

### Selected Drugs Interacting with Grapefruit Juice\*

Drug Class/Drug	Potential Clinical Effects of Consuming with Grapefruit Juice
Anxiolytics/sedatives Buspirone  Midazolam Triazolam	Excessive sedation due to average 9-fold increase in plasma concentrations Increased sedation Excessive sedation due to approximate 50% increase in serum triazolam concentrations
Astemizole (withdrawn)	Potential for cardiac toxicity similar to that noted with terfenadine (also withdrawn) — e.g., prolonged QT interval
Calcium channel blockers Amlodipine Felodipine Nifedipine Nitrendipine  Verapamil	1.2 — 2.8-fold increased bioavailability with potential for increased adverse effects including excessive blood pressure lowering and consequences: headache, flushing, tachycardia  As with above calcium channel blockers, plus excessive cardiac depressant effects, including bradycardia and A-V block, as expected of a non-dihydropyridine blocker
Cisapride	Greater likelihood of proarrhythmic effects due to increased bioavailability
Cyclosporine	Risk of toxicity due to 30-60% increase in blood concentrations
Carbamazepine	40% increase in plasma concentration with risk of toxicity
17 estradiol	Increased plasma concentrations of the estrone metabolite
HMG-CoA Reductase Inhibitors: Lovastatin, Simvastatin	Increased risk of myopathy and rhabdomyolysis due to 9-fold and 12-fold increases in mean peak serum concentrations with simvastatin and lovastatin, respectively
Quinidine	Prolonged time to maximum serum concentrations
Saquinavir	Increased maximum serum concentrations
Tacrolimus	Poorly documented, may result in increased drug concentrations and potential for toxicity

Ameer B, Weintraub RA. Drug interactions with grapefruit juice. Clin Pharmacokinet. 1997;33:103-21.

Anon. Detail Document #150305, Pharmacist's Letter. March, 1999.

Fuhr U. Drug interactions with grapefruit juice. Drug Safety. 1998; 18:251-72.

Mancano MA. Drugs and grapefruit juice interactions: Part 2. Pharmacy Times. 1999; 65(10):38-41.

**Published by the University of Michigan Health System Drug Information Service, 936-8200.**

**1999 The Regents of the University of Michigan. 12/99**