CHEMICALS AND DRUGS THAT INTERFERE WITH THE TWENTY-FOUR HOUR 1-131 THYROID UPTAKE

Iodine Containing Compounds

These drugs all depress the Radioactive Iodine uptake, but vary in degree, depending upon the type of thyroid disease present. In general, the interference is usually longer in the euthyroid patients and much shorter in the presence of hyperthyroidism. The average interval of depression is given below.

- Lugol’s Solution: 4 to 6 weeks
- Iodides: 4 to 6 weeks
- Antitussives (iodide bearing cough medications): 4 to 6 weeks
- Iodine Ointment: 4 to 6 weeks
- Iodine Tincture (topical): 4 to 6 weeks
- Iodine Pulmonary Mist: 4 to 12 weeks
- Iodoform Topical: 4 to 6 weeks
- Some Vitamin Preparations: 4 to 6 weeks
- Entero-Vioform: 4 to 6 weeks
- Enterosept: 4 to 6 weeks

Contrast Media

- Diodrast: 6 to 18 weeks
- Hypaque (IVP): 6 to 12 weeks
- Penografin (IVP): 6 to 12 weeks
- Dionosil (Aqueous suspension): 8 to 26 weeks
- Dionosil (Oily suspension): One year or more.
- Lipiodol: Will almost always interfere with the RAI uptake for 2-10 years.

- Ethiodol (used in lymph-Angiography): Permanent blockage of the thyroid gland.
- Pantopaque: Almost always permanently interferes with the RAI uptake.
- Telepaque (used in GB series): 3 to 6 months
Other Chemicals and Drugs

1. Antithyroid drug:
The clearance of these antithyroid drugs is entirely dependent upon the degree of hyperthyroidism that is present. The more hyperthyroid the patient is, the quicker the clearance and turnover of these drugs in the gland, and the shorter the interval of time necessary to get a corrected RAI uptake. The times listed below include the time necessary in a slightly hyperthyroid patient to return to a baseline state after the initial rebound phenomenon has cleared.

- Thiouracil----------------------------- 4 to 6 weeks
- Propylthiouracil---------------------- 4 to 6 weeks
- Methylthiouracil--------------------- 4 to 6 weeks
- Thiourea------------------------------- 4 to 6 weeks
- Tapazole-------------------------------- 4 to 6 weeks
- Thiocyanate-------------------------- 2 weeks

2. Thyroid medication:
The length of time that these medications will depress the RAI uptake is dependent upon the degree of hypothyroidism that is present. The more hypothyroid the patient is, the shorter the time interval. The following time intervals are for a medium degree of hypothyroidism.

- Desiccated thyroid extract ------------- 3 to 6 weeks
- Thyroxine------------------------------- 3 to 6 weeks

3. Other drugs that indirectly affect the RAI uptake:

- Orinase ------------------------------- 2 to 4 weeks
- Progesterone-------------------------- 1 week
- Andrenocortical Steroids------------- 1 week or less
- ACTH---------------------------------- 1 week
- Pas & Isoiazid------------------------ 1 week after prolonged use.
- Pentothal------------------------------- 1 week
- Phenothiazines------------------------ 1 week
- Antihistamines------------------------ 1 week or less
- Amphenone---------------------------- 2 to 3 weeks
- Dicumarol----------------------------- 3 days or less
- Dinitrophenol------------------------- less than a week
- Hexylresorcinol----------------------- 1 to 2 weeks
Mercurhydrin-------------------------------------------- less than a week

The above listed compounds are the most generally encountered producing depression of the RAI uptake. Other less known and less used compounds will produce similar involvement and in questions of possible blockage of the gland by infrequently used compounds, the physician is advised to contact the Nuclear Medicine Physician in the Division of Nuclear Medicine.