Walking Program after Vascular Surgery

Your surgical site needs time to rest and heal. It also needs exercise to get back in shape. Exercise improves blood flow of oxygen-rich nutrients to working muscles and keeps them healthy. Increase your physical activity slowly to restore your energy and strength. The cardiovascular rehabilitation staff will talk to you about exercising and will prescribe an exercise program for you.

Everyone should have regular exercise as a part of their lives. Exercise improves the body’s tolerance to activity and work, improves muscle tone and strengthens bones. It also helps to lower high blood pressure, decrease cholesterol levels, and manage stress and lower weight. Exercise can also improve one’s sense of well-being.

Most patients with vascular disease should take part in a regular walking or exercise program. Your exercise program, however, depends on several factors:

- Current physical condition
- Stage in the recovery process
- Surgery or any problems from your illness
- How much you exercised in the past
- Medicines you take
- Level of activity on the job
- Personal likes and dislikes

If you have problems after surgery, your activities may be limited until they clear up. **Do not exercise without instructions from your doctor or the cardiovascular rehabilitation staff.**
Getting Started

Each time you exercise, it is important to both warm up and cool down to help your body adjust slowly to the change in work that it is doing.

Warm Up

Warm up to prepare your heart and other muscles for exercise and reduce your chance for injury. At the beginning of your exercise session, start with some light stretching or conditioning exercises. Start exercising slowly and increase your activity each day. This allows your body to move comfortably and adjust safely to the increase in work.

Aerobic Exercise

Aerobic exercise means doing activities that raise your heart rate and increase your use of oxygen. This type of exercise often involves large muscle groups, such as your legs and arms, for longer periods of time. This type of exercise:

- Improves your heart and lungs
- Increases your energy level
- Improves blood flow by making new arteries to carry blood and oxygen to your muscles

By working your muscles over time, you increase the oxygen getting to your muscles to ease or slow the onset of signs of blocked arteries in your legs, called claudication. Claudication happens when the blood flow to your leg muscles is less so less oxygen gets to your leg muscle when you are active. This can cause you to have pain or tightness in your leg when you walk that eases when you rest your leg.

By doing this type of exercise after surgery, you can get back to taking a walk around your neighborhood, in the grocery store or in the park.

Examples of aerobic exercise include walking, jogging, riding a bike or swimming.
Cool Down
At the end of your exercise session, cool down by slowing your pace and stretching your muscles. This helps your body adjust slowly to the change in work that it is doing.

Your Exercise Program
Your aerobic exercise program will include:

- Type of aerobic exercise such as walking
- Duration - how long you are to exercise
- Frequency - how often you are to do the exercise each day and each week

Type of Exercise
For persons with vascular disease in the legs, the exercises that have the most benefit are those that use the weight of your body while you are exercising. These would be weight-bearing exercises such as walking and stair stepping. The below exercise program is based on walking.

Aerobic walking can be completed using intervals. Interval training means to walk to the point of pain and then rest to let the leg pain go away before starting again. This is a Grade 3 or 4 leg discomfort on the claudication scale. You will have the greatest success completing intervals by carefully monitoring your leg discomfort and completing several intervals in a row.

Duration
This is the amount of time spent doing aerobic exercise during an exercise session. It does not include the time you spend doing your warm up and cool down. To start, the duration for each exercise interval will depend on the severity of your vascular disease, the type of surgery that was done and how much exercise you did before having surgery. The duration of each exercise interval in the hospital will be 2 to 3 minutes.

When you go home, you should walk 5 to 10 minutes using intervals for each exercise session, 3 to 4 times each day. At first, it may take you 3 or 4 intervals to complete 10 minutes of exercise. As you recover and your
exercise tolerance increases, each exercise session should total 20 to 40 minutes using intervals.

The longer each exercise session lasts, the fewer number of times a day it needs to be done. To gain the most benefit from your walking program, you should walk each day. Your goal is to do intervals of at least 10 minutes each.

**Frequency**
This refers to the number of times a day and number of times a week you walk. While you are in the hospital, it is recommended that you walk at least 3 times a day using interval training.

When you go home, you will notice each exercise session slowly becoming easier. Continue to walk 3 to 4 times each day, using interval training. Slowly increase the number of times a day you walk.

**Your Exercise Program Schedule**
Walk at a pace that does not leave you out of breath. Try to keep walking on a flat surface for the full amount of time prescribed. Pause and rest if needed.

<table>
<thead>
<tr>
<th>Week #</th>
<th>Distance</th>
<th>Duration in minutes</th>
<th>Times per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 blocks (¼ mile)</td>
<td>Slow pace (5 minutes)</td>
<td>2 to 3</td>
</tr>
<tr>
<td>2</td>
<td>4 blocks (½ mile)</td>
<td>Slow pace (10 minutes)</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>6-8 blocks (¾ to 1 mile)</td>
<td>Walk 20 minutes, rest 5 minutes, repeat</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>10 blocks (1¼ miles)</td>
<td>20 minutes</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>12 blocks (1½ miles)</td>
<td>30 minutes</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>16 blocks (2 miles)</td>
<td>35 to 40 minutes</td>
<td>1</td>
</tr>
</tbody>
</table>

**Heart Rate**
Your heart rate and effort symptoms can be used as a guide for how hard your heart is working.

- Before doing your warm up exercises, check your heart rate.
• After 5 to 10 minutes of walking, check it again. Your heart rate should not be more than 20 beats a minute above your resting heart rate while standing. If your heart rate is too high, slow down and recheck it in 5 minutes.

• At the end of your walking session, stop and check your heart rate again. Once you are in an outpatient program, follow their guidelines for your pulse rate.

If you have a change in medicines, always check with your doctor or rehabilitation program staff to see if the change has an effect on your heart rate.

**Signs you may be exercising too hard**

If you have any of the signs listed below, decrease your exercise. If the signs do not ease with less exercise, stop the exercise. **If the signs still do not go away after stopping the exercise, call your doctor right away.**

• Abnormal blood pressure, either too high or too low
• Excessive tiredness and fatigue
• Abnormal heart rate, either too high or too low
• Irregular heartbeats
• Pain or pressure in the chest or upper body
• Bone, back or neck pain
• Muscle or joint discomfort more than usual
• Nausea or vomiting
• Disorientation or confusion
• Dizziness or lightheadedness
• Excessive shortness of breath
Walking Shoes

Invest in comfortable walking shoes. Take the advice of the salesperson of a shoe or sporting goods store. The support and comfort of good walking shoes will prevent strain and injuries that can be caused by poor quality shoes.

If you have any questions or concerns about how you are progressing in exercise, please talk with rehab staff or your doctor.

Talk to your doctor or others on your health care team if you have questions. You may request more written information from the Library for Health Information at (614) 293-3707 or email: health-info@osu.edu.