMEND THE ADMINISTRATION OF KI TO EMERGENCY WORKERS, INSTITUTIONAL PERSONS AND THE GENERAL PUBLIC**
  - a) The State Health Director, the Epidemiology Section Chief, the State Epidemiologist (or their designee) is empowered to advise and authorize the administration of KI to emergency workers, institutionalized persons and/or the general public in the affected areas.
  - b) If the State Health Director, the Epidemiology Section Chief, the State Epidemiologist (or their designee) cannot be contacted after a reasonable attempt, or if the emergency is such that time is of the essence to protect the public's health, the Local Health Director (or designee) of the affected county (ies) is empowered to advise and authorize the administration of KI to emergency workers, institutional persons and/or the general public.
  - c) If the State Health Director, the Epidemiology Section Chief, the State Epidemiologist (or their designee) or the Local Health Director (or their designee) cannot be contacted after a reasonable attempt during an emergency, the Director of the Radiation Protection Section (or designee) is empowered to make the decision.
5. **PROTOCOL FOR NOTIFICATION OF THE APPROPRIATE AGENCIES WHEN A DECISION TO ADMINISTER KI IS MADE**
  - a) If the State Health Director, the Epidemiology Section Chief, the State Epidemiologist (or their designee) makes the decision to advise and authorize the administration of KI to emergency workers, institutionalized persons and/or the general public, it is the responsibility of that person to contact the Local Health Director (or designee) of the affected county (ies). The purpose of the contact is to inform the Local Health Director (or designee) of the decision and why the decision was made. The contact should be verbal but any type of notification may be used that ensures the information is transmitted to the appropriate person. A follow-up contact by hard copy or electronic means is also recommended for documentation.

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- b) The State Emergency Management Director will designate a person(s) to contact each affected County Emergency Director (or designee) to inform that agency of the decision and why the decision was made. Again, the contact should be verbal but any type of notification may be used that ensures the information is transmitted to the appropriate person. A follow-up contact by hard copy or electronic means is also recommended for documentation
  
- c) If the Local Health Director (or designee) makes the decision to authorize the administration of KI to emergency workers, institutionalized persons and/or the general public, it is the responsibility of the Local Health Director (or designee) to contact the State Health Director, or the Epidemiology Section Chief, or the State Epidemiologist (or their designee) and the State Emergency Management Director (or designee) to inform them of the decision and why the decision was made. The contact should be verbal but any type of notification may be used that ensures the information is transmitted to the appropriate person. A follow up contact by hard copy or electronic means is recommended for documentation.
  
- d) If the Director of RPS (or designee) makes the decision to authorize the administration of KI to emergency workers, institutionalized persons and/or the general public, it will be the responsibility of that person to contact the State Emergency Management Director to inform (verbally) that agency of the decision and why the decision was made. The State Emergency Management Director will designate a person(s) to contact (verbally) each affected County Emergency Director (or designee) and inform that agency of the decision and why. A follow-up contact by hard copy or electronic means is also recommended for documentation. Each affected County Emergency Director (or designee) will inform their Local Health Director (or designee) of the decision and why.

12-16-2003

## DHHS POTASSIUM IODIDE INFORMATION SHEET

### POTASSIUM IODIDE INFORMATION SHEET KEEP THIS SHEET WITH YOUR TABLETS

#### What is it?

Potassium Iodide (KI) is an over-the-counter medication that can protect one part of the body—the thyroid—if a person is exposed to radioactive iodine released during a nuclear power plant emergency.

#### How does it work?

KI fills the thyroid with stable iodine so that it cannot absorb radioactive iodine. Taking KI (before or shortly after exposure to radioactive iodine), protects the thyroid from damage by radioactive iodine.

#### How much should be taken?

The dose depends on a person's age. The table below shows the doses (for indicated age groups) recommended by the U.S. Food and Drug Administration (FDA). Take only one dose (according to the table below) per 24-hour period. To divide the tablets into 1/2, 1/4, or 1/8 portions, use a pill cutter or a sharp knife on a hard surface. Crush the doses for infants and small children into a powder and mix with applesauce, pudding or something else the child likes.

Age Group	KI Dosage**	Amount of 130 mg Tablet	Amount of 65 mg Tablet
Adults over 18 years	130 mg	1 tablet	
Over 3 yr to 18 years *	65 mg	1/2 tablet	1 tablet
Over 1 mo to 3 years	32 mg	1/4 tablet	1/2 tablet
Birth to 1 month	16 mg	1/8 tablet	1/4 tablet

\* Adolescents approaching adult size 150 pounds (approximately 70 kilograms) should receive a full tablet (130 mg).

\*\* Young children may safely receive a full 65 mg tablet if exposure to radioactive iodine has occurred or is imminent and dividing the tablets would delay administration of KI thereby resulting in unnecessary exposure to radioactive iodine. If exposure to radioactive iodine exceeds 24 hours, additional administration of KI may be necessary. Public health officials will provide specific recommendations for infants and pregnant women if repeat dosing is required.  
(FDA Guidance on KI in Radiation Emergencies - Q & A, Dec 2002)

#### Is it safe to take KI?

The FDA has determined that KI is safe for most people. Some people may have mild side effects such as nausea, GI upset, and skin rash. **Pregnant women and newborns should not receive more than one dose of KI and should be checked by their doctor soon after taking KI to make sure thyroid function remains normal.**

#### Who should not take KI?

- People who are allergic to iodine.
- People who have the rare disorders, dermatitis herpetiformis or hypocomplementemic vasculitis.

Anyone who is not sure if they can take KI should check with their doctor.

#### When should it be taken?

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. These instructions could include evacuate the area, stay inside, and/or take KI. Public health officials will let people know if they need to take KI.

**DO NOT TAKE KI UNLESS PUBLIC HEALTH OFFICIALS TELL YOU TO TAKE IT.**

#### Where should KI be stored?

Keep KI in a dry place at room temperature. As with other medicines, KI tablets should be stored where children cannot reach them. Keep this information with the KI.

**Remember...Taking KI is not a substitute for evacuation.**

**Leave the area immediately if you are instructed to do so.**

KI will only protect the thyroid from radioactive iodine. If there is a nuclear power plant emergency near you, you must protect your whole body from penetrating radiation and other radioactive materials besides radioactive iodines. For more information about KI, go to [www.dhhs.state.nc.us/dph/ki.htm](http://www.dhhs.state.nc.us/dph/ki.htm)