



Health
Canada

Santé
Canada

Health Products
and Food Branch

Direction générale des produits
de santé et des aliments

Marketed Health Products Directorate
A.L. 1906 C
OTTAWA, Ontario
K1A 0K9

May 9, 2024

24-102358-817

To whom it may concern,

Re: Health Canada will publish a summary safety review regarding iodinated contrast medium

As an ongoing commitment to openness and transparency, Health Canada would like to notify you that a summary safety review (SSR) regarding iodinated contrast medium products and the potential risk of hypothyroidism in children under 3 years of age will be published (see attached document). The SSR is intended to provide Canadians with a sufficient understanding of the safety review conducted by Health Canada, specifically what was assessed, what was found and what action was taken. The SSR will be posted in subsequent days.¹

This advance notification is being sent for your information only. A broader dissemination to your members would be greatly appreciated.

Any question related to the SSR process or requests for further information on the safety review should be directed to the Marketed Health Products Directorate; e-mail: hc.mhpdssrcoordinator-dpscreicoordinateur.sc@hc-sc.gc.ca

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¹ <http://www.hc-sc.gc.ca/dhp-mps/medeff/reviews-examens/index-eng.php>

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Please feel free to contact us, should you require further information.

Sincerely,

E-signed by

Jason Berg
Associate Director
Office of Policy, Risk Advisory and Advertising
Marketed Health Products Directorate
Health Canada
Tel.: 613-790-8384 Fax: 613-948-7996
E-mail: jason.berg@hc-sc.gc.ca

Attachment:

Summary Safety Review - Iodinated Contrast Medium - Assessing the Potential Risk of Hypothyroidism in Children Under 3 Years of Age

Summary Safety Review - Iodinated Contrast Medium - Assessing the Potential Risk of Hypothyroidism in Children Under 3 Years of Age

Product: Iodinated contrast medium (ICM) products

Potential Safety Issue: Hypothyroidism, a condition where there is decreased thyroid hormone production, in children under 3 years of age

Key Messages

- Health Canada's safety review concluded that there is a potential risk of hypothyroidism with the use of ICM products in children under 3 years of age. Younger age, very low birth weight, prematurity, and the presence of cardiac or other conditions, such as admission to intensive care units, are associated with a higher risk of hypothyroidism after exposure to ICM products.
- Health Canada reviewed the potential risk of hypothyroidism with the use of ICM products, also known as medical imaging dyes or contrast agents, authorized for use in X-ray or other imaging tests to make it easier to see blood vessels and organs. The safety review was triggered by a labelling update in the United States (U.S.).
- Health Canada will work with the manufacturers to update the product safety information in the Canadian product monograph (CPM) for all ICM products to provide additional information about the risk of hypothyroidism and monitoring recommendations for children under 3 years of age. Health Canada will also inform healthcare professionals about this update through a Health Product InfoWatch communication.

Overview

In [2017](#), Health Canada reviewed the potential risk of transient (temporary) or permanent hypothyroidism with the use of ICM products in children and adults. The Department concluded that there is a risk of rare cases of hypothyroidism with the use of these products in certain patients, mostly infants (less than 1 year of age). The CPMs of all reviewed ICM products were updated to include this risk.

Since 2017, new studies evaluating this risk have been published. In 2023, Health Canada reviewed these new studies and the earlier ones published in the medical literature that assessed the potential risk of hypothyroidism in children under 3 years of age who were exposed to ICM products. The safety review was triggered by a labelling update in the U.S. for children 3 years of age or younger.

Hypothyroidism in young children may be harmful for neurological (brain) and cognitive (how children think and understand) development.

Use in Canada

- Iodinated contrast medium products, also known as medical imaging dyes or contrast agents, are authorized for use in X-ray or other imaging tests to make it easier to see blood vessels and organs.
- Iodinated contrast medium products have been marketed in Canada for over 50 years. There are 8 ICM products currently marketed under the following brand names: Cysto Conray II, Gastrografin, Isovue, Lipiodol Ultra Fluid, Omnipaque, Optiray, Ultravist, and Visipaque.

Safety Review Findings

- Health Canada reviewed information from searches of the Canada Vigilance Database^a, international databases, and the scientific literature.
- At the time of the review, Health Canada had not received any Canadian reports of hypothyroidism related to the use of ICM products in children.
- Health Canada reviewed 18 articles published in the scientific literature¹⁻¹⁸, including 2 studies published since the 2017 review that were conducted in a larger population of children. Overall, the evidence reviewed was limited, but suggested an association between hypothyroidism and ICM exposure in children under 3 years of age. Most cases in these studies reported that hypothyroidism was temporary and did not require treatment.
- The rate of hypothyroidism was found to be higher in children under 3 years of age with the following risk factors: very low birth weight, prematurity, and the presence of cardiac and other conditions, such as admission to intensive care units.

Conclusions and actions

- Health Canada's review of the available information concluded that there is a potential risk of hypothyroidism with the use of ICM products in children under 3 years of age. Younger age, very low birth weight, prematurity, and the presence of cardiac or other conditions, such as admission to intensive care units, are associated with a higher risk of hypothyroidism after exposure to ICM products.
- Despite the limited available evidence, the seriousness and life-long effects on the cognitive and neurological development of children under 3 years of age warrant a precautionary approach.
- Health Canada will work with the manufacturers to update the CPM of all ICM products to provide additional information about the risk of hypothyroidism in children under 3 years of age and recommend monitoring of young children based on their risk factors.
- Health Canada will also inform healthcare professionals about this update through a Health Product InfoWatch communication.
- Health Canada encourages patients and healthcare professionals to [report](#) any side effects related to the use of ICM products, and other health products, to the [Canada Vigilance Program](#).
- Health Canada will continue to monitor safety information involving ICM products, as it does for all health products on the Canadian market, to identify and assess potential harms. Health Canada will take appropriate and timely action should new health risks be identified.

Additional information

The analysis that contributed to this safety review included scientific and medical literature, and what is known about the use of these products both in Canada and internationally.

For additional information, [contact the Marketed Health Products Directorate](#).

References

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^a Canadian reports can be accessed through the [Canada Vigilance Online Database](#).

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