Name(s)

- **Generic:** atorvastatin *(a TORE vas ta tin)* | **Brand:** Lipitor

Therapeutic Category

- HMG-CoA Reductase Inhibitor
- Anti-Lipemic Agent

Indication(s)

1. **Heterozygous and homozygous familial hypercholesterolemia:** Decreases "bad cholesterol" (such as total-C [total cholesterol], LDL-C [LDL cholesterol], apo B [apolipoprotein B], TGCs [triglyceride levels]) and increases "good cholesterol" (HDL).
2. **Prevention of atherosclerotic cardiovascular disease:** Primary prevention of ASCVD (atherosclerotic cardiovascular disease), reduces the risk of MI (myocardial infarction) and stroke and decreases the risk of revascularization procedures. Statins also decrease angina in patients with multiple CHD (chronic heard disease) risk factors that do not have a history of CHD.

- OFF LABEL: Transplant patients post heart or kidney.

Dosage Form / Strength / Dosing

- **Dosage Form:** Tablet
  - Tablets: 10 mg, 20 mg, 40 mg, 80 mg
- Dosing for **Hypercholesterolemia:** Adult & Geriatric
  - Used **in conjunction with exercise & diet (lifestyle modifications)** and other lipid-lowering therapies if monotherapy is not successful.
  - Consider pt's age, baseline LDL-C, 10-year ASCVD risk, drug SEs & interactions, & other risk-factors.
  - When dosing atorvastatin think about the statin therapy intensities. **High-intensity** statins **reduce LDL-C by ≥50%** while **moderate-intensity** statins **reduces LDL-C by 30%-49%**. Atorvastatin **40 to 80 mg/day** is considered **high-intensity** while **10 to 20 mg/day** is **moderate-intensity**.
  - Follow-up **1-3 months** after initiation with adjustments being made every **3-12 months** after.
  - **Target is 80 mg once daily** or 40 mg once daily with an increase to 80 mg if 40 mg is tolerated.
- Dosing for **ASCVD:** Adult & Geriatric
  - **WITHOUT diabetes** | Age 40-75 years | LDL-C between **70-189 mg/dL**
    - **5% to <7.5%** ASCVD 10-year risk: **Moderate**-intensity therapy at **10-20 mg/day** with LDL-C reduction goal of 30-49%
    - **≥7.5% to <20%** ASCVD 10-year risk: **Moderate**-intensity therapy at **10-20 mg/day** with LDL-C reduction goal of 30-49%. **NOTE: In pts w/ multiple risk-enhancing factors** consider higher dose (80mg) with LDL-C goal reduction of ≥50%
    - **≥20%** ASCVD 10-year risk**: High-intensity therapy at 80 mg/day** with LDL-C reduction goal of ≥50%. If pt is unable to tolerate 80 mg/day lower to 40 mg. Can consider starting with 40 mg/day first and titrate to 80 mg/day if LDL-C is not at desired target.
  - In pts **WITH diabetes** | Age 40-75 years | LDL-C between 70-189 mg/dL
    - **WITHOUT additional ASCVD risk factors**
      - Moderate-intensity therapy at 10-20 mg/day with LDL-C reduction goal of 30-49%
    - **ASCVD 10-year risk ≥20% OR multiple ASCVD risk factors**
      - High-intensity therapy at 80 mg/day with LDL-C reduction goal of ≥50%
      - If pt is unable to tolerate 80 mg/day lower to 40 mg
      - Can consider starting with 40 mg/day first and titrate to 80 mg/day if LDL-C is not at desired target.
    - **LDL-C between 70-189 mg/dL and age 20-75 years**
      - High-intensity therapy at 80 mg/day with LDL-C reduction goal of ≥50%
      - If pt is unable to tolerate 80 mg/day lower to 40 mg

    - Can consider starting with 40 mg/day first and titrate to 80 mg/day if LDL-C is not at desired target.
- **Random Dosing Note:** For each doubling of dose, LDL is lowered approximately **6%**.
- **TOXICITY CONSIDERATIONS:**
    - **SEVERE** muscle symptoms or fatigue
        - Discontinue immediately. Evaluate CPK, creatinine, and conduct a urinalysis for myglobinuria.
    - **MILD to MODERATE** muscle symptoms or fatigue
        - Discontinue immediately. Evaluate symptoms and pt for any conditions that increase muscle symptoms (hypothyroidism, renal or hepatic impairment; RA, vitamin D deficiency).
        - Resume lower dose and titrate if tolerated. Evaluate muscle symptoms and CPK

Mechanism of Action & Pharmacology

- **HMG-CoA inhibitor** (aka 3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitor). HMG-CoA is the **rate-limiting enzyme** responsible for the synthesis of cholesterol. By inhibiting this enzyme LDL receptor expression on the hepatocytes increases which causes LDL catabolism. **Other additional benefits** are endothelial function is improved, coronary plaque sites show a reduced inflammation, and platelet aggregation is inhibited.
- **Absorption:** Rapid first pass liver and GI mucosa metabolism | **Metabolism:** Hepatic via **CYP3A4** and does NOT undergo enterohepatic recirculation | **Excretion:** Bile (majority); Urine (<2% unchanged) | **Onset of Action:** 3-5 days, maximal effects seen in 2-4 weeks. | **Peak serum level** at 1-2 hours with a **half-life** of around 14 hours | **Protein Binding:** Highly protein bound ≥98%

Side Effects

- More commonly: Diarrhea, **joint pain (arthralgia)**, **stuffy nose, sore throat**, nasopharyngitis, UTI
- Others: Blurred vision, tinnitus, **insomnia**, malaise

Drug Interactions

- **Drugs that can increase the serum concentrations** of atorvastatin are: amiodarone, clarithromycin, and anti-hepaciviral products, itraconazole, niacin

Monitoring Parameters

- **Lipid panel consisting of TC, HDL, LDL, TGC**
- When hepatotoxicity is a concern hepatic transaminase levels (AST, ALT, total bilirubin, alkaline phosphatase)
- When myopathy is concerned CPK (otherwise not routine)
- Monitor therapy with **CYP3A4 inhibitors** and **inducers**

Patient Counseling Information

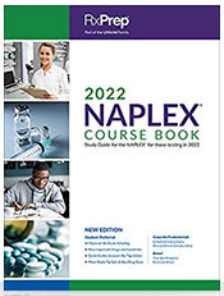
- Lowers BAD cholesterol (LDL, TGC)
- Increases GOOD cholesterol (HDL)
- Slow progress of heart disease, heart attack, and stroke
- **Taken with OR without food**
- **Time of day** DOES NOT BENEFIT pt with atorvastatin.
- Manufacture states do not crush/break tablets BUT no safety/efficacy concerns noted.
- **PREGNANCY: Contraindicated.** D/C in pts 1-2 months prior to females trying to conceive.

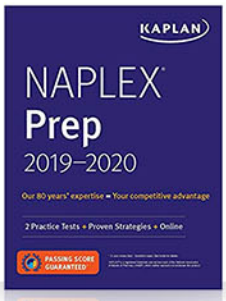
Reference(s)

- https://www.drugs.com/ppa/atorvastatin.html

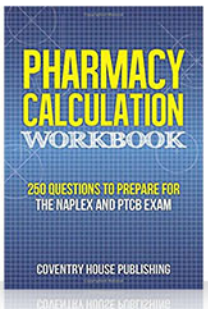
PREPARE FOR SUCCESS!

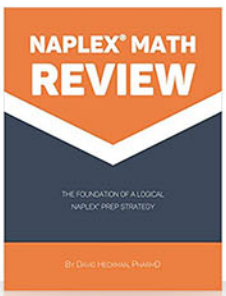
Comprehensive (NAPLEX)

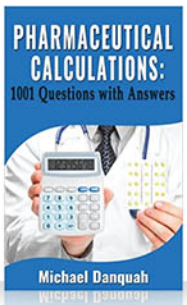


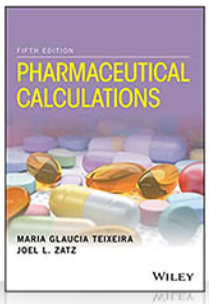


Calculations (NAPLEX)

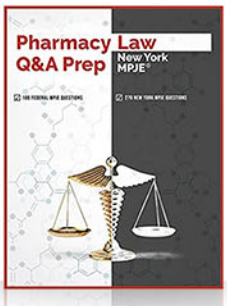


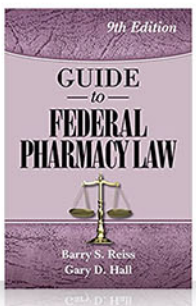




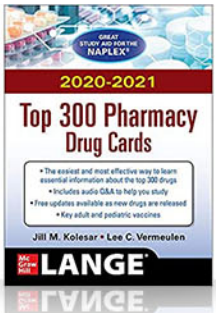


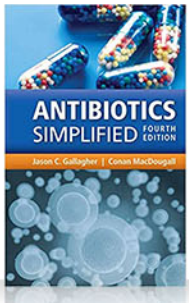
Pharmacy Law (MPJE)

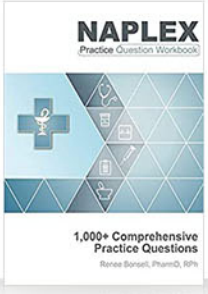


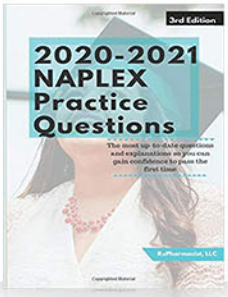


Supplemental









DISCLAIMERS

DRUG CARDS DAILY

Monday at 7 am EST
(6 am CST, 4 am PST)

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