

### Med Names

<b>Prototype Med</b>	Levothyroxine (Synthroid)
<b>Other Meds</b>	liothyroxine (Cytomel)
	liotrix (Thyrolar)
	Thyroid USP

**Action:** Levothyroxine is a synthetic form of thyroxine or T4 which is then converted to T3 in the body

### Therapeutic Use

Hypothyroidism

### Adverse Drug Reactions

Thyrotoxicosis, Hyperthyroidism (from excessive doses)  
 Headache, irritability, insomnia  
 Abdominal cramping, diarrhea  
 Tachycardia, arrhythmia  
 Heat intolerance, diaphoresis  
 Menstrual irregularities

### Nursing Interventions

Monitor thyroid function  
 Monitor for indications of hyperthyroidism (anxiety, tachycardia, palpitations, tremors, altered appetite, heat intolerance, fever, diaphoresis, weight loss)

### Patient Education

Watch for and report nervousness, rapid heart rate, palpitations, tremors, altered appetite, heat intolerance, fever, sweating, weight loss, and chest pain.

### Contraindications

Thyrotoxicosis  
 Recent myocardial infarction

### Precautions

Cardiovascular disorders (hypertension, angina pectoris, ischemic heart disease)  
 Renal impairment  
 Diabetes mellitus  
 Older adults

### Administration

Give orally to treat hypothyroidism and IV to treat myxedema coma.  
 Give daily on an empty stomach (at least 30–60 min before breakfast with full glass of water).  
 Measure baseline vital signs, weight, and height, and monitor periodical- ly thereafter.  
 Monitor for cardiac excitability (angina, chest pain, palpitations, dysrhythmias).  
 Monitor T4 and TSH levels.  
 Be aware that the various formulations of thyroxine are not interchangeable; instruct clients to notify the provider if a pharmacy dispenses a different levothyroxine product.  
 Expect lifelong replacement therapy.

### Interactions

Cholestyramine (Questran), antacids, iron and calcium supplements, and sucralfate (Carafate) reduce absorption, so clients should not take levothyroxine within 4 hr of these drugs  
 Food reduces absorption  
 Many antiepileptic and antidepressant drugs, including carbamazepine (Tegretol), phenytoin (Dilantin), phenobarbital, and sertraline (Zoloft), decrease levels.  
 Anticoagulant effects of warfarin (Coumadin) increase.  
 Cardiac response to catecholamines (such as epinephrine) increases.

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