

IODINE - Loading (urine)

Iodine deficiency is re-emerging in many locations around the world. Since this essential mineral is required for the synthesis of thyroid hormones, the major indication of an iodine deficiency include hypothyroid symptoms. Furthermore, an iodine deficiency during pregnancy can result in cretinism, lowered intellectual quotients (IQ), mental retardation, autism, increased infant mortality, growth stunting and impaired movement. Iodine may also play a role in the maintenance of healthy breast tissue and cancer prevention. Its antioxidant, immune regulating and oestrogen modulating functions may be mechanisms by which these properties can be explained. Its antioxidant, immune regulating and oestrogen modulating functions may be mechanisms by which these properties can be explained. It is vital that all practitioners are aware of the effects of an iodine deficiency and investigate it in their patients.

Iodine Deficiency

Some believe that iodine deficiency is a thing of the past, that it was resolved in the 1930s with the iodisation practices. In actual fact current public health recommendations to restrict salt intake, combined with a decline in the use of iodophors by the dairy industry and in commercial bread production, has actually lead to the re-emergence of this mineral deficiency in many locations around the world. For example, recent research has indicated that severe iodine deficiency has more than quadrupled in America over the last 20 years; increasing from 2.6% to 11.7%. Even more disconcerting is the observation that nearly half of the pregnant women in these areas also have this mineral deficiency. Attention to this matter by practitioner is therefore urgently required because of the serious implications for maternal and child health.

SYMPTOMS AND CONDITIONS ASSOCIATED WITH AN IODINE DEFICIENCY

Hypothyroidism	Decreased fertility
Goiter	Prostate, endometrial, ovarian, and breast cancers
Fibrocystic breast disease	Cardiovascular disease
Estrogen imbalance	Cretism
Fatigue	Lowered IQ
Depression	Increased perinatal death & infant mortality
Dry skin	Growth stunting
Weight gain	Impaired movement
Myalgia	Speech and hearing problems

Iodine Loading Test

This test assesses iodine deficiency using two different methods. Firstly, it measures iodine levels in a morning spot urinary specimen (i.e. equivalent to the random iodine test). In addition, the loading test analyses iodine deficiency using a much more sensitive technique. For this part of the test, 50mg of an iodine/iodide mixture is given as a loading dose and the amount of iodine excreted in the urine over the next 24 hours is measured. If the patient is iodine deficient, the body holds on to the iodine and only a small quantity of the mineral is excreted into the urine (i.e. giving a low % excretion). In contrast, if the patient has sufficient iodine levels, the body does not retain the iodine, and therefore the majority of the iodine dosage is excreted into the 24 hour urinary sample (i.e. an adequate % excretion). In an iodine sufficient state, approximately 90% of the 50mg dose of iodine/iodide would be excreted (i.e. 45mg) and 10% of the iodine would be retained (i.e. 5mg). This test was discussed in Dr David Brownstein's book *Iodine: Why You Need It, Why You Can't Live Without It*. In contrast to the random iodine test, the iodine loading test is able to detect mild and moderate, as well as severe deficiencies.

IODINE – LOADING TEST (24 hour urine) [Test code: 5015]

- ❖ Iodine (random), Iodine post loading, Iodine excretion %

Other iodine tests available

- **Iodine – Random (urine) [5016]:** Iodine (random)
- **Thyroid Essential Cofactors (urine):** Tyrosine, Iodine, Selenium
- **Thyroid Hormone Profile – Extensive (urine):** T4, T3, T4/T3 ratios, Tyrosine, Iodine, Selenium

Thyroid tests available

- **Thyroid Profile - Basic (serum) [1113]:** TSH, free T4, free T3
- **Thyroid Profile - Extensive (serum) [1114]:** TSH, free T4, free T3; reverse T3, ratios, TPO Ab, ATG Ab, TSH Receptor Abs
- **Reverse T3 (serum) [1112]:** Reverse T3

How to order a test kit:

To order a test kit simply request the test name and/or test code on a NutriPATH request form and have the patient phone NutriPATH Customer Service on 1300 688 522.



Phone **1300 688 522** for further details
www.nutripath.com.au