Richard Maurer, ND

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Presenter: Richard K. Maurer, ND

60-90 minutes

Target audience: Healthcare provider/ researcher/ general medical care

**Thyroid and Metabolism: Health, longevity and thyroid activation**

Thyroid hormones regulate resting, not active metabolic rate. Thyroid is often the scapegoat for other metabolic problems. Learn effective and ineffective ways to test and support thyroid function. Prescriptive thyroid hormones will be reviewed in light of blood test results and related research of longevity, diet, fitness and environmental factors.

1 – Participants will review the current prescriptive trends using T4 and/or T3 hormones.

2 – Participants will become familiar with the tests that guide conventional prescriptions and compare them to tests used in research settings such as rT3/T3 ratio.

3 – Participants will more readily understand the cascade of hormones and enzymes that regulate thyroid activity, from the hypothalamus-TRH to the T3 uptake at the nuclear thyroid receptor in the cells throughout the body.

4 – Participants will learn to use the most current research related to fitness, stress and environmental factors that affect serum thyroid hormones. This understanding will likely impact any practice that is currently using thyroid treatments, whether T3 or T4.

\*Pharmacy discussion will occur during the presentation. Approximately 20 slides will thoroughly cover the T4 and T3 prescriptions available. Pharmacokinetics and delivery systems in common use.

Bio:

Dr. Richard Maurer is a naturopathic doctor in Freeport Maine, he specializes in natural therapies for metabolic conditions, helping athletes to those with type 2 diabetes, lipid, weight and thyroid problems.  He has established the new Maine Metabolism and writes at FatbackDiet.com. He has written The Blood Code© to help patients understand their innate metabolism and live up to who they are.

Dr. Maurer earned his Doctorate of Naturopathic Medicine from the National College of Naturopathic Medicine in 1994.

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Presentation Outline:

I. Normal thyroid hormone cascade

 A. Hypothalamus: action, feedback

 B. Pituitary: action, feedback

 C. Thyroid gland

 a. T4: nutrients and factors

 b. T3: normal percentage of total production

II. Thyroid transport and activation

 A. Transport and cellular uptake

 1. Required proteins

 2. Active vs passive transport

 B. Deiodinase selenocysteine enzymes

 1. DIO1/DIO2/DIO3

 2. What effects these enzymes?

 a. stress/ exercise/ chronic illness/ exercise/ insulin resistance

 C. Function of T3 at the nuclear cell receptor

 1. Thyroid activity in different tissues.

 2. RMR

 D. Function of rT3

 1. Cellular effects of rT3

 2. Proposed purposes of rT3

III. Thyroid hormone prescriptions

 A. Levothyroxine (T4) prescription

 1. pharmacokinetics, effects, S/E

 B. Liothyronine (T3) prescription

 1. pharmacokinetic, effects, S/E

 2. combination therapy versus single

 C. Desiccated glandular thyroid prescription

 1. pharmacokinetic, effects, S/E

 2. delivery systems

IV. Research Review of common effects to thyroid function

 A. Exercise and Fitness

 B. Termperature

 C. Dietary/ Food/ Carbohydrate effects/ Bile Acids

 D. Stress/ Illness/ Mediciations