

ALDERFER & TRAVIS CARDIOLOGY, PC
670 Lawn Ave., Suite 3A Sellersville, PA 18960
Tel (215)257-9500 FAX (215) 257-9500

What Causes High Blood Pressure?

For most people, there is no single known cause of high blood pressure. This type of high blood pressure is called "primary" or "essential" hypertension. This type of blood pressure can't be cured, although in most cases it can be controlled. That's why it's so important for everyone to take steps to reduce their chances of developing high blood pressure.

In a few people, high blood pressure can be traced to a known cause like tumors of the adrenal gland, chronic kidney disease, hormone abnormalities, use of birth control pills, or pregnancy. This is called "secondary hypertension." Secondary hypertension is usually cured if its cause passes or is corrected.

How Can You Prevent High Blood Pressure?

Everyone--regardless of race, age, sex, or heredity--can help lower their chance of developing high blood pressure. Here's how:

- 1) Maintain a healthy weight, lose weight if you are overweight,
- 2) Be more physically active,
- 3) Choose foods lower in salt and sodium, and
- 4) If you drink alcoholic beverages, do so in moderation.

These rules are also recommended for treating high blood pressure, although medicine is often added as part of the treatment. It is far better to keep your blood pressure from getting high in the first place.

Another important measure for your health is to not smoke: while cigarette smoking is not directly related to high blood pressure, it increases your risk of heart attack and stroke.

Let's look more closely at the four rules to prevent high blood pressure and for keeping a healthy heart:

1) Maintain a healthy weight, lose weight if you are overweight.

As your body weight increases, your blood pressure rises. In fact, being overweight can make you two to six times more likely to develop high blood pressure than if you are at your desirable weight. Keeping your weight in the desirable range is not only important to prevent high blood pressure but also for your overall health and well being.

It's not just how much you weigh that's important: it also matters where your body stores extra fat. Your shape is inherited from your parents just like the color of your eyes or hair. Some people tend to gain weight around their belly; others, around the hips and thighs. "Apple-shaped" people who have a pot belly (that is, extra fat at the waist) appear to

have higher health risks than "pear-shaped" people with heavy hips and thighs.

No matter where the extra weight is, you can reduce your risk of high blood pressure by losing weight. Even small amounts of weight loss can make a big difference in helping to prevent high blood pressure. Losing weight, if you are overweight and already have high blood pressure, can also help lower your pressure.

To lose weight, you need to eat fewer calories than you burn. But don't go on a crash diet to see how quickly you can lose those pounds. The healthiest and longest-lasting weight loss happens when you do it slowly, losing 1/2 to 1 pound a week. By cutting back by 500 calories a day by eating less and being more physically active, you can lose about 1 pound (which equals 3,500 calories) in a week.

Losing weight and keeping it off involves a new way of eating and increasing physical activity for life. Here's how to eat and get on your way to a lower weight:

Choose foods low in calories and fat. Naturally, choosing low-calorie foods cuts calories. But did you know that choosing foods low in fat also cuts calories? Fat is a concentrated source of calories, so eating fewer fatty foods will reduce calorie intake. Some examples of fatty foods to cut down on are: butter, margarine, regular salad dressings, fatty meats, skin of poultry, whole milk dairy foods like cheese, fried foods, and many cookies, cakes, pastries and snacks. See the table below for low fat foods that you can enjoy instead.

TRY THESE LOW FAT FOODS

- Baked, broiled or poached: chicken and turkey (without the skin); fish; lean cuts of meat (like round or sirloin).
- Skim, 1%, or evaporated skim milk and lower-fat, low-sodium cheeses.
- Fresh, frozen, or canned fruit.
- Fresh, frozen, or canned (no salt added) vegetables (without cream or cheese sauces).
- Plain rice and pasta, English muffins, bagels, sandwich breads and rolls, and soft tortillas.
- Cold (ready-to-eat) cereals, lower in sodium and cooked hot cereals (not instant since they are higher in sodium).

Note: When choosing cheeses, breads, and cereals, use the food label to choose those lower in fat and sodium.

Choose foods high in starch and fiber. Foods high in starch and fiber, like those shown in the table, are excellent substitutes for foods high in fat. They are lower in calories than foods high in fat. These foods are also good sources of vitamins and minerals.

FOODS HIGH IN STARCH AND/OR FIBER

- Fruits, vegetables, whole-grain cereals, pasta and rice, whole-grain breads, dry peas and beans.

Note: Use the food label to choose breads and cereals lower in sodium.

Limit serving sizes. To lose weight, it's not just the type of foods you eat that's important, but also the amount. To take in fewer calories, you need to limit your portion sizes. Try especially to take smaller helpings of high calorie foods like high fat meats and cheeses. And try not to go back for seconds.

Here's a good tip to help you control or change your eating habits: keep track of what you eat, when you eat, and why, by writing it down. Note whether you snack on high fat foods in front of the television, or if you skip breakfast and then eat a large lunch. Once you see your habits, you can set goals for yourself: cut back on TV snacks and, when you do snack, have fresh fruit, unsalted air-popped popcorn, or unsalted pretzels. If there's no time for breakfast at home, take a low fat muffin, bagel (skip the cream cheese), or cereal with you to eat at work. Changing your behavior will help you change your weight for the better.

Increase physical activity. There's more to weight loss than just eating less. Another important ingredient is increasing physical activity, which burns calories. Cutting down on fat and calories combined with regular physical activity can help you lose more weight and keep it off longer than either way by itself. Check the table below to see how many calories you can burn during different activities.

CALORIES BURNED DURING PHYSICAL ACTIVITIES

<u>Activity</u>	<u>Calories Burned Up Per Hour *</u>	
	<u>Man **</u>	<u>Woman **</u>
<u>Light Activity:</u>	<u>300</u>	<u>240</u>
Cleaning house		
Playing baseball		
Playing golf		
<u>Moderate activity:</u>	<u>460</u>	<u>370</u>
Walking briskly (3.5 mph)		
Gardening		
Cycling (5.5 mph)		
Dancing		
Playing basketball		
<u>Strenuous activity:</u>	<u>730</u>	<u>580</u>
Jogging (9 min./mile)		
Playing football		

Swimming		
<u>Very strenuous activity:</u>	<u>920</u>	<u>740</u>
Running (7 min./mile)		
Racquetball		
Skiing		

*May vary depending on a variety of factors including environmental conditions.

** Healthy man, 175 pounds; healthy woman 140 pounds.

Source: Dietary Guidelines for Americans, U.S. Department of Agriculture, U.S. Department of Health and Human Services, Third edition, 1990 (adapted from McArdle, et al., "Exercise Physiology, " 1986).

2) Be More Physically Active.

Besides losing weight, there are other reasons to be more active: being physically active can reduce your risk for heart disease, help lower your total cholesterol level and raise HDL-cholesterol (the "good" cholesterol that does not build up in the arteries), and help lower high blood pressure. And people who are physically active have a lower risk of getting high blood pressure--20 to 50 percent lower--than people who are not active. You don't have to be a marathon runner to benefit from physical activity. Even light activities, if done daily, can help lower your risk of heart disease. So you can fit physical activity into your daily routine in small but important ways. See table below.

BE MORE ACTIVE EVERYDAY

- Use the stairs instead of the elevator.
- Get off the bus one or two stops early and walk the rest of the way.
- Park farther away from the store or office.
- Ride a bike.
- Work in the yard or garden.
- Go dancing.

More vigorous exercise has added benefits. It helps improve the fitness of the heart and lungs. And that in turn protects you more against heart disease. Activities like swimming, brisk walking, running, and jumping rope are called "aerobic." This means that the body uses oxygen to make the energy it needs for the activity. Aerobic activities can condition your heart and lungs if done at the right intensity for at least 30 minutes, three to four times a week. But if you don't have 30 minutes for a break, try to find two 15-minute periods or even three 10-minute periods. Try to do some type of aerobic activity in the course of a week.

Most people don't need to see a doctor before they start exercising, since a gradual, sensible exercise program has few health risks. But if you have a health problem like high blood pressure; if you have pains or pressure in the chest or shoulder area; if you tend to feel dizzy or faint; if you get very breathless after a mild workout; or are middle-

age or older and have not been active, and you are planning a vigorous exercise program, you should check with your doctor first. Otherwise, get out, get active, and get fit--and help prevent high blood pressure. The sample walking program at the end of this fact sheet can help you get started.

3) Choose Foods Lower in Salt and Sodium.

Americans eat more salt (sodium chloride) and other forms of sodium than they need. And guess what? They also have higher rates of high blood pressure than people in other countries who eat less salt.

Often, if people with high blood pressure cut back on salt and sodium, their blood pressure falls. Cutting back on salt and sodium also prevents blood pressure from rising. Some people like African-Americans and the elderly are more affected by sodium than others. Since there's really no practical way to predict exactly who will be affected by sodium, it makes sense to limit intake of salt and sodium to help prevent high blood pressure.

All Americans, especially people with high blood pressure, should eat no more than about 6 grams of salt a day, which equals about 2,400 milligrams of sodium. That's about 1 teaspoon of table salt. But remember to keep track of ALL salt eaten--including that in processed foods and added during cooking or at the table. Americans eat 4,000 to 6,000 milligrams of sodium a day, so most people need to cut back on salt and sodium. See the table below for the range of sodium in some types of foods.

If you do not want to read it now, you can skip to the end of the table.

SODIUM IN FOODS

(In Milligrams)

- MEAT, POULTRY, FISH, AND SHELLFISH
- EGGS
- DAIRY PRODUCTS
- VEGETABLES
- BREADS, CEREALS, RICE, PASTA, DRY PEAS AND BEANS
- FRUITS
- FATS AND OILS
- CONDIMENTS

MEAT, POULTRY, FISH, AND SHELLFISH

Fresh meat (including lean cuts of beef, pork, lamb and veal) poultry, fish, cooked, 3 oz. (less than 90)

Shellfish, 3 oz. (100-325)

Tuna, canned, 3 oz (300)

* Sausage, 2 oz. (515)

* Bologna, 2 oz. (535)

* Frankfurter, 1-1/2 oz. (560)

Boiled ham, 2 oz. (750)

Lean ham, 3 oz. (1,025)

EGGS

Egg white, 1 (55)

* Whole egg, 1 (65)

Egg substitute, 1/4 cup = 1 egg (80-120)

DAIRY PRODUCTS

Milk

* Whole milk, 1 cup (120)

Skim or 1% milk, 1 cup (125)

Buttermilk (salt added), 1 cup (260)

Cheese

* Natural Cheese:

* Swiss Cheese, 1 oz. (75)

* Cheddar cheese, 1 oz. (175)

* Blue Cheese, 1 oz. (395)

Low fat cheese, 1 oz. (150)

* Process cheese and cheese spreads, 1 oz. (340-450)

Lower sodium and fat versions (read the label)

* Cottage cheese (regular), 1/2 cup (455)

Cottage cheese (low fat), 1/2 cup (460)

Yogurt

* Yogurt, whole milk, plain, 8 oz. (105)

Yogurt, fruited or flavored, low fat or nonfat, 8 oz. (120-150)

Yogurt, nonfat or low fat, plain, 8 oz. (160-175)

VEGETABLES

Fresh or frozen vegetables, or no salt added canned (cooked without salt), 1/2 cup (less than 70)

Vegetables, canned, no sauce, 1/2 cup (55-470)

* Vegetables, canned or frozen with sauce, 1/2 cup (read the label)

Tomato juice, canned, 3/4 cup (660)

BREADS, CEREALS, RICE, PASTA, DRY PEAS AND BEANS

Breads and Crackers

Bread, 1 slice (110-175)

English muffin, 1/2 (130)

Bagel, 1/2 (190)

Cracker, saltine type, 5 squares (195)

* Baking powder biscuit, 1 (305)

Cereals (Ready-to-eat)

Shredded wheat, 3/4 cup (less than 5)

Puffed wheat and rice cereals, 1-1/2 to 1-2/3 cup (less than 5)

Granola-type cereals, 1/2 cup (5-25)

Ring and nugget cereals, 1 cup (170-310)
Flaked cereals, 2/3 to 1 cup (170-360)

Cereals (Cooked)

Cooked cereal (unsalted) 1/2 cup (less than 5)
Instant cooked cereal, 1 packet=3/4 cup (180)

Pasta and rice

Cooked rice and pasta (unsalted) 1/2 cup (less than 10)
* Flavored rice mix, cooked, 1/2 cup (250-390)

Peas and beans

Peanut butter (unsalted) 2 tbsp. (less than 5)
Peanut butter, 2 tbsp. (150)
Dry beans, home cooked (unsalted), or no salt added canned, 1/2 cup (less than 5)
Dry beans, plain, canned, 1/2 cup (350-590)
* Dry beans, canned with added fat or meat, 1/2 cup (425-630)

FRUITS

Fruits (fresh, frozen, canned), 1/2 cup (less than 10)

FATS AND OILS

Oil, 1 tbsp. (0)
* Butter (unsalted), 1 tsp. (1)
* Butter (salted), 1 tsp (25)
Margarine (unsalted), 1 tsp. (less than 5)
Margarine (salted), 1 tsp. (50)
Imitation mayonnaise, 1 tbsp. (75)
* Mayonnaise, 1 tbsp. (80)
Prepared salad dressings, low calorie, 2 tbsp. (50-310)
* Prepared salad dressings, 2 tbsp. (210-440)

SNACKS

Popcorn, chips, and nuts
Unsalted nuts, 1/4 cup (less than 5)
Salted nuts, 1/4 cup (185)
* Unsalted potato chips and corn chips, 1 cup (less than 5)
* Salted potato chips and corn chips, 1 cup (170-285)
Unsalted popcorn, 2 1/2 cups (less than 10)
Salted popcorn, 2 1/2 cups (330)

Candy

Jelly beans, 10 large (5)
* Milk chocolate bar, 1 oz. Bar (25)

Frozen desserts

* Ice cream, 1/2 cup (35-50)

Frozen yogurt, low fat or nonfat, 1/2 cup (40-55)
Ice milk, 1/2 cup (55-60)

CONDIMENTS

Mustard, chili sauce, hot sauce, 1 tsp. (35-65)
Catsup, steak sauce, 1 tbsp. (100-230)
Salsa, tartar sauce, 2 tbsp. (85-205)
Salt, 1/6 tsp. (390)
Pickles, 5 slices (280-460)
Soy sauce, lower sodium, 1 tbsp. (600)
Soy sauce, 1 tbsp. (1030)

CONVENIENCE FOODS

** Canned and dehydrated soups, 1 cup (600-1,300)
** Lower sodium versions (read the label)
*** Canned and frozen main dishes, 8 oz. (500-1,570)
*** Lower sodium versions (read the label)

* Choices are higher in saturated fat, cholesterol, or both.

** Creamy soups are higher in saturated fat and cholesterol.

*** Limit main dishes that have ingredients higher in saturated fat, cholesterol, or both.

Source: Adapted from Home and Garden Bulletin 253-7, United States Department of Agriculture, July 1993.

You can teach your taste buds to enjoy less salty foods. Here are a few tips:
Check food labels for the amount of sodium in foods. Choose those lower in sodium most of the time. Look for products that say "sodium free," "very low sodium," "low sodium," "light in sodium," "reduced or less sodium," or "unsalted," especially on cans, boxes, bottles, and bags.

Buy fresh, plain frozen, or canned with "no salt added " vegetables. Use fresh poultry, fish and lean meat, rather than canned or processed types.

Use herbs, spices, and salt-free seasoning blends in cooking and at the table instead of salt. This information is also available in a non-table format.

SPICE IT UP Meat, Poultry and Fish

Beef

Lamb

Pork

Veal

Chicken

Fish

Bay leaf, marjoram, nutmeg, onion, pepper, sage, thyme	Curry powder, garlic, rosemary, mint	Garlic, onion, sage, pepper, oregano	Bay leaf, curry, ginger, marjoram, oregano	Ginger, marjoram, oregano, paprika, rosemary, sage, tarragon, thyme	Curry, dill, mustard, lemon, marjoram paprika, pepper
--	---	--	--	--	--

Vegetables

Carrots	Corn	Green	Greens	Peas	Potatoes	Summer	Winter	Tomatoes
			Beans			Squash	Squash	
Cinnamon, cloves, marjoram, nutmeg, rosemary, sage	Cumin, curry, onion, paprika, parsley	Dill, curry, lemon, marjoram, oregano, tarragon, thyme	Onion, pepper	Ginger, marjoram, onion, parsley, sage	Dill, garlic, onion, paprika, parsley, sage	Cloves, curry, marjoram, nutmeg, rosemary, sage	Cinnamon, ginger, nutmeg, onion	Basil, bay leaf, dill, marjoram, onion, oregano, parsley, pepper

Cook rice, pasta, and hot cereals without salt. Cut back on instant or flavored rice, pasta, and cereal mixes because they usually have added salt.

Choose "convenience" foods that are lower in sodium. Cut back on frozen dinners, mixed dishes like pizza, packaged mixes, canned soups or broths, and salad dressings which often have a lot of sodium.

When available, buy low-or reduced-sodium, or "no-salt-added" versions of foods like these:

- Canned soup, dried soup mixes, bouillon
- Canned vegetables and vegetable juices
- Cheeses, lower in fat
- Margarine
- Condiments like catsup, soy sauce
- Crackers and baked goods
- Processed lean meats
- Snack foods like chips, pretzels, nuts
- Rinse canned foods like tuna to remove some sodium.

4) If You Drink Alcoholic Beverages, Do So In Moderation.

Drinking too much alcohol can raise your blood pressure. It may also lead to the development of high blood pressure. So to help prevent high blood pressure, if you drink alcohol, limit how much you drink to no more than 2 drinks a day. The "Dietary Guidelines for Americans" recommend that for overall health women should limit their alcohol to no more than 1 drink a day.

This is what counts as a drink:

- 1-1/2 ounces of 80-proof or 1 ounce of 100-proof whiskey,
- 5 ounces of wine, or
- 12 ounces of beer (regular or light).

You may have heard that some alcohol is good for your heart health. Some news reports suggest that people who consume a drink or two a day have lower blood pressure and live longer than those who consume excessive amounts of alcohol. Others note that wine raises the "good" blood cholesterol that prevents the build up of fats in the arteries. While these news stories may be correct they don't tell the whole story: too much alcohol contributes to a host of other health problems, such as motor vehicle accidents, diseases of the liver and pancreas, damage to the brain and heart, an increased risk of many cancers, and fetal alcohol syndrome. Alcohol is also high in calories. So you should limit how much you drink.

What Else Might Prevent High Blood Pressure?

Other things also may help prevent blood pressure. Here's a roundup of what's being said about them-and whether it's true or false.

Dietary Supplements--Potassium, Calcium, Magnesium, Fish Oils.

Potassium. Eating foods rich in potassium will help protect some people from developing high blood pressure. You probably can get enough potassium from your diet, so a supplement isn't necessary. Many fruits, vegetables, dairy foods, and fish are good sources of potassium (see table below for examples).

GOOD SOURCES OF POTASSIUM

Catfish Lean Pork Lean Veal
Cod Flounder Trout
Milk Yogurt
Dry Peas and Beans Green Beans

Apricots Peaches Bananas
Prunes and Prune Juice Orange Juice
Lima Beans Stewed Tomatoes Spinach
Plantain Sweet Potatoes Pumpkin
Potatoes Winter Squash

SOURCE: Adapted from "Good Sources of Nutrients, Potassium"
U.S. Department of Agriculture, 1990

Calcium. Populations with low calcium intakes have high rates of high blood pressure. However, it has not been proven that taking calcium tablets will prevent high blood pressure. But it is important to be sure to get at least the recommended amount of calcium--800 milligrams per day for adults (pregnant and breastfeeding women need more)--from the foods you eat. Dairy foods like low fat selections of milk, yogurt, and cheese are good sources of calcium. Low fat and nonfat dairy products have even more calcium than the high fat types.

Magnesium. A diet low in magnesium may make your blood pressure rise. But doctors don't recommend taking extra magnesium to help prevent high blood pressure--the amount you get in a healthy diet is enough. Magnesium is found in whole grains, green leafy vegetables, nuts, seeds, and dry peas and beans.

Fish oils. A type of fat called "omega-3 fatty acids" is found in fatty fish like mackerel and salmon. Large amounts of fish oils may help reduce high blood pressure, but their role in prevention is unclear. But taking fish oil pills is not recommended because high doses can cause unpleasant side effects. The pills are also high in fat and calories. Of course, most fish if not fried or made with added fat are low in saturated fat and calories and can be eaten often.

Other Factors

Fats, Carbohydrates, and Protein. Varying the amount and type of fats, carbohydrates, and protein in the diet has little, if any, effect on blood pressure. But for overall heart health, it is crucial to limit the amount of fat in your diet, especially the saturated fat found in foods like fatty meats and whole milk dairy foods. Saturated fats raise your blood cholesterol level, and a high blood cholesterol level is another risk factor for heart disease. Foods high in fat are also high in calories.

Remember, foods high in complex carbohydrate (starch and fiber) are low in fat and calories--so eating these foods in moderate amounts instead of high fat foods can help you to lose weight if you are overweight or to prevent you from gaining weight.

Caffeine. The caffeine in drinks like coffee, tea, and sodas may cause blood pressure to go up, but only temporarily. In a short time your blood pressure will go back down. Unless you are sensitive to caffeine and your blood pressure does not go down, you do not have to limit caffeine to prevent developing high blood pressure.

Garlic or Onions. Increased amount of garlic and onions have not been found to affect blood pressure. Of course, they are tasty substitutes for salty seasonings and can be used often.

Stress Management. Stress can make blood pressure go up for a while and over time may contribute to the cause of high blood pressure. So it's natural to think that stress management techniques like biofeedback, meditation, and relaxation would help prevent high blood pressure. But this doesn't seem to be the case: the few studies that have looked at this have not shown that stress management helps to prevent high blood pressure. Of course, stress management techniques are helpful if they help you feel

better or stick to a weight-loss and/or exercise program.

Here's a Recap

After going through all the things that may affect blood pressure, it's worth noting again the things that are sure to help you prevent high blood pressure:

- 1) Maintaining a healthy weight--losing weight if you are overweight,
- 2) Being more physically active,
- 3) Choosing foods low in salt and sodium, and
- 4) If you drink alcoholic beverages, doing so in moderation.

By following these guidelines, you can help reduce or prevent high blood pressure for life--and, in turn, lower your risk for heart disease and stroke.

A SAMPLE WALKING PROGRAM

	<u>Warm Up</u>	<u>Target Zone Exercising *</u>	<u>Cool Down Time</u>	<u>Total</u>
Week 1				
Session A	Walk normally 5 min.	Then walk briskly 5 min	Then walk normally 5 min.	15 min.
Session B		--Repeat above pattern--		
Session C		--Repeat above pattern--		

Continue with at least three exercise sessions during each week of the program. If you find a particular week's pattern tiring, repeat it before going on to the next pattern. You do not have to complete the walking program in 12 weeks.

Week 2	Walk 5 min.	Walk briskly 7 min.	Walk 5 min.	17 min.
Week 3	Walk 5 min.	Walk briskly 9 min.	Walk 5 min.	19 min.
Week 4	Walk 5 min.	Walk briskly 11 min.	Walk 5 min.	21 min.
Week 5	Walk 5 min.	Walk briskly 13 min.	Walk 5 min.	23 min.
Week 6	Walk 5 min.	Walk briskly 15 min.	Walk 5 min.	25 min.
Week 7	Walk 5 min.	Walk briskly 18 min.	Walk 5 min.	28 min.
Week 8	Walk 5 min.	Walk briskly 20 min.	Walk 5 min.	30 min.
Week 9	Walk 5 min.	Walk briskly 23 min.	Walk 5 min.	33 min.
Week 10	Walk 5 min.	Walk briskly 26 min.	Walk 5 min.	36 min.
Week 11	Walk 5 min.	Walk briskly 28 min.	Walk 5 min.	38 min.
Week 12	Walk 5 min.	Walk briskly 30 min.	Walk 5 min.	40 min.

Week 13 and thereafter:

Check your pulse periodically to see if you are exercising within your target zone. As you get more in shape, try exercising within the upper range of your target zone. Gradually increase your brisk walking time to 30 to 60 minutes, three or four times a week. Remember that your goal is to get the benefits you are seeking and enjoy your activity.

* Here's how to check if you are within your target heart rate zone:

- 1) Right after you stop exercising, take your pulse: Place the tips of your first two fingers lightly over one of the blood vessels on your neck, just to the left or right of your Adam's apple. Or try the pulse spot inside your wrist just below the base of your thumb.
- 2) Count your pulse for 10 seconds and multiply the number by 6.
- 3) Compare the number to the right grouping below: look for the age grouping that is closest to your age and read the line across. For example, if you are 43, the closest age on the chart is 45; the target zone is 88-131 beats per minute.

Return to top of "Sample Walking Program"

AGE TARGET HEART RATE ZONE

20 Years 100-150 beats per minute
25 Years 98-146 beats per minute
30 Years 95-142 beats per minute
35 Years 93-138 beats per minute
40 Years 90-135 beats per minute
45 Years 88-131 beats per minute
50 Years 85-127 beats per minute
55 Years 83-123 beats per minute
60 Years 80-120 beats per minute
65 Years 78-116 beats per minute
70 Years 75-113 beats per minute

SOURCE: Exercise and Your Heart, National Heart, Lung, and Blood Institute and the American Heart Association, NIH Publication No. 93-1677.