

Name(s)

- **Generic:** levothyroxine (*LEE voh thye ROX een*) | **Brand:** Synthroid, Levoxyl, Armour Thyroid, Tirosint, NP Thyroid, Unithroid

Therapeutic Category

- Thyroid Drug or Product

Indication(s)

1. **HyPOthyroidism:** Generally considered first-line therapy of congenital or acquired hyPOthyroidism.
2. **Thyroid cancer:** Suppression of the thyrotropin-stimulating hormone from the pituitary in the management of thyrotropin-dependent thyroid cancer.

Dosage Form / Strength / Dosing

- **Dosage Form:** Tablet
 - Tablets: Multiple strengths dosed in micrograms (mcg) 25 mcg, 50 mcg, 75 mcg, 88 mcg, 100 mcg, 112 mcg, 125 mcg, 137 mcg, 150 mcg, 175 mcg, 200 mcg, 300 mcg
- **Dosing:** Adult & Geriatric
 - Individualized dosing based on serum thyroid stimulating hormone (TSH) and T4.
 - General dose is 1-1.6 mcg/kg/day or 50 mcg daily.
 - 12-25 mcg adjustments are made every 3-6 weeks from the initial dose.
 - Serum TSH and free T4 concentrations are monitored until TSH remains at a normal range for greater than 5-6 weeks.

Mechanism of Action & Pharmacology

- The generic levothyroxine (T4) replicates thyroxine which gets converted to T3 (which is the active metabolite). Both thyroid hormones T4 and T3 bind to protein receptors which help to regulate various metabolic functions such as gluconeogenesis and protein synthesis.
- **Absorption:** Varies from 40-80% and affected by factors such as age and diet | **Metabolism:** Hepatic - Undergoes enterohepatic recirculation | **Excretion:** Urine (majority) | **Onset of Action:** 3-5 days; **Protein Binding:** >99%

Side Effects

- Generally safe with adverse effects due to therapeutic overdoses leading to hyperthyroidism.
 - Arrhythmia, anxiety, diaphoresis, goiter, fever, dyspnea

Drug Interactions

- Decreased therapeutic effects from amiodarone, bile acid sequestrants, calcium salts, carbamazepine, estrogen derivatives.
- May increase warfarin's effects.

Monitoring Parameters

- Serum TSH, T4

Patient Counseling Information

- Should be taken consistently in morning
- Empty stomach 30-60 min before food.
- Do not admin w/in 4 hours of Ca or Fe containing products
- Can be crushed

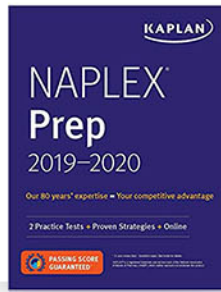
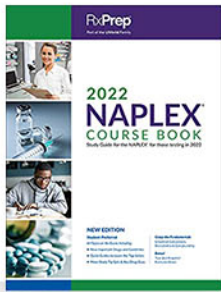
Reference(s)

- <https://www.drugs.com/ppa/levothyroxine.html>

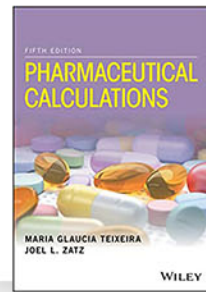
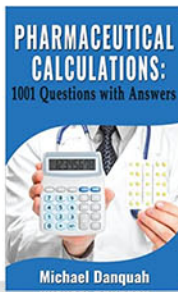
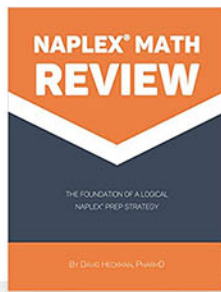
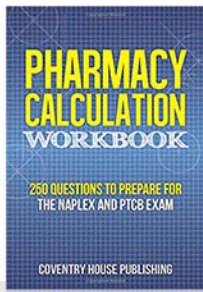


PREPARE FOR SUCCESS!

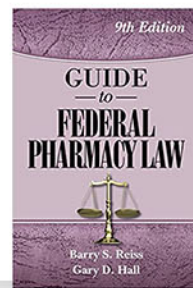
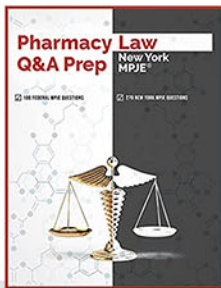
Comprehensive (NAPLEX)



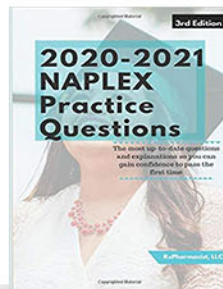
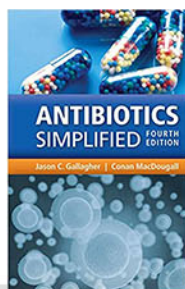
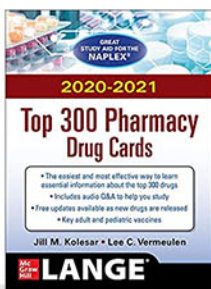
Calculations (NAPLEX)



Pharmacy Law (MPJE)



Supplemental



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So you landed that perfect job offer or got the perfect match for your PGY1 and now the **ONLY** thing standing in your way is passing the NAPLEX and MPJE.

Here are some NAPLEX & MPJE prep recommendations to help you do everything you can to **pass the first time!**

HEY STUDENT!

When I was P1 one of the best pieces of advice I got from those before me was to use a NAPLEX Prep book while learning each topic.

This helps focus your learning and the repetition helps to retain info and indirectly prepare you for the NAPLEX



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