



## Statin Advisory

Statins are potent cholesterol lowering medications which lower the LDL or “bad cholesterol” to a predictable degree and raise the HDL or “good cholesterol” slightly. All medications have side effects and their use must weigh the potential benefits of the medication with those side effects. Common (2-10%) side effects with statins include:

- Central nervous system: Headache, fatigue, dizziness, weakness
- Cardiovascular: Chest pain
- Dermatologic: Rash
- Gastrointestinal: Nausea/vomiting, diarrhea, heartburn
- Hepatic: Increased transaminases (>3x normal on two occasions)
- Neuromuscular & skeletal: Muscle pains/neuropathy
- Respiratory: Cough
- Miscellaneous: Influenza Headache

Ongoing adverse media reporting has raised patient concerns regarding the risk of myopathy and rhabdomyolysis with statins in general. The risk of serious muscle complications with any of the currently available statins is very rare (<1:10000) and equivalent amongst the statins. Discontinuation of statins in patients at risk could result in increased cardiovascular event rates for stroke or heart attack which far outweigh the risk of muscle complications. **Fear of appropriate statin use is causing more harm than good.** However, the use of the maximum doses of any of the statins should be cautioned, particularly in the high risk patient groups detailed below.

Muscle problems with statins include:

1. Myalgias: muscle pains or weakness with or without elevation of CK, a muscle enzyme as measured in the blood. This occurs in 2-10% of patients on statins and is completely reversible.
2. Myositis: myalgias with increases in creatine kinase (CK) values >10 times upper limit of normal. This occurs rarely in patients on statins.
3. Rhabdomyolysis: A more severe breakdown of skeletal muscle associated with a rise in the blood level of CK muscle enzyme above 10,000 U/L may be associated with kidney damage due to the excretion of myoglobin in the urine. Rhabdomyolysis is usually reversible with appropriate medical therapy and discontinuation of the causative medication.
4. The risk of this occurring with statins is rare (< 0.10% or < 1/1000).
5. Rhabdomyolysis is usually associated with other predisposing conditions in which maximum dose statins should be avoided:
  - pre-existing kidney impairment
  - advanced age
  - under-active thyroid
  - family history of muscular disorders
  - previous muscular toxicity with other statins
  - alcohol abuse
  - situations where increased blood levels of statins can occur such as in Japanese, Chinese or Asian populations
  - combination therapy with other cholesterol lowering medications such as gemfibrozil

The extrapolation of clinical trial evidence supporting the use of maximum dose statins, to population groups not included in these trials, places those patients at risk for statin induced myopathy. Great caution should be exercised in prescribing simvastatin (Zocor®) 80 mg, atorvastatin (Lipitor®) 80 mg or rosuvastatin (Crestor®) 40 mg to the elderly (> 75 years of age), patients of South Asian ethnicity or patients with renal failure (Cr > 200 μmol/L) or patients on dialysis. Appropriate dosing reductions should be made in these cases.

**Patients should report unexplained muscle pains, tenderness or weakness particularly if associated with fever or malaise.**

### Statin Advisory References:

1. Thompson P, Clarkson P, Karas R.H. Statin-associated Myopathy. JAMA. 2003;289:1681-1690.
2. Cholesterol and Statin review. Bandolier EBM Website.
3. Olsson GO. Safety and efficacy of rosuvastatin. www.thelancet.com Vol 3654 July 10, 2004.

