Hypertension Program
Overview
Worksite Wellness Forum

May 19, 2009

Adapted from Prime of Our Lives by Pfizer
Worksite Wellness
New Programs

Managing High Blood Pressure

- 4 week program (one hour sessions)
- Pre and post program blood pressure screening
- Open to all employees
- Each session is taught by a professional in their field (exercise physiologist, dietitian, pharmacist)
- Participants receive health education materials for each session, pill boxes, pedometers and walking guides
Systolic (1\textsuperscript{st} number) - when the heart beats
Diastolic (2\textsuperscript{nd} number) - when heart relaxes
What is a Heart Attack?

• Severe decrease in blood (oxygen) to the heart muscle.
• Results in death of heart tissue.
• Too much damage can weaken the pumping ability of the heart.
• Terms:
  – Myocardial infarction
  – Acute coronary syndrome
Effects of Hypertension

- Stroke: (Treatment: ↓ 40%)
- Blood vessel damage (arteriosclerosis): (Treatment: ↓ 25%)
- Heart attack or heart failure: (Treatment: ↓ 40%)
- Kidney failure: (Treatment: ↓ 50%)
Blood Pressure Drugs

• Many different classes of blood pressure drugs
  – Each class has a unique way they work to lower blood pressure
  – Each class has different side effects and warnings associated with them
  – Certain people benefit from certain classes based on other diseases they may have
Blood Pressure Drugs
Different Classes

- Diuretics
  - “water pills”
- Beta Blockers
- Angiotensin Converting Enzyme Inhibitors
  - “ACE” Inhibitors
- Angiotensin Receptor Blockers
- Calcium Channel Blockers
- Alpha Blockers
- Alpha-Beta Blockers
- Vasodilators
Connections Between Diet and Hypertension

- Sodium
- Potassium
- Kidneys
- Stimulants
- Alcohol
- Hydration?
The Dash diet is an eating plan which lowers blood pressure effectively and quickly. It is recommended for everyone whether or not they have high blood pressure. It is based on 2000 calories (most women need less and men more). There are ranges listed.
Why Be Physically Active?

Death Rate

- ↓ 21%
- ↓ 37%

Physical Activity

Sedentary  Marathon runner

Hap

- What type of exercise?
  - Aerobic or cardiovascular exercise
    - Walking, biking, swimming, other
- How often?
  - 3 or more days a week
- How many minutes?
  - 30 or more (goal: 2+ hrs per week)
  - Best if done all together, but can be split
- Intensity- How hard or fast?
  - How you feel
  - Heart rate
- Progression: days, minutes, intensity
Behavior Change…
There will be highs and lows

Some of you are making excuses now…

What do you think may happen if you don’t change?
Hypertension Program
Blood Pressure Screening Results

# of Participants

- Normal
- Pre-Hypertension
- Stage 1 Hypertension
- Stage 2 Hypertension
- Urgent

Pre-Program
Post-Program
Thank–you !!
Medication Therapy for Hypertension

Bethany Nickerson, PharmD
Clinical Pharmacist
Program Overview

• Blood Pressure Screening
• Causes and Complications of Hypertension
• **Medications**
• Exercise and Weight Management
• Healthy Eating
• Benefits of the Program
Objectives

- Review definition of High Blood Pressure
- Classification of Blood Pressure
- Treatment of Hypertension
- Generic Alternatives
- Medication Compliance
- Conclusions and Questions
What is Blood Pressure?

- Blood Pressure is the force of blood against the walls of the arteries.
- Blood Pressure rises and falls throughout the day.
- When Blood Pressure stays elevated over time, it’s called *High Blood Pressure*.
- The medical term for High Blood Pressure is *Hypertension*.
What is High Blood Pressure?

• Serious condition that can lead to:
  – Coronary Heart Disease
  – Heart Failure
  – Stroke
  – Kidney Failure
  – Blindness
  – Death

• 1 in 3 adults in the United States has High Blood Pressure
HYPERTENSION

ENVIRONMENTS:
- Inactivity
- Stress
- Obesity
- Tobacco
- Age
- Salt
- Alcohol

GENES:
- Race
- Gender

GENE/ENVIRONMENT INTERACTIONS
# Blood Pressure Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Systolic (top number)</th>
<th>Diastolic (bottom number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Less than 120</td>
<td>And Less than 80</td>
</tr>
<tr>
<td>Pre-hypertension</td>
<td>120-139</td>
<td>Or 80-89</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>140-159</td>
<td>Or 90-99</td>
</tr>
<tr>
<td>Stage 2</td>
<td>160 or higher</td>
<td>Or 100 or higher</td>
</tr>
</tbody>
</table>
Know Your Numbers!

• High Blood Pressure is called "the silent killer" because there often are no symptoms
• Your numbers are your only warning!
Treatment of High Blood Pressure

- Lower your blood pressure by changing lifestyle habits
Lower blood pressure by:

• QUITTING SMOKING!
Lower blood pressure by:

• DECREASING SODIUM INTAKE!
Lower blood pressure by:

- DRINKING ALCOHOL IN MODERATION!
Lower blood pressure by:

- EXERCISE!

The doctor said he needed more activity. So I hide his T.V. remote three times a week.
Lower blood pressure by:

• MAINTAINING A HEALTHY WEIGHT!
Medications for High Blood Pressure

• Lifestyle changes may not be enough
• Medications are not a replacement for lifestyle changes
• Many available drugs help lower blood pressure
  – Also called “antihypertensives”
  – Work differently to achieve blood pressure goals
    – **Many people need to take two or more drugs to bring blood pressure to a healthy level**
Blood Pressure Drugs

- Many different classes of blood pressure drugs
  - Each class has a unique way they work to lower blood pressure
  - Each class has different side effects and warnings associated with them
  - Certain people benefit from certain classes based on other diseases they may have
Blood Pressure Drugs

• Within each class of blood pressure drugs there are many options
  – Multiple daily dosing versus once daily dosing
  – Side effects can differ between drugs within a class
  – Drug interactions with other medications
  – Generic availability for cost savings
  – Insurance company formularies
Blood Pressure Drugs
Different Classes

- Diuretics
  - “water pills”
- Beta Blockers
- Angiotensin Converting Enzyme Inhibitors
  - “ACE” Inhibitors
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- Calcium Channel Blockers
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- Vasodilators
Blood Pressure Drugs: Diuretics

– Also called “water pills”
– Work in the kidney to remove excess water and sodium (salt) from the body
– Common Examples: Hydrochlorothiazide, Chlorothiazide, Indapamide, Furosemide
– Many combination antihypertensives have a diuretic as a component
DIURETICS – SIDE EFFECTS

- Increased Urination
- Dizziness
- Dehydration
- Increased or decreased potassium and/or sodium
Blood Pressure Drugs: Beta Blockers

- Work on the heart to make it beat less often and with less force → Blood Pressure drops
- Common Examples: atenolol, metoprolol, carvedilol, bisoprolol, propranolol, labetalol
- Can be used for many different purposes
  - After a heart attack
  - Used in people with irregular heartbeats
  - Used in people with migraine headaches
  - Used in people with heart failure
BETA-BLOCKERS – SIDE EFFECTS

- Drowsiness or fatigue
- Weakness or dizziness
- Impotence
Blood Pressure Drugs: ACE Inhibitors

- ACE Inhibitors → Angiotensin Converting Enzyme Inhibitors
- Block the formation of a hormone (called angiotensin II) our body produces that causes blood vessels to narrow
- Blocking the formation of this hormone allows blood vessels to relax and blood pressure to go down
- Common examples: lisinopril, enalapril
ACE INHIBITORS – SIDE EFFECTS

- Dry Cough
- Angioedema
Blood Pressure Drugs: Angiotensin Receptor Blockers

- Also called “ARB’s”
- Block the action of Angiotensin II
- Blood vessels relax and blood pressure goes down
- Common examples: Cozaar, Avapro, Diovan, Benicar, Micardis
- Currently there are no generics for this class
Blood Pressure Drugs: Calcium Channel Blockers

• Keep calcium from entering the muscle cells of the heart and blood vessels → blood vessels relax and pressure goes down

• Common examples: diltiazem, verapamil, amlodipine, felodipine
Calcium Channel Blockers – Side Effects

- Feeling Tired
- Swelling of the abdomen, ankles or feet (edema)
- Heartburn or upset stomach
- Constipation – especially with verapamil
Which drug?

• Decision made between patient and physician
• Factors to consider:
  – Other co-morbid conditions of the patient
    • What other diseases does the patient have?
  – Cost
    • Is it covered by insurance? What copay? Is there a generic available?
  – Side Effects
  – Compliance
“You’ll enjoy the way these interact with over-the-counter medication.”
Generic Medications

- Same as the brand-name drug in dosage, safety, strength, how it is taken, quality, performance and intended use
- FDA requires all drugs be safe and effective. Generics use the same active ingredients and are shown to work the same way in the body
- They have the same risks and benefits as their brand-name counterparts
HMM. HAVING TROUBLE PRONOUNCING THE NAMES OF YOUR GENERIC DRUGS, I SEE.
Generic Medications

- FDA requires generic drugs to have the same quality, strength, purity and stability as brand-name drugs.
- Generic drugs are less expensive because generic manufacturers don’t have the investment costs of the developer of a new drug.
- Both brand-name and generic drug facilities must meet the same standards of good manufacturing practices.
Generic Medications

• Using brand-name products for some medicines may be necessary for some individuals
  – Some people may feel they experience more side effects or less effectiveness with the generic medication
  – This is rare, but can occur – always discuss with your physician or pharmacist
But I feel fine!

- Trust the numbers
- Most people can’t “feel” their high blood pressure
  - Some experience headaches/dizziness when blood pressure is very high
  - Very high blood pressure is also known as “Hypertensive Urgency” or “Hypertensive Emergency” and can be life-threatening
Hypertensive Urgency

- A type of severe high blood pressure that has no symptoms and can lead to serious problems if left untreated
- Usually does not require hospitalization, but should receive immediate medical attention
- Carefully evaluate and monitor for heart and kidney damage
Hypertensive Emergency

• Possibility of irreversible organ damage
• Severe high blood pressure with acute impairment of an organ system
  – Central Nervous System (Brain)
  – Cardiovascular System (Heart)
  – Renal System (Kidney)
Take Charge

• Know your blood pressure numbers
• Know your goal blood pressure
• Know the name of your blood pressure medications (and all medications!)
• Know the possible side effects of your medications
• Know how to take your medication
• Know what to do if you miss a dose
Medication Adherence

• Nonadherence can put your health at risk
• If you are nonadherent with your medications
  – Your condition will not improve
  – Your condition could get worse
Medication Adherence

• What is nonadherence?
  – Not filling a prescription initially
  – Not refilling a prescription when still needed
  – Taking a medication at the wrong time
  – Stopping a medication before course is completed without physician’s advice
  – Taking the wrong dose
  – Taking a medication incorrectly
  – Skipping doses
  – Taking someone else’s medication
Quick Tips for Adherence

• Educate before you medicate!
  – Know why you are taking your medication
  – Know about the condition you are treating
  – Know about the expected effects of the medication
Quick Tips for Adherence

• Build a partnership
  – Work towards a partnership with your healthcare providers so that they can understand your treatment goals and recommend the best options for you
Quick Tips for Adherence

• Don’t be afraid to “bother” your doctor or pharmacist with your concerns or questions
  – If you are having difficulty taking a drug, or experiencing unpleasant side effects – let your doctor know right away!
  – There may be another way to treat your condition
  – Ask your doctor or pharmacist if a different dose or drug would work
Quick Tips for Adherence

• If paying for medications is an issue – there may be a lower cost alternative or you may qualify for financial assistance
  – Many adults do not fill their prescriptions or cut back on recommended doses because of cost
  – This can be dangerous – if cost is an issue, talk to your physician or pharmacist for assistance programs or lower cost options
Quick Tips for Adherence

• Take at the same time every day
• Use pill boxes
• Ask people close to you to remind you
Quick Tips for Adherence

• Keep a medication calendar near your medication and make a note every time you take your dose
• Do not stop taking your medication without talking to your physician or provider
• Keep a list of your medications with you
Disposal of Unused/Expired Meds

• Take medication as directed, including length of time
• Discard when too old or no longer needed
  – See expiration date, beyond use date, or “EXP” on Rx label or OTC package
• DO NOT FLUSH unused medications
  – UNLESS insert specifically says it’s OK
• Check with your local government
  – Household hazardous waste facilities
  – Ask your pharmacist about take-back locations that allow the public to bring unused drugs to a central location for safe disposal
COUNTERTHINK

IS IT A BOY OR A GIRL?

BOTH, ACTUALLY, THANKS TO ALL THE CHEMICALS IN THE WATER THESE DAYS.

FACT: PHARMACEUTICALS DESTROY AQUATIC ECOSYSTEMS.
Proper Disposal

• Do not flush unused medications
• Be proactive and dispose of unused medications yourself in household trash
  – For pills, pour into plastic bag before crushing or dissolve in water to prevent airborne particles
  – Crush medication
  – For liquid medications, pour into a plastic bag
  – Mix kitty litter or coffee grounds in plastic bag containing the medication
  – Seal the plastic bag to reduce the risk of potential poisoning
  – Place sealed bag in household trash for disposal
  – Remove and destroy all identifying personal information (prescription label) from the medication container
  – Recycle empty medication container as allowed in the local recycling area or throw it in the trash
Tips from a pharmacist

• Get to know your pharmacist
• Fill all medications at the same pharmacy
• Ask to be counseled whenever starting a new medication
• Read the information that comes with your prescription
• Check your bottle before you leave the pharmacy
COUNTERTHINK

THIS DRUG MAY CAUSE DIZZINESS, CHEST PAIN, DIARRHEA, LOSS OF MEMORY, BLOOD CLOTS, JOINT PAIN AND ANAL LEAKAGE.

ARE THOSE THE SIDE EFFECTS?

NO. THOSE ARE THE MAIN EFFECTS.

THE SIDE EFFECT IS THAT IT MIGHT LOWER YOUR CHOLESTEROL.

CONCEPT-MIKE ADAMS

ART-DAN BERGER


www.newstarget.com
The solution to ensuring safe medication use

• Pharmacists are the key health care professionals to talk with regarding medication use issues
  – Patients trust and respect them
  – They know what medications are being taken and how to identify problems

• Community pharmacists
  – Available in locations close to you
  – They dispense medications
  – They provide patient education, counseling, and monitoring of drug therapy
Pharmacists have the skills to:

- Help you select the appropriate medication,
- Work with your physician and other members of the health care team on your medication treatment plan,
- Eliminate medication duplication,
- Screen for drug-drug interactions, and
- Tailor your medication regimen to your individual needs.
QUESTIONS