Hypertension and Hyperlipidemia

This information explains hypertension and hyperlipidemia and how to treat these conditions.

Hypertension

Hypertension is also known as high blood pressure. Blood pressure is the pressure that your blood applies to the inner walls of your arteries. Untreated high blood pressure can cause damage to the heart, heart attack, heart failure or stroke.

Measuring blood pressure

Blood pressure (BP) readings are given as two numbers, measured in millimeters of mercury (mm Hg, see Figure 1). The top number is called the systolic blood pressure. Systolic blood pressure is the pressure when your heart is beating. The bottom number is called the diastolic blood pressure and is the pressure when your heart is at rest.

One or both of these numbers can be too high. Table 1 shows the ranges for normal blood pressure, prehypertension, and hypertension.

<table>
<thead>
<tr>
<th>Systolic BP</th>
<th>Diastolic BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>118</td>
<td>77</td>
</tr>
</tbody>
</table>
### Normal BP
<table>
<thead>
<tr>
<th></th>
<th>Less than 120 mm Hg</th>
<th>Less than 80 mm Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prehypertension</td>
<td>120-139 mm Hg</td>
<td>80-89 mm Hg</td>
</tr>
<tr>
<td>Hypertension Stage 1</td>
<td>140-159 mm Hg</td>
<td>90-99 mm Hg</td>
</tr>
<tr>
<td>Hypertension Stage 2</td>
<td>160 mm Hg or higher</td>
<td>100 mm Hg or higher</td>
</tr>
</tbody>
</table>

### Treating hypertension
According to the American Heart Association, treating high blood pressure should start with lifestyle changes, followed by medications, if necessary.

#### Lifestyle changes

- Lose weight, if you are overweight. Ask your doctor for a referral to a dietitian.
- Eat a healthy diet high in fruits and vegetables, low-fat dairy, and fiber. Avoid foods high in fat and decrease how much caffeine you eat and drink. For more information, ask your nurse for the resource *Eat Your Way to Better Health.*
- Decrease how much salt you eat. Most people should eat no more than 2 grams of sodium per day, but talk with your doctor about the amount that is right for you. Ask your nurse for the resource *2-Gram Sodium Diet.*
- Decrease your alcohol intake to no more than 1 drink a day if you are a woman and 2 drinks a day if you are a man.
- Quit smoking if you are a smoker. If you want to quit, call...
our Tobacco Treatment Program at 212-610-0507. You can also ask your nurse about the program.

- Participate in exercise on a daily basis. Ask your doctor if you need a referral to a physical therapist.

**Medication**

There are several types of medication for treating hypertension that work in different ways. A few examples of each type are listed but there are others.

- **Diuretics** (water pills), which help your body remove extra salt and fluid and improve shortness of breath and swelling. Some examples are hydrochlorothiazide (Microzide®, Esidrix®) and chlorthalidone (Thalitone®).

- **ACE inhibitors**, which block a hormone in your blood that can increase your blood pressure. One example is lisinopril (Prinivil®). These medications may cause a cough.

- **Angiotensin II receptor blockers** (ARBs) block the same hormone as ACE inhibitors but do not cause a cough. One example is losartan (Cozaar®).

- **Calcium channel blockers**, which reduce the amount of calcium that enters your heart. This causes the muscle cells in your heart to relax and dilate, which reduces blood pressure. Some examples are amlodipine (Norvasc®) and nicardipine (Cardene®).

- **Beta blockers**, which slow your heart rate and lower your blood pressure. This helps to reduce the amount of work
your heart has to do. Examples are atenolol (Tenormin®) and metoprolol (Lopressor®).

- Alpha blockers, which relax the smooth muscles in the walls of your blood vessels. One example is doxazosin (Cardura®).

**Hyperlipidemia**

Hyperlipidemia develops when you have high levels of lipids (fats) in your blood. Having high levels of lipids in your blood can narrow or block your arteries. The lipids can stick to and harden the walls of your arteries, as well.

The types of lipids are:

- **LDL cholesterol**, which is known as “bad cholesterol.” High levels of LDL cholesterol can increase your risk of cardiovascular (heart) disease.

- **HDL cholesterol**, which is known as “good cholesterol.” Low levels of HDL cholesterol can increase your risk of cardiovascular disease.

- **Triglycerides**. High levels of triglycerides increase your risk of cardiovascular disease.

Having hyperlipidemia increases your risk for cardiovascular diseases, such as heart attack, stroke, and peripheral vascular disease (having fatty deposits in your blood vessels).

**Diagnosing hyperlipidemia**

Your doctor or nurse will take a blood sample to test your levels of cholesterol and triglycerides.
Normal lipid levels are:

- **LDL cholesterol**: less than 130 mg/dL
- **HDL cholesterol**: greater than 40 mg/dL
- **Triglycerides**: less than 150 mg/dL

The recommended levels may be lower if you have diabetes.

**Treatment for hyperlipidemia**

**Lifestyle changes**

- Eat a healthy diet, rich in fruits and vegetables. Ask your nurse for the resource *Eat Your Way to Better Health*. You may also want to speak with a dietitian about your diet.

- Quit smoking if you are a smoker. If you want to quit, call our Tobacco Treatment Program at 212-610-0507. You can also ask your nurse about the program.

- Participate in exercise on a daily basis. Ask your doctor if you need a referral to a physical therapist.

**Medication**

There are several types of medication for treating hyperlipidemia that work in different ways. A few examples of each type are listed but there are others.

- **Statins**, which decrease the amount of cholesterol your body makes. Some examples are atorvastatin (Lipitor®) and rosvuastatin (Crestor®).

- **Ezetimibe** (Zetia®), which decreases your body’s ability to
absorb cholesterol.

- Bile acid sequestrants, which decrease the amount of cholesterol that your intestines absorb from food. One example is cholestyramine (Locholest®, Prevalite®).

- Niacin, which is a vitamin that helps to lower cholesterol.

- Fibrates, which lower triglyceride levels and raise HDL levels. One example is gemfibrozil (Lopid®).

- Nutritional supplements, such as fish oil and soy protein, that may help lower your cholesterol.

Your doctor will tailor your medication based on your age, LDL levels, and other conditions you may have.

If you have any questions or concerns, talk with a member of your healthcare team. You can reach them Monday through Friday from 9:00 AM to 5:00 PM at ______________________. After 5:00 PM, during the weekend, and on holidays, please call____________________. If there’s no number listed, or you’re not sure, call 212-639-2000.