Drug Risks: A Complex Web Of Interactions

A NOTE ABOUT THESE MEDICATIONS
Many of the adverse drug interactions shown here have been demonstrated scientifically; a few have been reported only clinically. If you are concerned about medications you are taking and their potential interactions, consult your personal physician.

HOW TO READ THIS DIAGRAM
Follow the gray lines and text linking drugs to see what potentially can go wrong when they are taken together.

Risks generally increase with higher doses and longer-term use, or overuse.

Pain relief drugs

PRESCRIPTION OPIATES
Morphine, Hydrocodone, other opiate narcotic drugs (Vicodin, Codeine, Percocet, Percodan, Oxycontin)

ACETAMINOPHEN
Including Tylenol and Panadol

NON-STEROIDAL ANTI-INFLAMMATORY (NSAID) DRUGS
Ibuprofen (Advil, Motrin), Naproxen (Naprosyn, Aleve)

ASPIRIN

Risk of stomach upset, bleeding

Risk of stomach and esophageal bleeding

Risk of stomach upset, gastric ulcers, internal or external bleeding. NSAIDs can also block the preventive effects of small daily doses of aspirin on potential heart attacks.

Risk of stomach upset, stomach and esophageal bleeding

Risk of stomach upset, stomach and esophageal bleeding

Psychotropic drugs

BENZODIAZEPINES
Anti-anxiety and tranquilizer medications like Valium, Xanax, Ativan

SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI'S)
Antidepressants like Prozac, Paxil, Zoloft and newer drugs that contain combinations of SSRIs with other anti-depressant medications, like Effexor

LITHIUM
For bipolar disorders

Selective serotonin reuptake inhibitors (SSRIs) can increase the sedating and sleep-inducing effects of benzodiazepines.

SSRIs taken with lithium can raise or lower blood levels of lithium and need to be carefully monitored.

Thiazides reduce kidney excretion of lithium, which can increase the blood concentration of lithium and lead to side effects; should be monitored

SSRIs can potentially alter blood concentration of digitalis; when taken together, these drugs should be monitored by a physician

Prilosec or Nexium can increase the blood concentration of Valium and magnify its tranquilizing effects

COLD MEDICATIONS containing alcohol or antihistimines

Dizziness, imbalance, reduced coordination

Dizziness, imbalance, reduced coordination

Risk of inebriation: dizziness, imbalance, reduced coordination

ALCOHOL

Dizziness, imbalance, reduced coordination

Dizziness, imbalance, reduced coordination

Risk of liver damage in high or frequent doses

Risk of stomach and esophageal bleeding

Risk of stomach and esophageal bleeding

Can lead to excessive internal or external bleeding

Can reduce kidney excretion of lithium, risking elevated lithium levels

Can lead to excessive bleeding

Can lead to excessive bleeding

ANTI-COAGULANTS (blood thinners)

Can lead to excessive bleeding

Can lead to excessive bleeding

ALENDRONATE SODIUM (Fosamax) for osteoporosis

Can block absorption of Fosamax, requiring more Fosamax

ANTACIDS like Maalox

Can reduce effect of statins

Cholesterol-lowering drugs

CHOLESTYRAMINE
Absorbs cholesterol in small intestine

STATINS
These drugs block cholesterol production in the liver:
Atorvastatin calcium (Lipitor)
Pravastatin (Pravachol)
Rosuvastatin (Crestor)

Lovastatin (Mevacor)
Simvastatin (Zocor)

Taken with statins, oral contraceptives can potentially increase risk of blood clots.

ORAL CONTRA-CEPTIVES

Lovastatin or Simvastatin, taken with erythromycin, can increase risk of muscle damage.

ANTIBIOTIC ERYTHRO-MYCIN

Rare risk of abnormal heart rhythm

THYROID HORMONE (Synthroid)

Can potentially lower synthroid effects.

Antifungals, taken with Lovastatin or Simvastatin, can raise blood levels of these statins, risking muscle damage.

ANTI-FUNGAL DRUGS

Potential adverse interaction

Stomach acid drugs can reduce levels of antifungal drugs.

Potentially reduces effect of some beta-blockers

Taken with Synthroid, effects of digitalis may be reduced

Statins potentially can alter blood levels of digitalis; should be monitored by physician

ERECTILE DYSFUNCTION (Viagra, Cialis)

Together, E.D. drugs and alpha-blockers can dangerously lower blood pressure.

Blood-pressure-lowering drugs

ALPHA-BLOCKERS

Although often prescribed together in varying combinations, blood-pressure medications — alpha-blockers, beta-blockers, calcium channel blockers and thiazide diuretics — can potentially lower blood pressure too much and should be monitored by a physician.

BETA-BLOCKERS

THIAZIDE DIURETICS

Heart medication

Digitalis (Digoxin, Lanoxin) helps a failing heart beat better and prevents abnormal heart rhythm.

Can potentially increase levels of digitalis.

Stomach acid reducers

Includes esomeprazole magnesium (Nexium), omeprazole (Prilosec), iansoprazole (Prevacid)

Sources: Physicians' Desk Reference, 2006 Edition; Dr. John R. Horn, University of Washington

Bill Marsh and Howard Markel, M.D./The New York Times