



INTERNATIONAL COUNCIL FOR CONTROL  
OF IODINE DEFICIENCY DISORDERS

## ICCID DECLARATION

# Importance and Safety of Optimizing Iodine Nutrition

Iodine deficiency is still prevalent world-wide. It can lead to goiter, thyroid dysfunction and is the main preventable cause of mental retardation globally.

Optimizing iodine intake is widely recognized as the most cost effective solution for achieving optimal intellectual development in addition to normalized thyroid function in iodine deficient areas.

The issue of the safety of increasing iodine intake has recently been raised based on occasional regional reports of detrimental side effects due to excessive amounts of iodine.

The current WHO recommended daily intake of iodine for adults is between 150  $\mu\text{g}$  and 300  $\mu\text{g}$  per day. The European Commission and the US Institute of Medicine have discussed tolerable upper

iodine intake for adults and have indicated intakes of 600  $\mu\text{g}$  and 1100  $\mu\text{g}$  per day, respectively.

Mild thyroid hyperfunction may occur following an increase of iodine intake within the recommended range as a consequence of pre-existing autonomous nodular goitre due to long standing iodine deficiency. This is a transient effect. The single relevant adverse effect is iodine induced overt hyperthyroidism (IIH), only observed in severely iodine deficient populations after a rapid introduction of excessive iodine supplementation which should and can be avoided.

Excessive iodine intake may lead to a transient small increase in the prevalence and incidence of subclinical hypothyroidism and thyroid autoimmunity, especially in older individuals.

Insufficient monitoring of salt iodine content and iodine intakes in populations increases the risk of iodine induced hyperthyroidism and other side effects. With sustained quality assurance and monitoring these can be almost entirely avoided.

While the overall incidence of thyroid cancer in populations does not appear to be influenced by iodine intake, a shift to less malignant types of thyroid cancer is widely recognized as a consequence of introducing iodine prophylaxis.

In conclusion, optimal iodine intake supported by adequate monitoring has been widely shown to improve the quality of various health aspects. The benefits of iodine supplementation far outweigh the relatively small risks of iodine excess.