

Iodine and Thyroid Function: A  
Historical Review of Goiter and the  
Current Iodine Status in Japan

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**Abstract**

Iodine is an essential trace element for the synthesis of thyroid hormones. Excessive, as well as deficient, iodine ingestion adversely affects thyroid function. The major sources of iodine in Japan are edible seaweeds, namely Nori, Wakame and Kombu. The iodine content of Kombu ranges from 1.5 to 5.3 mg/g. Although Japan has been regarded as a non-goitrous or iodine excess country, cases of endemic goiter in the northern island of Hokkaido could be tracked back to 1899. However, few recent data on the relationship between iodine status and thyroid dysfunction is available because there is no surveillance system to monitor iodine intake. A nationwide school-based survey throughout Japan has been conducted from 2013. As of February 2017 the survey had covered 16,193 children from 52 schools across 21 of 47 prefectures. Overall, the median urinary iodine concentration for all the sites combined was 265 µg/L suggesting iodine deficiency not excess.

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