

Table of Contents

Medication Safety	1
Herbal Products	4
Drug-Herb Interactions	6
The Dangers of Acetaminophen (Tylenol).....	10
Drug-Food Interactions	11
Grapefruit Juice-Drug Interactions.....	14
Foods High in Tyramine.....	16
Warfarin and Vitamin K.....	17
Pain Management.....	18
Internet Sites and Resources	20

Medication Safety

Medications are powerful substances that can help cure disease and keep you healthy.

Medication Safety

Tips for Everyday:

Ask your doctor or pharmacist what foods, drinks, medicines or activities you should avoid when taking medications.

Ask about taking your medicines before x-rays, surgeries, procedures or other tests.

Medicines include

- ✓ *Prescription and over-the-counter drugs*
- ✓ *Nutritional supplements and vitamins*
- ✓ *Herbal or natural supplements*

Keep a list of all medications that you are taking!

- Include eye drops, skin creams, over-the-counter products, vitamins, home remedies, and herbal supplements
- Include the dose and how many times a day you take or use the medications
- Update your list whenever there are changes
- Bring this list with you every time you go to the hospital or doctor's office
- Keep one copy of the list in your purse or wallet and give another copy to a family member
- Also keep a list of medicines you cannot take (including the reason you can't take each one, allergy or other reason)
- Learn the brand and generic names of your medicines
- Ask your doctor to write the reason for the medicine on the prescription

At Your Pharmacy....

- Use the same pharmacy for all prescriptions whenever possible
- Pay attention to changes when refilling prescriptions or when receiving medicines in the hospital. Ask questions if you don't understand something or if something doesn't seem right about your medicine.
- Check the name of the medication and dosage before leaving your pharmacy.

Storage

- Keep your medication in their original containers and away from pet medicines or household chemicals. Store medicines in a cool, dry place (not in car or bathroom medicine cabinet).
- Check your medications periodically for expiration dates. If there is no date, consider the medicine expired 6 months after it was purchased.

More Tips....

- If your doctor gives you samples, make sure he or she checks for allergies and interactions with any other medications you are taking.
- Always turn on the light before taking medicine.
- Carry your pharmacy's and physician's phone numbers with you when you travel. If you lose your medicines, this will make it easy to obtain a new supply.
- Never take someone else's medicine. It may interact with your medicines, the dose may be wrong for you, or you may be allergic to it.
- Don't chew, crush or break open any capsules or tablets or cut patches without asking your pharmacist or doctor first. A long-acting medicine can be dangerous if all the medicine gets into your system at once.

Special tips for households with children


- ✓ *Avoid taking medicine in front of young children—they may try to imitate you.*
- ✓ *Store all medicines in child-resistant containers, and out of children's sight and reach.*
- ✓ *Use a measuring device made for medicines when measuring out a dose of liquid medicines. Household teaspoons and tablespoons do not accurately measure doses of medicine.*
- ✓ *Vitamins (especially iron) can be very dangerous to small children.*

Medication Disposal at Home

- Get rid of old drugs that are out of date. Look for the expiration date on the bottle.
- Place used syringes safely in a puncture resistant container such as a plastic milk carton or coffee can. Seal the container before you put it in the trash.
- Contact your pharmacist if you have questions.

Herbal Products

- Herbal products may come from natural sources, but they still act like medications. They can have side effects or can cause bad effects when combined with other drugs or herbal products.
- It is best to tell your doctor and pharmacist about all herbal medications you take. He or she can only advise you about potential problems or drug interactions if they know about everything you are taking.
- Generally, herbals should be avoided in the following groups:
 - Women who are pregnant or breastfeeding
 - Children
 - Those who are taking blood thinners
 - Those with a serious disease such as cancer or HIV
 - Liver or kidney failure patients
- Herbal products are not regulated by the FDA. They are considered “nutritional supplements”. There are several concerns related to this:
 - The majority of herbal products are not tested for purity or safety. Only a very few have been tested scientifically in large groups of patients to see if they work. There is very little information about using herbs in special populations, such as children or the elderly.
 - Information is lacking about drug interactions between herbal products, and about interactions between herbal products and conventional medicines.
 - Herbal products have occasionally been shown to contain different ingredients than what is described on the label. These ingredients may be safe, or may be harmful.



It is important to know that “natural” does not necessarily mean “safe”

- Herbal products may contain the active ingredient in much greater or much smaller amounts than is stated on the label. The active ingredients may vary from bottle to bottle.
 - Herbal manufacturers are not required to include cautions or potential side effects of their products on the label. This may lead to the misconception that these products must be safe.
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- Before buying herbs, make sure the product's scientific name, the part of the plant used, the date of manufacture and expiration, and the name and address of the manufacturer is on the label.
 - Be very cautious about herbal products with multiple ingredients. The more ingredients there are in the product, the greater the chance for drug interactions or side effects.
 - Herbal products can go by several names. This can cause confusion when trying to find or avoid specific products.
 - Herbal products can have bad effects in patients who are going to surgery. They can cause changes in your heart rate, and blood pressure and can cause increased risk of bleeding. Your doctor may ask you to stop taking herbal medicines 2-3 weeks before a planned surgery.
 - Retailers may advertise impressive health claims for their products. Remember that if it sounds too good to be true, it probably is.

Drug-Herb Interactions

This chart describes bad effects that can happen when herbs are combined with prescription medications. If you take herbs and prescription medications check this chart to see if you may be at risk. Consult your pharmacist or physician for more information.

Class	Brand Name	Generic Name	Herb	Interaction
Anticoagulants	Coumadin Aspirin Plavix	Warfarin Aspirin Clopidogrel	Alfalfa	May increase risk of bleeding
			Dong Quai	May increase risk of bleeding
			Ginkgo Biloba	May increase risk of bleeding
			Ginseng	May decrease effect of warfarin
			Hawthorne	May increase risk of bleeding
			Feverfew	May increase risk of bleeding
			Kava	May increase risk of bleeding
			Licorice	May increase risk of bleeding
			St. John's Wort	May decrease effect of warfarin
Diabetes	Glucophage, Micronase, Glucotrol	Metformin, Glyburide, Glipizide	Licorice	May decrease the effect of diabetic medications
			Ginseng	May make blood sugar too low
			St. John's Wort	May make blood sugar too low

Drug-Herb Interactions (cont'd)

Class	Brand Name	Generic Name	Herb	Interaction
Heart	Blood Pressure medications		Black Cohosh	May decrease blood pressure
			Licorice	May increase blood pressure
			Ma Huang	May increase blood pressure
	Lasix	Furosemide	Ginseng	May lower effect of furosemide
	Lasix Hydrochlorothiazide	Furosemide HCTZ	Licorice	May lower effect of medicine and may decrease potassium level
	Lanoxin	Digoxin	Ginseng	May cause a false increase in serum digoxin level
			Ma Huang	May cause abnormal heart beat
			St. John's Wort	May decrease effect of digoxin
	Procardia	Nifedipine	Ginseng	May increase effects of nifedipine
			Ginko	May increase effects of nifedipine
	Zocor Crestor	Simvastatin Rosuvastatin	St. John's Wort	May decrease effect of medications

Drug-Herb Interactions (cont'd)

Class	Brand Name	Generic Name	Herb	Interaction
Men's Health	Viagra Levitra Cialis	Sildenafil Vardenafil Tadalafil	St. John's Wort	May decrease medication levels
Mood	Wellbutrin, Zyban	Bupropion	Ginkgo Biloba	May increase risk of seizures
	Antidepressants: Celexa Lexapro Paxil etc	Citalopram Escitalopram Paroxetine	St. John's Wort	Increases effect of medications and risk for Serotonin Syndrome
	MAO-I: Nardil Parnate	Phenelzine, Tranylcypromine	Ginseng	Manic episodes, headache, shakiness, insomnia and worsening of depression
			Ephedra, Ma Huang	Increase risk of toxicity
	Sedatives & Tranquilizers		St. John's Wort	May decrease effect of sedative
			Kava	Increases sedation or sleepiness
			Lavender	Increases sedation or sleepiness
			Valerian	Increases sedation or sleepiness

Drug-Herb Interactions (cont'd)

Class	Brand Name	Generic Name	Herb	Interaction
Women's Health	Oral Birth Control		St. John's Wort	Decreases effectiveness of birth control pills
Anti-Inflammatory	Motrin/Advil Naprosyn Relafen	Ibuprofen Naproxen Nabumetone	Ginkgo Biloba	May increase risk of bleeding
Anti-Seizure	Dilantin Depakote etc	Phenytoin Valproate, Valproic acid	Ginkgo Biloba	May increase risk of seizures
Antacids	Antacids		Ma Huang	Increased toxicity of Ma Huang
Anti-Virals	Crixivan Kaletra Fortovase Invirase Viracept	Indinavir Lopinavir-Ritonavir Saquinavir Nelfinavir	St. John's Wort	Decreases effectiveness
Other	Caffeine		Ephedra, Ma Huang	Increased risk of toxicity
	Decongestants	Pseudoephedrine, phenylephrine	Ephedra, Ma Huang	Increased risk of toxicity
	Methotrexate		Kava	May increase risk of liver toxicity

Drug-Herb Interactions (cont'd)

Class	Brand Name	Generic Name	Herb	Interaction
Other (cont'd)	Sand-immune Neoral	Cyclosporine	Alfalfa	May increase risk of organ rejection
			Echinacea	May decrease effectiveness of cyclosporine
			St. John's Wort	Increases risk of organ rejection
	Sinemet	Levodopa-carbolopa	Kava	Decrease effectiveness of medication
	Theo-Dur, Uniphyl, Theo-24	Theophylline	Ephedra, Ma Huang	Increased risk of toxicity

The Dangers of Acetaminophen (Tylenol)

Acetaminophen overdose is one of the most common poisonings worldwide. People often think that acetaminophen, a pain-relieving medicine, is extremely safe. However, it may be deadly if taken in large doses. It is not safe to take more than 4 grams (4,000 milligrams) of acetaminophen in one day (24 hours).

Acetaminophen is found in many products, such as Norco, Vicodin, Lortab, and Percocet, as well as almost all over-the-counter cough or cold medicines. Please check the label and follow the directions very carefully. Never take more medicine than is prescribed or recommended.

*Acetaminophen
may be deadly
if taken in large
doses.*

If you are taking acetaminophen without the advice of your doctor, follow the label directions on the medicine package. Do not take this medicine longer than 10 days in a row, unless your doctor tells you otherwise.

Drug Food Interactions

This chart describes ways that food can affect your medications. Patients should follow the instructions in this table to make their medications most effective.

Class	Brand Name	Generic Name	Instructions
Antibiotics	Ery-Tab, E-mycin, EES	Erythromycin	Best if taken on an empty stomach but may be taken with food if stomach upset occurs.
	Zyvox	Linezolid	Avoid tyramine-containing food (see food list)
	Flagyl	Metronidazole	Avoid alcohol as severe nausea and vomiting will result. Take with food to avoid stomach upset.
	Cipro, Levaquin, Avelox	Ciprofloxacin Levofloxacin Moxifloxacin	Best on an empty stomach, but may take with food if needed. Do not take antacids (Maalox, Mylanta, Tums, etc), multivitamins, calcium or iron preparations within 6 hours before or 2 hours after this medication. Milk or milk products should not be taken at the same time.
	Penicillins	Dicloxacillin, Penicillin VK	Take on an empty stomach (1 hour before meals or 2 hours after meals).
	Bactrim Septra	Sulfamethoxazole Trimethoprim (SMZ-TMP)	Take on an empty stomach with a full glass of water.
	Vibramycin	Doxycycline	Do not take milk products, calcium supplements, antacids or iron preparation within 1 to 2 hours before or after this medication.

Drug Food Interactions (cont'd)

Class	Brand Name	Generic Name	Instructions
Anti-Seizure	Dilantin Luminal	Phenytoin Phenobarbital	Avoid alcohol
Diabetic Agents	Precose Micronase DiaBeta Amaryl Glyset Glucotrol	Acarbose Glyburide Glimepiride Miglitol Glipizide	Take just before a meal
	Prandin Starlix	Repaglinide Nateglinide	Take 30 minutes before a meal. If you skip a meal, then skip your scheduled dose.
	Avandia Actos	Rosiglitazone Pioglitazone	Avoid alcohol Take with food
	Glucophage	Metformin	Take with food. May cause stomach upset or diarrhea.
Pain	NSAIDs: Motrin/Advil Naprosyn Relafen Others: MS Contin OxyContin, Percocet Vicodin/Norco, Lortab Darvocet	Ibuprofen Naproxen Nabumetone Morphine Oxycodone Hydrocodone Propoxyphene	Avoid alcohol Take with food
Heart	ACE Inhibitors: Capoten Univasc	Captopril Moexipril	Take on an empty stomach 1 hour before meals.
	Lanoxin	Digoxin	Take on an empty stomach. If stomach upset occurs, may take with food.
Ulcer Medications	Nexium Prevacid Prilosec Protonix AcipHex	Esomeprazole Lansoprazole Omeprazole Pantoprazole Rabeprazole	Take on an empty stomach

Drug Food Interactions (cont'd)

Class	Brand Name	Generic Name	Instructions
Other	Fosamax Actonel Boniva	Alendronate Risedronate Ibandronate	Take first thing in the morning (before eating or drinking anything) with a full glass of water. Do not eat or drink anything else for at least 30 minutes after taking this medication.
	Corticosteroids: Deltasone Medrol Prelone	Prednisone Methyl- prednisolone Prednisolone	Take with food. May cause stomach upset.
	Feosol Fergon	Ferrous sulfate, Ferrous gluconate	Do not take with antacids or milk products.
	Monoamine oxidase inhibitors: Marplan Nardil Parnate	Isocarboxazid Phenelzine Tranylcypromine	Avoid foods high in tyramine (see food list on page 16)
	Coumadin	Warfarin	Do not make any drastic changes in dietary intake of foods high in vitamin K (see food list on page 17). Avoid alcohol



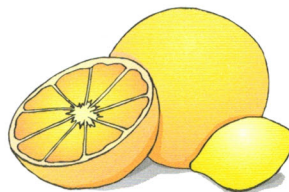
Grapefruit Juice and Drug Interactions

Grapefruit juice increases the absorption of many medications. Grapefruit juice can increase the drug levels in the body of most of the medications on the following list. If more medicine is absorbed than expected, the drug may have an increased effect, which may be harmful. If you take one of the medicines on this list, please consider avoiding grapefruit and grapefruit juice.

Medication	Brand Name	Generic Name
Anti-seizure medications	Tegretol, Carbatrol, Eptol	Carbamazepine
Cholesterol medications	Zocor Mevacor Lipitor Vytorin Caduet	Simvastatin Lovastatin Atorvastatin Atorvastatin/ezetimibe Atorvastatin/amlodipine
Blood pressure and heart medications	Cardizem, Cartia, Tiazac Plendil Procardia, Adalat Norvasc, Lotrel, Caduet Sular Calan, Verelan Cozaar Quinaglute, Quinidex Cordarone, Pacerone Lanoxin	Diltiazem Felodipine Nifedipine Amlodipine Nisoldipine Verapamil Losartan Quinidine Amiodarone Digoxin
Pain/headache medications	Dolophine Methadose D.H.E 45, Migranal Ergomar	Methadone Dihydroergotamine Ergotamine
Immune system suppressing drugs	Sandimmune, Neoral Rapamune Prograf	Cyclosporine Sirolimus Tacrolimus

Grapefruit Juice and Drug Interactions (cont'd)

Medication	Brand Name	Generic Name
HIV medications	Fortovase, Invirase Viracept Norvir, Kaletra Crixivan Agenerase	Saquinavir Nelfinavir Ritonavir Indinavir Amprenavir
Mood medications	Zoloft BuSpar Seroquel Anafranil Serzone Luvox	Sertraline Buspirone Quetiapine Clomipramine Nefazodone Fluvoxamine
Sedatives	Xanax Halcion Valium Sonata Desyrel	Alprazolam Triazolam Diazepam Zaleplon Trazodone
Antihistamines	Claritin Allegra	Loratadine Fexofenadine
Hormones	Premarin, Estrace Birth control pills, Estrogen for menopause	Estrogens Estrogen combinations
Other	Medrol Uroxatral Cialis Viagra, Revatio Tagamet Targretin Pletal Sporanox Colsalide	Methylprednisolone Alfuzosin Tadalafil Sildenafil Cimetidine Bexarotene Cilostazol Itraconazole Colchicine



Foods High in Tyramine

Foods high in tyramine must be restricted in your diet if you are taking certain medications. If these medications are taken with tyramine containing foods you may have headaches and/or an unsafe rise in blood pressure. Continue to avoid high tyramine foods for two weeks after stopping these medications.

Avoid these if taking Linezolid (Zyvox)

Aged cheese or food made with aged cheeses (Camembert, cheddar, Gruyere, Blue, Romano and Gouda)	Aged/smoked/air dried meats (pepperoni, pastrami, summer sausage, mortadella)
Aged game meat	Soy sauce
Sauerkraut	Tap beer
Red wines (especially Chianti or sherry)	

For patients on Medications with MAO Inhibitor Effects

- Those taking an MAO inhibitor should also avoid the foods listed on next page
- Examples of MAO Inhibitors are Parnate, Nardil, Marplan, Procarbazine, Furoxone, or Eldepryl.
- Foods should be eaten as fresh as possible. Do not eat leftovers that contain meat/fish or poultry. Avoid outdated and non-pasteurized dairy foods. The tyramine content of foods increases as they age.

Avoid these if taking an MAO inhibitor in ADDITION to those noted above

Overripe avocado	Homemade yeast breads
Beer and ale	Yeast spreads or Brewers yeast
Overripe fruit	Banana peels
Fava, broad, Italian beans	Liver
Miso	Pickled herring
Pickled/ smoked meats and fish	Lox
Caviar	Kim chee
Chinese pea pods or snow peas	Certain protein powders/ protein supplements. Check with your dietitian

Warfarin and Vitamin K

Patients taking warfarin (Coumadin) should limit foods high in vitamin K. It is easier to keep the INR in a desired range if the intake of these foods is consistent.

Foods High in Vitamin K*

Brussel sprouts	Green tea
Broccoli	Swiss chard
Cauliflower	Chick peas
Spinach	Parsley
Greens: turnip, mustard, collard	Liver (beef, chicken, pork)
Kale	

*Also avoid chewing tobacco

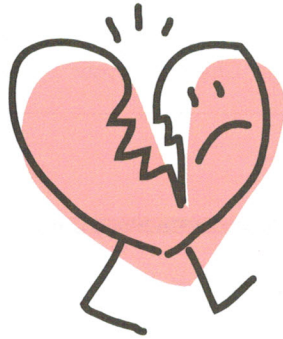
Foods Moderate in Vitamin K

Asparagus	Coffee (regular and decaf)
Cabbage	Oatmeal
Endive	Cheddar cheese
Green leaf lettuce	Iceberg lettuce
Green peas, soybeans	Cranberries

Pain Management

Managing Your Pain at Home

When it comes to pain management, the tips you learned in the hospital also work at home. To get the best pain control possible, remember these points:



- ✓ *Use your medication as directed. If your pain is not relieved or if it gets worse, call your doctor.*
- ✓ *Remember most oral pain relievers need at least 20 minutes to start working.*
- ✓ *Try to time your medication so that you take it before beginning an activity, such as dressing or sitting at the table for dinner.*
- ✓ *Eat lots of fruits and vegetables and drink plenty of liquids to reduce constipation, a side effect of some pain relievers*

Pain Medication

Your pain medication may contain acetaminophen. Many over the counter medications also contain acetaminophen, including Tylenol, Excedrin, NyQuil and Midol. Too much of this drug may be harmful, see page 10.

Talk to your pharmacist or doctor about your prescriptions medicines before combining them with over the counter medicines.

Some Things You Can Do to Treat Pain

- ✓ Deep breathing or visualizing a place that makes you feel more relaxed
- ✓ Try listening to music that you enjoy
- ✓ Use heat or ice as directed by your doctor
- ✓ If your pain is in an arm or leg, raise that body part as directed by your physician
- ✓ Try changing positions when the pain is worsening

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**Dietary recommendations and
possible side effects of food drug
interactions have been reviewed and
written information provided on:**

DRUG(S)

SIGNATURE

DATE



Memorial Hospital

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