



Sodium Iodide I 123

Revised: November 30, 2022.

CASRN: 41927-88-2

Na — I [123]

Drug Levels and Effects

Summary of Use during Lactation

Information in this record refers to the use of sodium iodide I 123 as a diagnostic agent. A US Nuclear Regulatory Commission subcommittee and the American Thyroid Association recommend discontinuation of breastfeeding for only 3 to 4 days after a diagnostic scan[1,2] and UK authorities recommend a cessation of 42 hours after a 20 MBq dose.[3] The safest course of action may be to have breastmilk tested at a nuclear medicine facility at a hospital. When the radioactivity is at a safe level the mother may resume breastfeeding. A method for measuring milk radioactivity and determining the time when a mother can safely resume breastfeeding has been published.[4] Mothers who receive a dose less than 400 MBq for a thyroid scan need not refrain from close contact with their infants.[5]

Disclaimer: Information presented in this database is not meant as a substitute for professional judgment. You should consult your healthcare provider for breastfeeding advice related to your particular situation. The U.S. government does not warrant or assume any liability or responsibility for the accuracy or completeness of the information on this Site.

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Drug Levels

I 123 is a gamma emitter with a principal photon energy of 159 keV and a physical half-life of 13.1 hours.[1] Iodide is actively secreted into breastmilk by the NaI symporter, which is stimulated by lactation, and actively taken up by the mother's and infant's thyroid glands.[6] The maximum effective half-life of I 123 is 10.4 hours. [3]

Maternal Levels. Relevant published information was not found as of the revision date.

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

Alternate Drugs to Consider

(Hyperthyroidism Diagnosis) [Sodium Pertechnetate Tc 99m](#)

References

1. Dilsizian V, Metter D, Palestro C, et al. Advisory Committee on Medical Uses of Isotopes (ACMUI) Subcommittee on Nursing Mother Guidelines for the Medical Administration of Radioactive Material. Final report submitted: January 31, 2019. 2019. Available at: <https://www.nrc.gov/docs/ML1903/ML19038A498.pdf>
2. Alexander EK, Pearce EN, Brent GA, et al. 2017 Guidelines of the American Thyroid Association for the diagnosis and management of thyroid disease during pregnancy and the postpartum. *Thyroid*. 2017;27:315–89. PubMed PMID: 28056690.
3. ARSAC notes for guidance: Good clinical practice in nuclear medicine. Notes for guidance on the clinical administration of radiopharmaceuticals and use of sealed radioactive sources. 2020. Available at: <https://www.gov.uk/government/publications/arsac-notes-for-guidance>
4. Stabin MG, Breitz HB. Breast milk excretion of radiopharmaceuticals: Mechanisms, findings, and radiation dosimetry. *J Nucl Med*. 2000;41:863–73. PubMed PMID: 10809203.
5. Mountford PJ, O'Doherty MJ. Exposure of critical groups to nuclear medicine patients. *Appl Radiat Isot*. 1999;50:89–111. PubMed PMID: 10028630.
6. Ramesh S, Basu S. Differential physiological sodium iodide symporter expression in lactating breasts. *J Assoc Physicians India*. 2022;70:11–2.

Substance Identification

Substance Name

Sodium Iodide I 123

CAS Registry Number

41927-88-2

Drug Class

Breast Feeding

Lactation

Milk, Human

Radiopharmaceuticals

Iodine Radioisotopes

Diagnostic Agents