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Healing Hearts

An evening with the pharmacists.

Rachel Lavelle, Pharm D

Cardiology Pharmacy Resident



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Anticoagulants

- Commonly referred to as “Blood Thinners”
- Used for 2 primary reasons:
 - 1. Prevent a new clot from forming
 - Atrial fibrillation
 - Other high risk states
 - 2. Treat an existing clot
 - Pulmonary embolism (PE)
 - Deep vein thrombosis (DVT)



Warfarin (Coumadin[®])

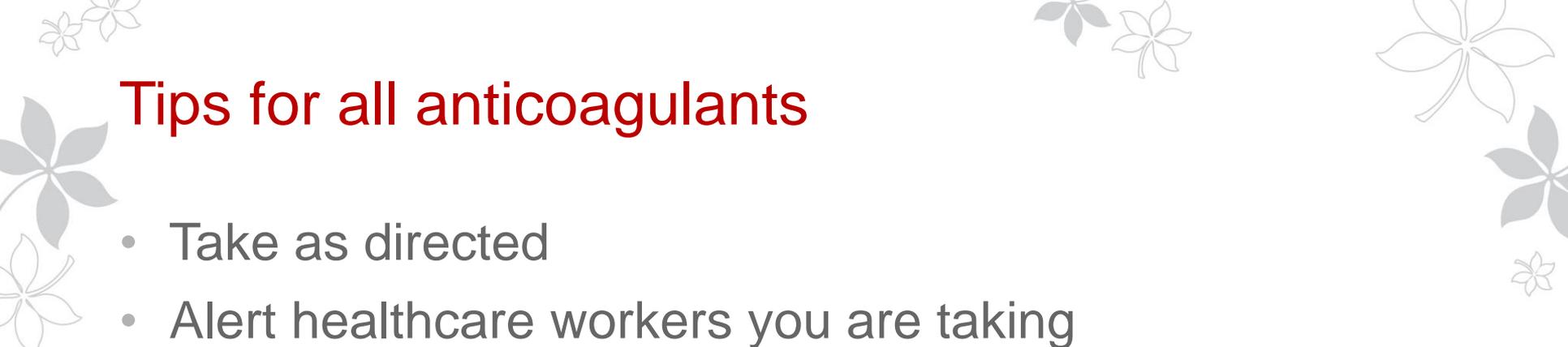
- Drug of choice for more than 50 years
- Requires monitoring of PT/INR
- Reflects level of anticoagulation
- Allows for daily dose to be adjusted
- Effect can be reversed with Vitamin K
- Diet can affect control
- Key is consistency, not avoidance



New Oral Anticoagulants

- Dabigatran (Pradaxa®)
 - Must be taken twice daily
 - Must be stored in original packaging
- Rivaroxaban (Xarelto®)
 - Once daily dosing
 - Should be taken with the evening meal
- Apixaban (Eliquis®)
 - Must be taken twice daily





Tips for all anticoagulants

- Take as directed
- Alert healthcare workers you are taking
- Have a plan for invasive procedures
- Screen for drug interactions
- Safety in emergent situations
- Be mindful of signs of bleeding
- Blood in urine, stool
- Seek medical attention for persistent bleeding



Danielle Blais, Pharm D, BCPS

Specialty Practice Pharmacist



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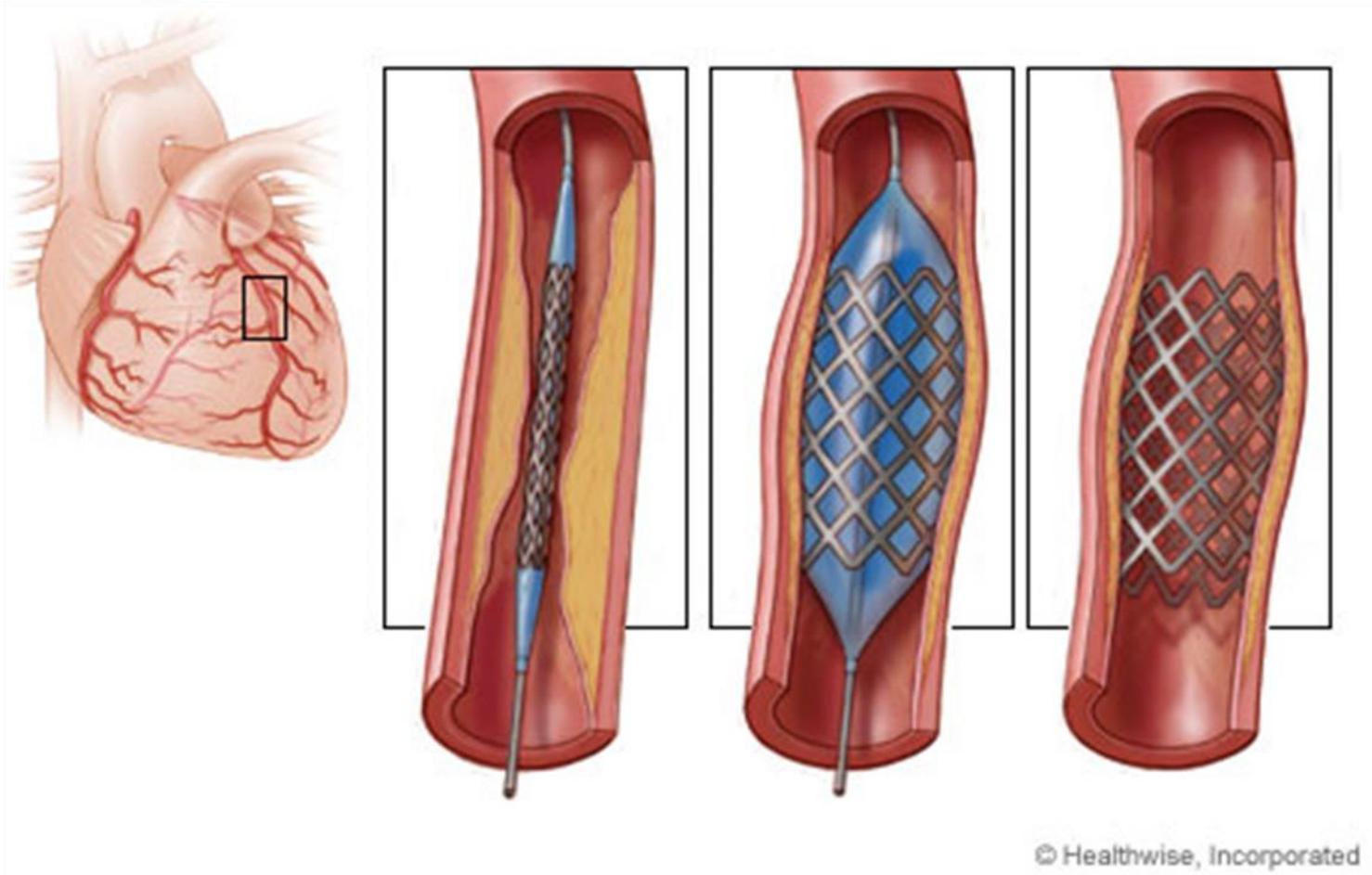
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Coronary Artery disease

- Leading cause of death in both men and women
- Risk factors
 - Age
 - Smoking
 - Diabetes
 - High blood pressure
 - High cholesterol



Coronary Artery Disease



Protect your stent

- To keep your stent open
 - Aspirin 81 mg daily
 - FOR LIFE
 - Clopidogrel, prasugrel, or ticagrelor
 - For recommended duration - depends on the type of stent and reason for the stent
- Side effects - bleeding
- Take your medication every day
- Do not stop taking unless directed by your cardiologist



Maggie Ladlie, Pharm D, BCACP, CDE

Specialty Practice Pharmacist



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Diabetes and Heart Health: A Brief History



N Engl J Med. 2015; 373: 2117–2128

12 *N Engl J Med.* 2016; 375:1834–1844

N Engl J Med. 2016; 375: 311–322

N Engl J Med. 2017; 377:644–657



SGLT2- Inhibitors

- **How they work:** Act on a transporter protein in the kidney to reduce reabsorption of sugar into the blood stream. Sugar is then excreted in the urine.
- **How they are given:** Oral tablet once daily
- **Agents that have recently shown ♥ benefit:**
 - Empagliflozin (Jardiance®)
 - Dapagliflozin (Invokana®)



SGLT2-Inhibitors

- **Side Effects:**
 - Common: UTI's, genital yeast infections, ↑ urination
 - Rare but serious: Ketoacidosis, electrolyte imbalances, dehydration
- **Candidates for Use:** Patients with adequate renal function, history of protein in their urine, heart failure, or high risk for ♥ disease
- **Cost and Coverage:**
 - ~\$524/month cash price
 - Coverage varies by insurance company. Prior authorization or 'step therapy' may be required.



GLP-1 Receptor Agonist

- **How they work:** Increases insulin secretion by the pancreas, slows gastric emptying, increases insulin sensitivity
- **How they are given:** Injected beneath the skin once daily or once weekly
- **Agents that have recently shown ♥ benefit:**
 - Liraglutide (Victoza®)
 - Semaglutide (Ozempic®)
 - Dulaglutide (Trulicity®)
 - Exenatide (Byetta®)



GLP-1 Receptor Agonist

- **Side Effects:**
 - Common: nausea, vomiting, diarrhea, weight loss
 - Rare but serious: Pancreatitis, medullary thyroid cancer seen in animal studies
- **Candidates for Use:** Patients who are overweight or at high risk for ♥ disease
- **Cost and Coverage:**
 - ~\$650-\$800/month cash price
 - Coverage varies by insurance company. Prior authorization or 'step therapy' may be required.



Daniel Galipeau, Pharm D

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New Cholesterol Medications

- New class of “cholesterol busters”
 - PCSK9 Inhibitors
- Monoclonal antibodies (MABs)
 - Biologic or “specialty” medication
- Two available agents
 - Praluent® (alirocumab) – July 2015
 - Repatha® (evolocumab) – August 2015



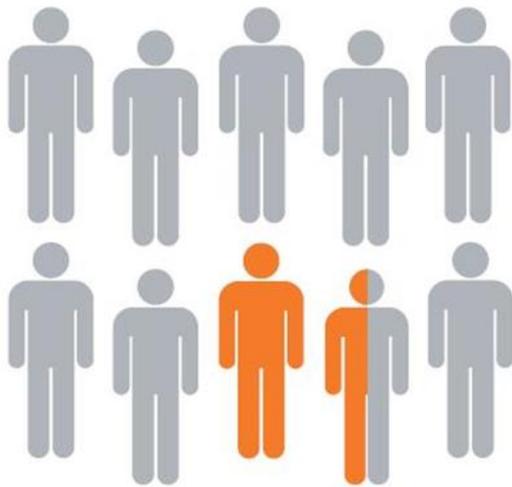
What you need to know

- Can reduce LDL-C by 30-60%
 - Injectable, once every other week (usually)
- Approved for patients with 2 primary conditions:
 - Familial hypercholesterolemia
 - History of heart attack or stroke
- Main side effects:
 - Injection reactions, flu-like symptoms, malaise
- Major limitations:
 - Risks and benefits not fully known
 - Cost (\$\$\$)



What is the impact?

Who may need PCSK9 Inhibitors?



71 Million

Americans have high cholesterol¹

- Statin intolerant
- Genetic disorder (FH)
- Uncontrolled on statins

11 Million

Americans uncontrolled on cholesterol therapy may be targeted¹

1-2 Million²

Potential Targeted PCSK9 inhibitor population in U.S.

Sources: 1. Morbidity and Mortality Weekly Report. Centers for Disease Control and Prevention. February 4, 2011.

2. Forbes. The New Cholesterol Drugs From Amgen And Regeneron Could Still Be Blockbusters. June 10, 2015.



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The Bottom Line

Statins are Current Treatment of Choice for High Cholesterol

Lower LDL by 30% to 60%*

Up to 30% fewer heart attacks**

Up to 20% fewer strokes#

- * Stone NJ, Robinson JG, Lichtenstein AH, et al. 2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Circulation*. 2014;129:S1-45.
- ** LaRosa JC, He J, Vupputuri S. Effect of statins on risk of coronary disease: a meta-analysis of randomized controlled trials. *JAMA*. 1999;282:2340-6.
- # Amarenco P, Labreuche J. Lipid management in the prevention of stroke: review and updated meta-analysis of statins for stroke prevention. *Lancet Neurol*.



What is the impact ?

Who may need PCSK9 Inhibitors?

Average Annual Cost of Therapy

Costs could soar with widespread use of PCSK9 Inhibitors



Statin cost: WAC drug costs for atorvastatin. OptumRx Q2-2015 utilization data. Reuters. New heart drugs come in more expensive than expected. Jul 27, 2015.

- Statin intolerant
- Genetic disorder (FH)
- Uncontrolled on statins

1-2 million²
Potentially eligible PCSK9
inhibitor population in U.S.

??
Millions?

Sources: 1. Morbidity and Mortality Weekly Report. Centers for Disease Control and Prevention. February 4, 2011.
2. Forbes. The New Cholesterol Drugs From Amgen And Regeneron Could Still Be Blockbusters. June 10, 2015.

<https://broker.uhc.com/assets/Inhibitors%20Cholesterol.jpg>



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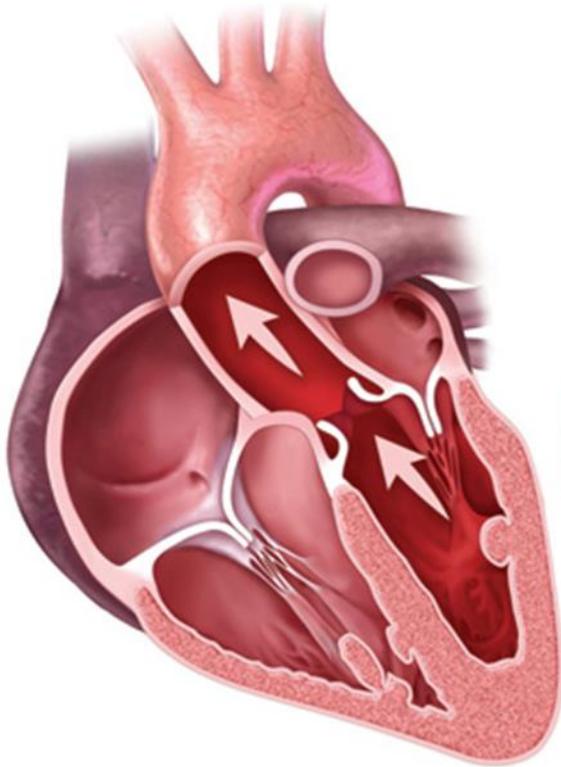


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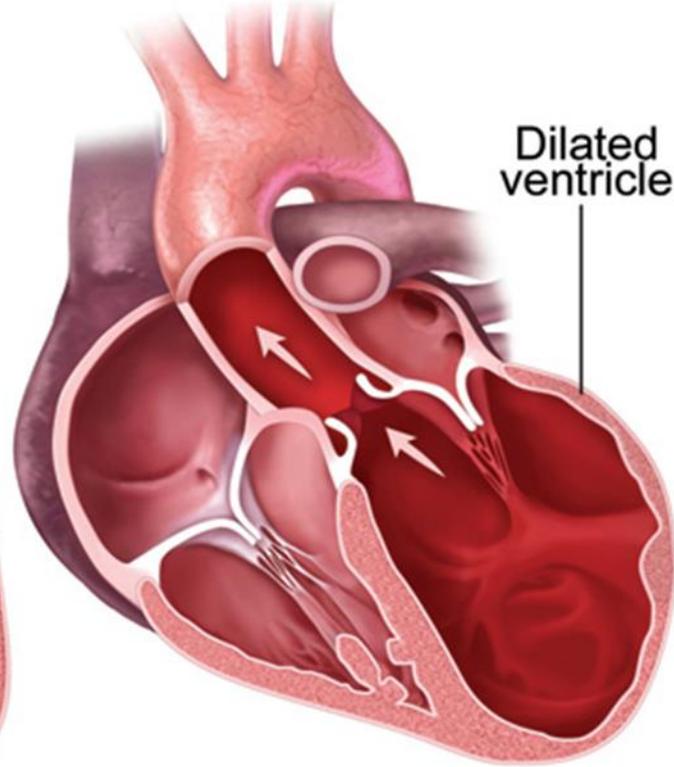
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Heart Failure

Normal Heart



Dilated Cardiomyopathy



© medmovie.com



Medications used in heart failure

- Drugs which make the heart pump more effectively
 - Enalapril, Lisinopril
 - Valsartan (Diovan), Losartan (Cozaar)
 - Metoprolol XL (Toprol XL), Carvedilol (Coreg)
 - Hydralazine/ Imdur
- Drugs which improve symptoms
 - Diuretics:
 - Furosemide (Lasix), Bumetanide (Bumex), Torsemide (Demadex)
 - Weight yourself daily – call MD if weight increases 2 lbs in a day or 3-5 lbs in a week.



Advancements in drug therapy

- New class :
 - Sacubitril/Valsartan (Entresto)
- When starting new drug:
 - If taking lisinopril or enalapril, STOP taking for 2 days prior to starting new drug
 - Medication dose will be increased as tolerated, every 2 weeks
- Side effects : lightheadedness, swelling of face
- Check insurance about cost



Cailen Speaker, MAP Coordinator Amanda Sabol, PharmD, BCPS

Medication Assistance Program



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Help Patients Access Resources

- Patient assistance programs (PAP) or free drug programs
- Disease based copay assistance grants
 - Healthwell Foundation
 - Patient Access Network Foundation
- Manufacturer copay cards
- Pharmacy discount cards
 - www.goodrx.com
 - www.insiderx.com
- Discount mail order pharmacies
 - www.rxoutreach.org



Help Patients Access Resources

- Low Income Subsidy (LIS) or the Extra Help program through Social Security
- Charitable Pharmacies
 - Charitable Pharmacy of Central Ohio
- Federally Qualified Health Centers
- Referral to OSU financial counselor
 - Screen for Medicaid
 - Apply for financial assistance



Patient Assistance Programs

- Requirements
 - Income
 - Pharmacy out of pocket
- Typically approved until end of calendar year
 - Can re-apply once requirements are met again following year
- Medications come directly from manufacturer once approved
 - Directly to patient home
 - To provider office, then contacted when ready for pick up



Examples of Medications with Patient Assistance Programs

Anticoagulants

- Lovenox
- Eliquis
- Xarelto

Heart Failure

- Entresto
- Corlanor

Antiarrhythmic

- Tikosyn
- Rythmol

Insulin

- Lantus
- Humalog
- Novolog

Inhalers

- Dulera
- Spriva
- Anoro Ellipta



How to Find Patient Assistance Programs

- Manufacturer website
- www.needymeds.org
- www.rxassist.org

