

Group B

FOIA/PA NO: 2015-0276

RECORDS BEING RELEASED IN THEIR ENTIRETY

Nuclear Power Plant Accidents

May involve significant releases to the atmosphere of nobles gases, radioiodines, and particulates

Potassium iodide (KI) may be taken by exposed individuals to block the thyroid gland and reduce thyroid dose from I-131 and other radioiodines

Nuclear Power Plant Accidents

Effectiveness of KI is highly dependent on when it is taken relative to the time of intake of radioiodines

NOTE: KI is effective only for radioiodines and does nothing to reduce dose from other radionuclides such as strontium or cesium

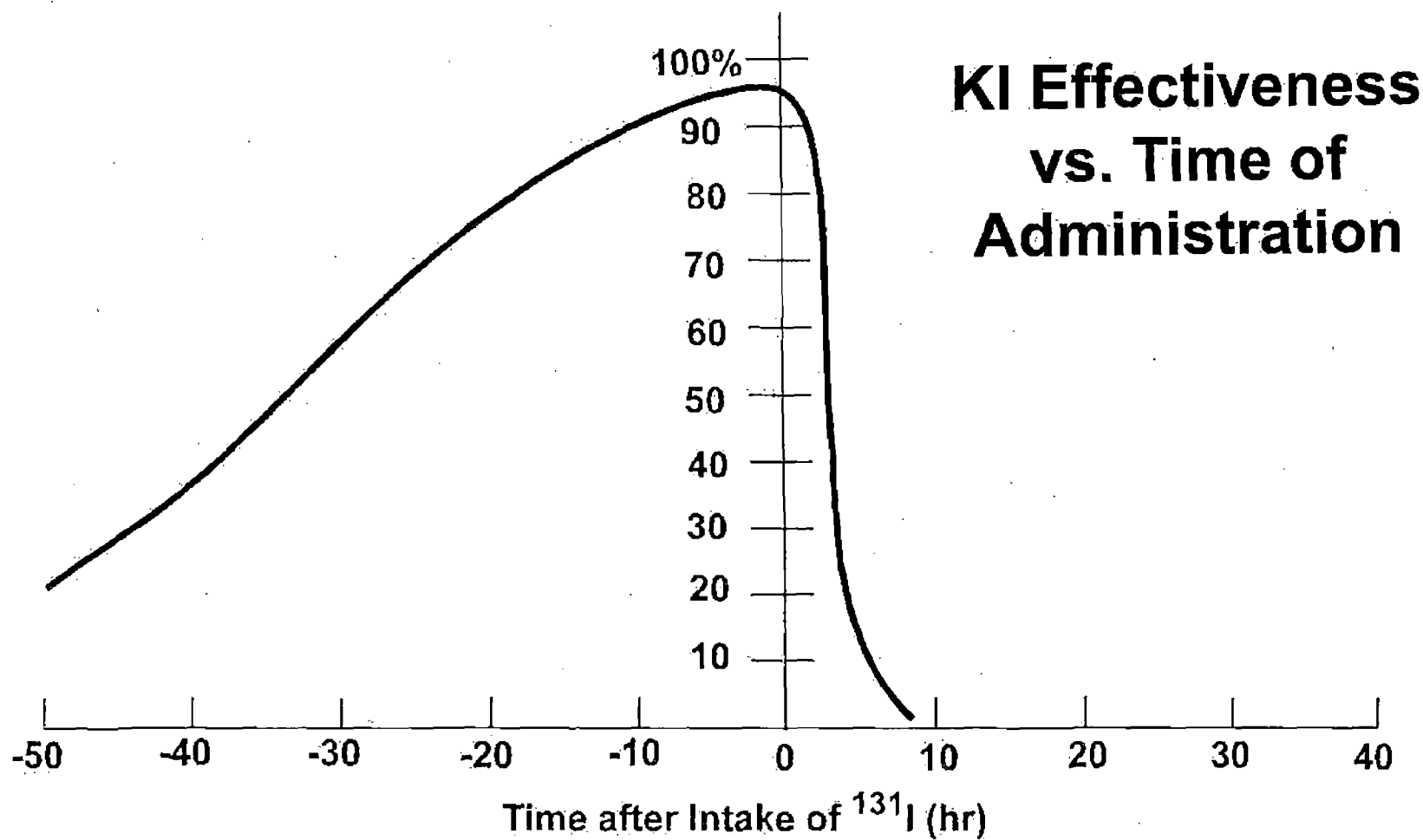


Figure 5.3-6 Percent of thyroid blocking afforded by 100 mg of stable iodine (130 mg of potassium iodide) as a function of time of administration before or after a 1- μCi intake of ^{131}I

Incident Response

If you are assigned to an Incident Response Team, you will be provided with additional information on the emergency conditions by the NRC site or regional response coordinator.

Potassium-iodide (KI) is used to reduce the amount of radioactive iodine (I-131) that is absorbed in the body. A single dose of 130 mg administered prior to the release is effective for 24 hours. Administration prior to exposure is more effective. People with known sensitivity to iodine should avoid taking KI. KI will be distributed by the Agency to Agency personnel.

Discuss the following with students:

During a response to a reactor accident, KI tablets may be administered to personnel exposed to fission product gases containing radioactive I-131.

The body tends to concentrate iodine in the thyroid, so consuming 'clean' KI tablets should saturate the thyroid with non-radioactive iodine, thus reducing the internal intake and retention of I-131.

The net result is a reduction in the internal dose a responder might receive from being internally contaminated with radioactive I-131.

Some personnel may be allergic to iodine, so ensure you inform your supervision of any such allergy.

You may be required to sign a form with the NRC stating your understanding of the protocol involving KI tablet use.