Safe Prescribing:
Avoiding Malpractice for the Nurse Practitioner

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Disclosures

- Speaker Bureau
  - Sanofi-Pasteur, Merck, Pfizer: Vaccines
  - AbbVie and Pfizer: Migraines
  - Idorsia: Insomnia
  - Exact Sciences: Colorectal Cancer
  - AstraZeneca: Asthma and COPD
- Consultant
  - Sanofi-Pasteur, Merck, Pfizer, Moderna, and Seqirus: Vaccines
  - Idorsia: Insomnia
  - Shield Therapeutics: Iron deficiency anemia

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Objectives

- At the end of this presentation, the participant will be able to:

1. Discuss the most common mechanisms for drug-drug interactions.
2. Discuss techniques to ensure safe prescribing to prevent malpractice.
3. Review cases involving prescribing errors and medical malpractice cases.

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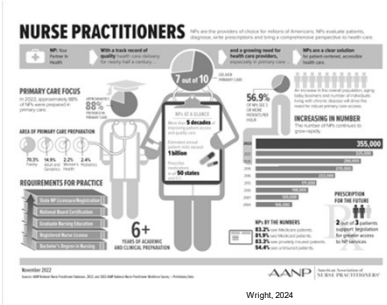
AANP Infographic 2022



Source: AANP. (2022, November). Nurse practitioners infographic. (https://storage.aanp.org/www/documents/NP_Infographic_111122.pdf).

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2022

- 355,000 advance practice nurses
- >1.06 billion visits annually to a nurse practitioner
- 59.4% of NPs see 3 or more patients per hour.
- NPs prescribe in all 50 states.
- Average length of primary care visit is 16 minutes.
  - 6 topics addressed

Source: AANP. (2022). *All about NPs*. (https://www.aanp.org/about/all-about-nps).

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Common Prescribing Errors

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What Is a Drug-Drug Interaction?

- A drug-drug interaction occurs when the co-administration of two or more drugs alters the absorption, bioavailability, or excretion of either/both drug(s).

- Taking interacting drugs together can potentially delay, decrease, or enhance absorption; affect a drug's pharmacology at the target; or influence drug metabolism or excretion.
- This can decrease or increase the action of either drug or both drugs, or cause adverse effects and unintended consequences.

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Drug-Drug Interactions

Drug interactions

- Are becoming increasingly more common
- Individuals are taking more and more medications.
- For instance, the average patient with hypertension is on 3.2 agents to control blood pressure.
- The average patient with diabetes is on 5 different medications.

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Malpractice Suits

Drug Interactions

- Now the 4th leading cause of death in the United States
- Now 4th–6th leading cause of malpractice suits against nurse practitioners, physician assistants, and physicians

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Many Common Complaints Can Occur from a Drug/Drug Interaction

- Fatigue
- Constipation or diarrhea
- Confusion
- Incontinence
- Falls
- Depression
- Weakness or tremors
- Excess drowsiness or dizziness
- Agitation or anxiety
- Decreased sexual behavior

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3 Mechanisms for Drug Interactions

Drug Interactions

1. Drug interactions occur when medications utilize the same enzyme in the liver for metabolism.
2. Can also occur if one medication interferes with another medication's excretion through the kidneys.
3. Can occur if multiple "highly protein-bound drugs" are given to a patient.

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Let's Start with Drug Interactions Which Occur Through CYP450

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Cytochrome P450

- History of CYP450
  - Not much was known about this drug metabolism system until terfenadine (Seldane®) and erythromycin began producing Torsades de Pointes.
- CYP450
  - Enzymes, found within the liver, which metabolize various medications
- Many medications utilize these pathways for metabolism.

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CYP450

- Purpose of this enzyme system is to metabolize a substance so that it may be broken down and excreted or so that it may be delivered to the tissues on which it will act
- The cytochrome (CYP450) isoenzymes are a group of heme-containing enzymes embedded primarily in the lipid bilayer of the endoplasmic reticulum of hepatocytes.

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Pathways

There are a number of enzymes or pathways.

- 1A2
- 2C9
- 2C19
- 3A4
- 2D6

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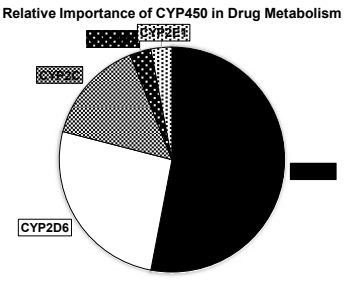
Weighted Importance of CYP450



Source: Cambridge MedChem Consulting. (2018, November 11). *Cytochrome 3A4 inhibition.* (https://www.cambridgemedchemconsulting.com/resources/ADME/cyp3a4inhibition.html).

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Terminology

Substrates
- Metabolized by the isoenzyme

Inhibitors
- Block the activity of the isoenzyme
- Inhibition most often occurs as a result of competitive binding at the enzyme's binding site.

Inducers
- Accelerate the activity of the isoenzyme

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Inhibitors

Inhibitors are ranked.

- Strong inhibitors
  - >5-fold increase in the plasma AUC values or more than 80% decrease in clearance
- Moderate inhibitors
  - >2-fold increase in the plasma AUC values or 50–80% decrease in clearance
- Weak inhibitors
  - >1.25-fold but <2-fold increase in the plasma AUC values or 20–50% decrease in clearance

Source: Indiana University School of Medicine. (2021). *Drug Interactions Flockhart Table™*. (https://drug-interactions.medicine.iu.edu/MainTable.aspx).

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Examples of Common Drug Interactions

CYP450 Isoenzyme	Drug Substrate	Drug Inhibitor	Drug Inducer
1A2	Caffeine Theophylline	Cimetidine Fluvoxamine (Luvox®) Ticlopidine (Ticlid®) Fluoroquinolones	Tobacco Nicotine

Adapted from: Abramowicz, M. (1999). Drug Interactions. *The Medical Letter on Drugs and Therapeutics 41*(1056): 61–62.

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Let Us Look at an Example!

Image source: Microsoft stock images

- Patient drinks 4 cups of coffee per day.
  - Caffeine is a substrate.
- You prescribe ciprofloxacin.
  - Ciprofloxacin is an inhibitor (strong inhibitor).
- What happens to the caffeine levels?
- About what will the patient complain?

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Another Example

- Patient is on theophylline for COPD.
  - Substrate
- Smoking (nicotine)
  - Nicotine is an inducer.
- What have you had to do with the theophylline to get this patient to a therapeutic goal?
- Patient develops AECB and quits smoking.
- What happens to theophylline levels?

Image source: Hodan, G. Stop Smoking. PublicDomainPictures.net. (https://www.publicdomainpictures.net/en/view-image.php?image=19800&picture=stop-smoking). In the public domain.

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CYP450 3A4

- This is the location of most drug-drug interactions.
- 50% of medications are metabolized through this pathway.

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Examples of Common Drug Interactions

CYP450 Isoenzyme	Drug Substrate		Drug Inhibitor		Drug Inducer
3A4	Amiodarone	Quinidine	Amiodarone	Suboxone	Barbiturates
	Diltiazem	Alprazolam	Clarithromycin	Grapefruit juice	Carbamazepine
	Felodipine	Diazepam	Erythromycin	Ritonavir	Phenytoin
	Nifedipine	Methadone	Fluconazole	Fluoxetine	Rifampin
	Verapamil	Sildenafil	Itraconazole	Nefazodone	Phenobarbital
	Lovastatin		Ketoconazole		Hypericum
	Simvastatin				
	Atorvastatin				

Adapted from: Abramowicz, M. (1999). Drug Interactions. *The Medical Letter on Drugs and Therapeutics 41*(1056): 61–62.

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Also Important

Drugs that are substrates of the same CYP450 substrate can inhibit each other's metabolism, possibly resulting in drug toxicity.

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Let Us Look at Another Patient

- 78-year-old woman with asthma, hypertension, hyperlipidemia, obesity, osteoarthritis
  - Currently on numerous medications including simvastatin (Zocor®) 80 mg qhs
- Develops chest pain, rules-in for an MI and undergoes a 6-vessel CABG
  - Started on amiodarone

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Let Us Look at Another Patient (continued)

- 4 weeks later: Creatinine 3.0; LFTs 2× upper limits of normal (had all been normal in patient and before surgery)
  - Cardiology consulted – Recommend gastroenterology evaluation
  - Gastro said it was a reaction to the simvastatin (Zocor®).
- 1 week later: Creatinine 3.2
- What really is going on?

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Drugs Frequently Involved in Interactions

- Statins
  - Lovastatin, simvastatin, atorvastatin
- Amiodarone
- Telithromycin, erythromycin, clarithromycin
- -Azoles
- Antivirals

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Ideally, a Medication Would Use Multiple Pathways for Metabolism

Some medications use multiple pathways.

This is ideal.

- If one pathway is being utilized by multiple medications, the medication can be metabolized by the other pathway.

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Another Example

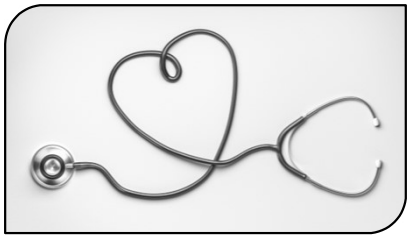

Image source: Microsoft stock images

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CW

CW is a 52-year-old woman who presents to discuss her recent cholesterol profile.

- Lab results are as follows:
  - Total cholesterol: 286 mg/dL (7.4 mmol/L)
  - HDL: 46 mg/dL (1.2 mmol/L)
  - LDL: 199 mg/dL (5.1 mmol/L)
  - Triglycerides: 154 mg/dL (4.0 mmol/L)
  - Risk ratio: 6.22
  - LFTs: Normal

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Treatment

- CW has been on a diet and exercise plan for the last 3 months attempting to lower her cholesterol without pharmacotherapy.
- At today's visit, atorvastatin therapy initiated
- Dosage: 20 mg qhs

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HMG-CoA Reductase Inhibitors

- Metabolized through the liver
  - Liver is the primary site of elimination for the majority of medications on the market.
  - Statins are no exception.
  - The liver contains numerous enzymes that oxidize or conjugate drugs.

- CYP450 is involved in the metabolism of most statins.
  - In fact, most statins use the 3A4 pathway.
  - Pravastatin is one exception; it is not metabolized through the CYP450 system; rosuvastatin (Crestor®) – 2C9

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Caution: CYP450 3A4

Caution: Medications using CYP450 3A4

- Avoid azole medications (rhabdomyolysis).
- Avoid concomitant gemfibrozil (rhabdomyolysis).
- Avoid erythromycin and clarithromycin (increases statin AUC by 50%).

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Laboratory Monitoring

- Lipid profile, liver function testing and CK before beginning medication
- Repeat liver enzymes as deemed appropriate by provider (periodically).
- Only recheck CK as needed for symptoms.

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6 Months Later

- CW calls complaining of cramping in her feet only at night.
- It is occurring every night.
- This is new; she has never had anything like this before and because of our discussion regarding potential side effects of the statin class, she decided to call.
- She was advised to stop atorvastatin and come into the office for an evaluation and a few additional laboratory tests.

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Rhabdomyolysis

- Concern regarding rhabdomyolysis
  - Fatigue
  - Myalgias
  - Cramping
- If these occur
  - Discontinue the drug
  - CK
    - Done to exclude muscle involvement
  - LFTs
    - Full liver panel is recommended because we are now potentially dealing with a significant problem.

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CW's Labs

- Physical examination: Normal; no evidence of tender or edematous muscles
- CK: 3305 units/L (normal level: 20–170 units/L)
- Chemistry panel: Normal
- Urinalysis: Normal
- CBC with differential: Normal

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Rhabdomyolysis

- Laboratory features
  - Elevated CK-MM** (most sensitive test)
    - With rhabdo, range is often 500 to >100,000 units/L.
    - Degree of elevation roughly correlates with the risk of renal failure.

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What Changed?

Why did this happen?

- CW went to a walk-in center.
- Diagnosed with “walking pneumonia”
- Given a prescription for clarithromycin

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Remember CYP450 3A4

Atorvastatin is a substrate.

Clarithromycin is an inhibitor.

Blocks 3A4 enzyme causing atorvastatin levels to increase significantly (50%)

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CYP450 and Statins

CYP 1A2	CYP 2C9	CYP 2C19	CYP 2D6	CYP 2E1	CYP 3A4	
Acetaminophen	Alprenolol	Diazepam	Amitriptyline	Acetaminophen	Amiodarone	Midazolam
Caffeine	Diclofenac	Ibuprofen	Codeine	Ethanol	**Atorvastatin**	Nefazodone
Theophylline	**Fluvastatin**	Mephenytoin	Debrisoquine	Halothane	Clarithromycin	Nifedipine
	Hexobarbital	Methyl-phenobarbital	Flecainide		Cyclosporine	Protease inhibitors
	Phenytoin	Omeprazole	Imipramine		Diltiazem	Quinidine
	Rosuvastatin	Phenytoin	Metoprolol		Erythromycin	Sildenafil
	Tolbutamide	Proguanil	Nortriptyline		Itraconazole	**Simvastatin**
	Warfarin	**Rosuvastatin**	Pherexiline		Ketoconazole	Terbinafine
			Propafenone		Lacidipine	Verapamil
			Propranolol		**Lovastatin**	Warfarin
			Sparteine		Mibefradil	
			Thioridazine			
			Timolol			

Source: http://www.medscape.com/viewarticle/542774_4 accessed 12-20-2013

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What Psychiatric Medications Can Do the Same Thing?

Nefazodone

Alprazolam

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Interactions Involving the Renal System

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Lithium

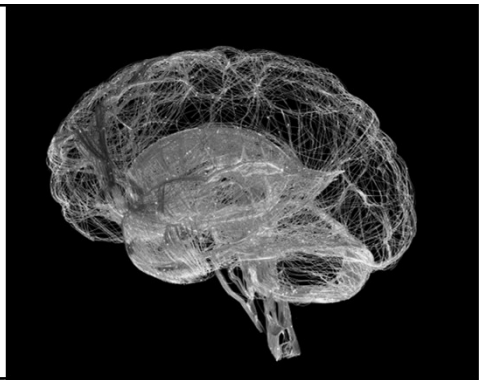

Image source: Microsoft stock images

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CF

- CF is a 62-year-old female with bipolar disorder.
- Currently maintained on lithium 300 mg 2 tablets PO BID
- Has been on this dosage x years and doing relatively well; moods are stabilized.
- Employed in a steady job; marriage going well
- Presented to family physician for bilateral knee pain
- Diagnosed with osteoarthritis; started on naproxen

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CF Presents 3 Weeks Later

- Husband is concerned.
- Seems more confused
- Complaining of dizziness, nausea, and tremor
- Began approximately 1 week ago and seems to be worsening
- CBC with diff, CMP, UA, lytes, lithium level, TSH and CT scan obtained

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Laboratory Values

- CBC with diff: Normal
- CMP: Normal
- Lytes: Normal
- UA: Normal
- Lithium level: 2.2 mEq/L (normal: 0.8–1.2 mEq/L)
- CT scan: Normal

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What Changed?

- What caused a sudden change in this woman?
  - Is this delirium?
  - Medication?
  - TIA?
  - CVA?

Image source: Microsoft stock images

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Lithium

- Lithium is cleared completely through the renal system.
- Drugs and conditions that influence renal excretion stand the potential for increasing serum lithium concentrations.
- Such drugs include thiazide diuretics, NSAIDs, ACE inhibitors, calcium channel blockers (diltiazem and verapamil), and caffeine.

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Let's Talk About NSAIDs and Lithium

- NSAIDs
  - Have been associated with increasing lithium plasma levels to toxic levels
  - OTC medications can produce the same effect, yet it is not seen as much as anticipated when they went OTC.
    - Lower dosage?
  - If you need to use an NSAID in a patient with lithium, consider aspirin and sulindac.
    - Less likely to cause toxicity

Image source: Microsoft stock images

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Thiazides and Lithium

- In fact, concomitant use of diuretics has long been associated with the development of lithium toxicity.
  - Thiazide diuretics are thought to be the worst because they act distally on the renal tubule (same location as lithium is cleared) causing an increase in the reabsorption of lithium.

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Think of All the Antihypertensives

Most antihypertensives now have HCTZ in them.

Easy for a drug interaction to occur

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Other Drugs Can Lower Lithium Levels

- Osmotic diuretics enhance lithium excretion and are often used for lithium toxicity.

- Caffeine and theophylline also decrease lithium levels and therefore need to be monitored if used concomitantly.

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Laboratory Monitoring in Individuals on Lithium

- Consider lithium level q 3–5 days when initiating any new therapy.
- Drugs like lithium have a therapeutic level that is close to the toxic level.
  - This is called a narrow therapeutic index (NTI).
  - Elders generally need 50% less than the dose of a younger adult/individual.
- Therefore, you must closely monitor lithium levels when new drugs are added.

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Other Labs to Monitor in Patients Taking Lithium

- TSH
  - Lithium decreases thyroxine production by interfering with iodine absorption.
- Calcium
  - Increased levels
- Glucose
  - Increased levels
- Potassium
  - Increased levels

If patient is on a stable dosage, can monitor these every year.

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Other Medications That Can Alter the TSH

- **Amiodarone**
- **Lithium**
- **Interferon**

- Why?

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Anticoagulation Therapy

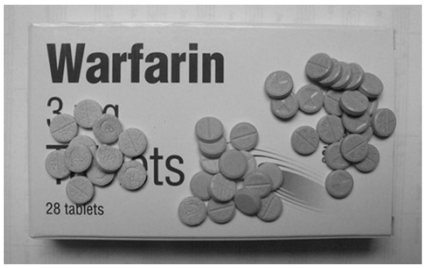

Image source: Gonegonegone at English Wikipedia. (2004, December 4). Warfarin tablets. (https://commons.wikimedia.org/wiki/File:Warfarintablets5-3-1.jpg). CC BY-SA 3.0.

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GP

- GP is a 76-year-old-female who presents complaining of increasing shortness of breath, weight gain, and progressively worsening ankle edema.
  - Began approximately 1 week ago and is worsening
  - Feels like her heart is “skipping beats”
- PE: Weight 348 lb (158 kg) (up 24 lb [11 kg] in past month)
- Lungs: Bibasilar crackles
- Heart: Irregularly irregular
- PV: 3+ pitting edema to the mid-shins

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GP (continued)

- Echo: Dilated cardiomyopathy
  - LAE and RAE
  - EF – 45%

- ECG: Atrial fibrillation; ventricular response: 100 bpm
  - No Q waves; T wave inversion in II, III, and aVF

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GP (continued)

- Admitted to CICU for further evaluation
- Diagnosis
  - CHF
  - Atrial fibrillation
  - Negative cardiac enzymes
- Anticoagulation initiated

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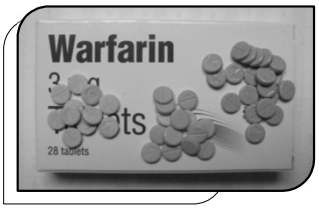
Warfarin (Coumadin®)



- First identified in the 1940s
- Became prominent in 1955 when Dwight D. Eisenhower was given warfarin after he suffered an MI
- At present, 20 million individuals are taking warfarin.
- Yet … only 1/3–1/2 of **eligible** patients are currently prescribed this drug.

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Actions of Warfarin

- Inhibits the synthesis of vitamin K-dependent clotting factors, which include factors II, VII, IX, and X; and the anticoagulant proteins C and S
- Completely absorbed after oral administration
  - Peak concentration is attained within the first 4 hours.
  - 98% of warfarin is bound to plasma proteins.
    - Therefore, need to be aware that any highly protein-bound drug added on to the individual taking warfarin may end up displacing warfarin (increasing warfarin levels and thus raising INR)

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GP (continued)

- GP failed to convert to NSR despite elective cardioversion
- Opted to maintain her on warfarin
- 6 months into therapy
  - INR which was previously controlled at 2.5–3.0; average of 2.8
  - Now … INR is 4.3.
- What has changed?

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Review of Diet and Medications

- GP decided to start herself on garlic and ginkgo for cardiovascular disease prophylaxis.
- Also wanted to improve her memory
- Numerous herbs can affect warfarin and the INR.

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Drug Interactions

Drug interactions involving warfarin are characterized as either pharmacokinetic or pharmacodynamic in nature.

- Pharmacokinetic interactions cause changes in systemic concentrations of warfarin by interfering with 1 or more of the following:
  - Absorption
  - Protein binding
  - Metabolism

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Herbs and Their Anticoagulant Effects

Anticoagulant Components	Effects or Constituents
Alfalfa	Coumarin
Angelica	Coumarin
Aniseed	Coumarin
Arnica	Coumarin
Asafoetida	Coumarin, anticoagulant *in vivo*
Bogbean	Hemolytic activity
Cassia	Inhibits platelet aggregation
Celery, seed or extract	Coumarin
Chamomile, German or Roman	Coumarin
Clove	Eugenol, a powerful inhibitor of platelet activity
Dehydroepiandrosterone (DHEA)	Fibrinolytic potential
Evening primrose oil, *Primula veris, primula clatior*	May decrease platelet aggregation and increase fibrinolytic activity
Feverfew	Inhibits platelet aggregation *in vitro*
Fucus	Anticoagulant action

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Herbs and Their Anticoagulant Effects (continued)

Anticoagulant Components	Effects or Constituents
Garlic	May prolong prothrombin time
Ginger	Inhibition of platelet activity
Ginkgo	Inhibits platelet aggregation
Ginseng, Panax	Reduction of blood coagulation/decreases INR
Horse chestnut	Coumarin
Horseradish	Peroxidase stimulates synthesis of arachidonic acid metabolites
Licorice	Inhibition of platelet activity
Meadowsweet	Salicylate
Melilot	Coumarin
Poplar	Salicylate
Prickly ash, northern and southern	Coumarin
Quassia	Coumarin
Red clover	Coumarin
Sweet woodruff	Coumarin
Tonka beans	Coumarin
Willow	Salicylate

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Possible Herb-Drug Interactions

Herbal Agent	Interacting Drugs	Clinical Effect
Danshen (*Salvia miltiorrhiza)*	Warfarin	Bleeding
Dong quai	Warfarin	Bleeding
Ephedra	Caffeine, decongestants	Sympathomimetic toxidrome (hypertension, tachycardia, CNS, CVS stimulation)
Garlic	Warfarin Chlorpropamide	Lowers blood levels Hypoglycemia
Gingko biloba	Aspirin, clopidogrel, dipyridamole, ticlopidine, warfarin, heparin Thiazide diuretic Trazodone Morphine	Bleeding Elevated blood pressure Coma Lack of effect

Source: Bryant, S. and Aks, S. EB Medicine. (2005). "Are You Taking Any Medications" Herbal Toxicities and Their Manifestations in the ED. *Emergency Medicine Practice*. (https://www.ebmedicine.net/topics/toxic/tox-environmental/herbal-toxicity).

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Possible Herb-Drug Interactions (continued)

Herbal Agent	Interacting Drugs	Clinical Effect
Ginseng	Warfarin, ethanol Phenelzine	Lowers blood levels Induces mania
Kava	Benzodiazepines, sedative-hypnotics Levodopa	CNS depression Increased "off" periods
St. John's wort	Antidepressants Cyclosporin Digoxin	Serotonergic stimulation (theoretical) Decreased effect (CYP450 inducer) Decreased serum level
Valerian	Anxiolytics	CNS sedation

Source: Bryant, S. and Aks, S. EB Medicine. (2005). "Are You Taking Any Medications" Herbal Toxicities and Their Manifestations in the ED. *Emergency Medicine Practice*. (https://www.ebmedicine.net/topics/toxicology/environmental/herbal-toxicity).

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Various Medications Can Also Affect INR

Increases anticoagulant effect
- Acetaminophen
- Beta blockers
- Ketoconazole
- Thyroid hormones
- Lovastatin
- Metronidazole

Decreases anticoagulant effect
- Dicloxacillin
- Trazodone
- Estrogens
- Thiazide diuretics

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So … We Then

- Eliminated the garlic and ginkgo and held 1 dose of warfarin
- Rechecked INR in 48 hours
  - Within 48 hours, it had decreased to 3.7.
  - Another dose of warfarin held, and INR rechecked in 48 hours
    - INR now 3.1

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68-year-old Female

- Long-standing history of AFib, currently on warfarin
  - INR: 2.5–2.8 × years
- Diagnosed with COVID-19 and sought care from her naturopath
- Presents 7 days after diagnosis with severe headache
  - Stat INR: 12.2
- CT confirms large cerebral bleed – admitted to neuro ICU
- What medication was she given by her naturopath?

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CYP450 Isoenzyme Inhibition by the SSRIs (*in vitro**)

	CYP Isoenzymes				
	1A2	**2C9**	**2C19**	**2D6**	**3A4**
Sertraline	+	+	+ to ++	+	+
Escitalopram	0	0	0	0	0
Citalopram	+	0	0	+	0
Fluoxetine	+	++	+ to ++	+++	++
Paroxetine	+	+	+	+++	+

0 = minimal or weak inhibition; +, ++, +++ = mild, moderate, or strong inhibition
*Clinical significance of *in vitro* data is unknown.
There are limited *in vivo* data suggesting a modest CYP 2D6 inhibitory effect for escitalopram 20 mg/day.

Sources: von Moltke, L. et al. (2001). Escitalopram (S-citalopram) and its metabolites in vitro: Cytochromes mediating biotransformation, inhibitory effects, and comparison to R-citalopram. *Drug metabolism and disposition: The biological fate of chemicals, 29*(8), 1102–1109.

Greenblatt, D. J. et al. (2001). The S-enantiomer of citalopram: Cytochromes P450 mediating metabolism and cytochrome inhibitory effects (poster). Presented at the Annual Scientific Convetion of the Society of Biological Psychiatry, New Orleans, LA.

Greenblatt, D. J., et al. (1998). Drug interactions with newer antidepressants: Role of human cytochromes P450. *The Journal of clinical psychiatry, 59*(Suppl 15), 19–27.

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Additional Concerns

- Trimethoprim/ sulfamethoxazole with glyburide
  - Hypoglycemia
- Clarithromycin with digoxin
  - Digoxin toxicity
- Potassium-sparing diuretics with ACE inhibitors
  - Hyperkalemia

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Macrolides

Known QT prolongation	• Caution with other drugs that have similar potential: ▪ Tricyclic antidepressants ▪ Fluoroquinolones ▪ Antipsychotics ▪ Antiarrhythmics

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Important Drug Interactions in the Elderly

Drug-drug Interaction	Observed Adverse Outcome
ACE inhibitor + K-sparing diuretics	Hospitalization for hyperkalemia
ACE inhibitor + co-trimoxazole	Hospitalization for hyperkalemia
Benzodiazepines + CYP3A4 inhibitors	Hospitalization for hip fracture
Calcium channel blockers + macrolides	Hospitalization for hypotension or shock
Digoxin + macrolides	Hospitalization for digoxin toxicity
Lithium + ACE inhibitors, loop diuretics	Hospitalization for lithium toxicity
Phenytoin + co-trimoxazole	Hospitalization for phenytoin toxicity
Glipizide or glyburide + CYP2C9 inhibitors	Hospitalization for hypoglycemia
Tamoxifen + paroxetine	Death from breast cancer
Theophylline + ciprofloxacin	Hospitalization for theophylline toxicity
Warfarin + co-trimoxazole or fluconazole	Hospitalization for GI bleeding
Warfarin + NSAIDs	Hospitalization for GI bleeding

Source: Horn, J. R., and Hansten, P. D. (2012). Which Drug Interactions Matter in Older Adults? *Pharmacy Times 78*(5). (https://www.pharmacytimes.com/view/which-drug-interactions-matter-in-older-adults).

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Other Areas of Risk

- Case in NH
- NP wrote Rx for mometasone for eczema; large tube with 5 refills
- Refilled 6 months later
- Patient sued; had been using the steroid cream as a moisturizer
- Developed striae over lower extremities
- What could have been done differently?

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Techniques to Avoid Errors

- Clear writing and documentation
- EHR, if available
- Double check dosages.
- Avoid writing Rxs when patient is talking to you or sitting in front of you.
- Have a list of high-risk drugs.
  - When you see this list, bells should go off in your head!
- Double check interactions.

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Use a Drug Database

- Epocrates
- Lexicomp
- WebMD
- EHR drug database
  - Be wary of EHR fatigue.
  - Be alert to the warnings.

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Warn Patient of Adverse Effects

- Psychiatrist prescribed a medication which called for a warning to avoid driving or operating heavy machinery.
- Failed to provide the warning to the patient
- Patient took the medication, drove and caused an accident which injured a third party.
- Third party sued the psychiatrist for malpractice and won.

Source: Buppert, C. (1999). *Nurse Practitioner's Business Practice and Legal Guide.*

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Discontinue a Medication When It Causes a Cautioned Adverse Effect

- Physician prescribed OCP's for a patient.
- She developed migraines.
- Called physician who advised her that she could continue the pills
- She suffered a stroke.

Source: Buppert, C. (1999). *Nurse Practitioner's Business Practice and Legal Guide.*

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Don't Contribute to Substance Abuse

- Patients have sued providers for contributing to a substance abuse problem.
- Consult with other specialist's regarding long term narcotic prescriptions.

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Documentation

Image source: Los Muertos Crew. Doctor in an office. (https://www.pexels.com/photo/a-doctor-in-an-office-8460098/). Pexels license.

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Documentation

- Documentation is crucial at a malpractice trial.
- It provides a record of the quality of care you provided.
- Lack of documentation can make you vulnerable to a malpractice claim.

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Poor Documentation Is Dangerous

Notes and prescriptions must be legible.

- Cardiologist wrote prescription for Isordil®. Pharmacist read it as Plendil® and filled the prescription. Patient died as a result.
- Settlement: $225,000 from cardiologist and $225,000 from pharmacist.

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Document All

- No-shows
- Canceled appointments
- Telephone calls made to a patient to check on him/her
- Letters sent and calls made to remind patient of a particular test needing to be done
  - Keep copies in chart of these letters.

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Non-adherence

- Always document discussions trying to get the patient to improve adherence.
- Document the patient's verbal responses.

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Examples of Things NOT to Write in the Chart

- COM (crotchety old man)
- FLK (funny looking kid)
- FLK from FLP (funny looking kid from funny looking parents)
- Two hands stamped on the chart (treat with kid gloves)
- FFC (fit for coffin)
- 29-year-old well-endowed beautiful young woman
- T/T = 2/3

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Document a Patient's Refusal of Care

- Document that you have explained the risks, benefits and alternatives of treatment.
- Also discuss and document the risks of refusing treatment.

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Why Do People File Malpractice Claims?

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Reasons for Malpractice Claims

- Expectation
  - Expect better outcome
- Investigation
  - Want to see if anyone is at fault
- Blame
  - Someone else's fault
- Retribution
  - Punish nurse
- Remuneration
  - Money
- Institutionalization
  - Punish the system

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The Research Is Clear

- The relationship we have with a patient is our biggest risk and our biggest protection.
  - Effective communication is an important way to prevent a claim.

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Customer Service: Little Things Can Make a Big Difference.

This Is Your Biggest Protection.

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Let Me Give You Some Examples

- Beckman and colleagues studied 45 depositions and focused on why plaintiffs decided to bring malpractice actions.
  - Determined that it was the process of care rather than the bad outcomes which determined the decision to file a claim
  - 71% of depositions revealed problems with MD-patient communication.

Beckman, H. B., Markakis, K. M., Suchman, A. L., & Frankel, R. M. (1994). The doctor-patient relationship and malpractice. Lessons from plaintiff depositions. *Archives of internal medicine, 154*(12), 1365–1370.

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Claims Against Surgeons Focused on Four Issues

1. Perceived unavailability
   - No one returned our calls, no one came when I rang.
2. Devaluing the patient's or family's views
   - Cultural insensitivity
3. Poor delivery of medical information
   - Failure to explain why a complication happened
4. Failure to understand the patient's perspective

Beckman, H. B., Markakis, K. M., Suchman, A. L., & Frankel, R. M. (1994). The doctor-patient relationship and malpractice. Lessons from plaintiff depositions. *Archives of internal medicine, 154*(12), 1365–1370.

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Compare This With …

Primary care clinicians who have never had a claim tended to do the following:

- Educated patients about what to expect
- Used humor more
- Employed better communication techniques to make sure patients understood and communicated with them
- Spent an average of 3.3 minutes longer with the patient

Beckman, H. B., Markakis, K. M., Suchman, A. L., & Frankel, R. M. (1994). The doctor-patient relationship and malpractice. Lessons from plaintiff depositions. *Archives of internal medicine, 154*(12), 1365–1370.

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Remember What I Said When I Started Today: Happy Patients Do NOT Sue.

Angry Ones Do!

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In Summary …

How do you protect yourself?

- 4 Cs
  - Caring
  - Communication
  - Competence
  - Charting

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Thank you for your time and attention.

I would be happy to entertain any questions.

Image source: Microsoft stock images

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End of Presentation

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