

## Drug Interactions...Some Clinically Important Real life stories

### Clinical Problem # 1: TSH = 11.17 miu/L

Rx: Levothyroxine 0.075mg po daily  
Ferrous sulphate 300mg po BID

**On assessment:** Patient taking levothyroxine and iron together in the morning.

**Drug Interaction:** Iron, as well as calcium, magnesium, aluminum, simethicone, and sucralate, can chelate thyroid hormones leading to decreased thyroid hormone absorption.

### Solution Focused Recommendations:

- Change ferrous sulphate administration to 300mg at supper and bedtime (separate from levothyroxine by at least 4 hours)
- Reassess TSH in 8 weeks.

### Clinical Problem # 2: Patient experiencing mild leg cramps and has slightly elevated CK.

**LDL-C = 2.4 mmol/L**

Rx: Atorvastatin 10mg po daily  
Diltiazem 240mg po daily

**On assessment:** symptoms started a few weeks after starting atorvastatin.

**Drug Interaction:** Diltiazem is a CYP450 3A4 inhibitor and can increase levels of statins (by approximately 2.5 times) that are metabolized by this enzyme (simvastatin, atorvastatin, lovastatin). Pravastatin, fluvastatin, and rosuvastatin levels are not affected by concurrent diltiazem therapy because they are not substrates of CYP450 3A4.

### Solution Focused Recommendations:

- Discontinue atorvastatin.
- If symptoms resolve reinstate statin therapy with rosuvastatin 10mg po daily or atorvastatin 5mg po daily.