

Assessment of essential iodine/iodide status, Variable urine collection periods, Traditional or load test options, Flexible dosing for load test, Patient friendly report, State-of-the-art analysis by ICP-MS

Iodine/iodide is an essential element that is pivotal to normal function of the thyroid gland and the health and integrity of breast tissue. Iodine/iodide intake has decreased significantly over the past thirty years and consequentially clinical symptoms have become apparent. Iodine/iodide sufficiency can be readily assessed by analysis of urinary iodide excretion.

Specific tissues in the body utilize iodide and iodine. Adequate iodine status is essential for the production of normal levels of thyroid hormones and the integrity of thyroid and mammary glands, but iodine/iodide intake has decreased significantly over the past thirty years. Iodide, the reduced form of iodine, is highly concentrated in the thyroid gland where it is incorporated into thyroid hormones. Thyroid hormones regulate growth and metabolic rate, body heat and energy production, and neuronal and sexual development. Iodine is concentrated in the breasts where it is associated with protection against fibrocystic breast disease and cancer. Sub-clinical iodine/iodide deficiency has been associated with impaired mental function and loss of energy due to hypothyroidism.

Doctor's Data, Inc. offers three urine iodine report formats and collection options to allow the practitioner a wide range of assessment options to fit an individual patient's needs.

Traditionally, the level of urinary iodine from a twenty-four hour collection has been utilized to assess iodine intake. Alternatively, in situations where patient compliance is difficult, a random urine collection, preferably the first morning void, provides indication of iodine intake when expressed per mg creatinine. The urinary iodine value presented on both report formats represents iodine plus iodide oxidized to iodine. Patient results are plotted against reference values. Normative values for urinary iodine have been evaluated in large population studies in the U.S. over the past thirty-five years.

In more recent times a "24-hour iodine/iodide load test" has become a useful analysis for practitioners. A specified oral dose of iodine/iodide is given and urine is collected for the subsequent twenty-four hours. The Doctor's Data, Inc. "load" report format leads the industry by permitting the practitioner to obtain individualized results based upon any oral dosage deemed appropriate for a given patient. The test is based on the concept that the body has specific and saturable mechanisms to take up iodine/iodide. When maximal retention is attained, the percentage of an iodine/iodide load that is retained decreases and the percentage urinary excretion increases. The percentage excretion is calculated by dividing the patient's mg/24-hour iodine results by the oral iodine/iodide dosage (mg) provided on the requisition form by the practitioner, then multiplied by 100. The iodine excretion value represents iodine plus iodide oxidized to iodine. The load test requires a complete twenty-four hour urine collection.