Food Guide Pyramid

A Guide to Daily Food Choices For Teens

Fats, Oils & Sweets
USE SPARINGLY

Milk, Yogurt & Cheese Group
4 SERVINGS

Vegetable Group
4-5 SERVINGS

Meat, Poultry, Fish, Dry Beans,
Eggs & Nuts Group
2-3 SERVINGS

Fruit Group
3-4 SERVINGS

Breads,
Cereal, Rice
& Pasta
Group
9-11 SERVINGS

High-Calcium Foods
(about 300 milligrams of calcium per stated serving)

Milk & Milk Products
1 cup milk, yogurt, pudding,
1 1/2 oz. cheese
Nonfat or lowfat milk
Lowfat chocolate milk
Nonfat or lowfat yogurt
Lowfat cheese or mozzarella
Whole milk
Milkshake
Hot chocolate
Pudding
Custard or flan
Regular cheese

Meats, Beans & Nuts
Sardines with bones (6)

Medium-Calcium Foods
(about 100 milligrams of calcium per stated serving)

Milk & Milk Products
(1/2 cup)
Nonfat or lowfat cottage cheese
Cream soup
Ice milk or frozen yogurt
Ice cream

Meats, Beans & Nuts
Dried beans (1 cup)
Refried beans (1 cup)
Canned fish, with bones (salmon, mackerel) (2 oz.)
Tofu processed with calcium (1/2 cup)
Almonds (1/4 cup)

Vegetables
Bok choy (1/2 cup)
Broccoli (1 cup)
Kale (1 cup)
Mustard greens (1 cup)
Turnip greens (1 cup)

Fruits
Figs (5)

Breads, Cereals & Grains
Corn tortillas (2)

Source: U. S. Department of Agriculture, U.S. Department of Health and Human Services
In the 1960's, much research focused on the optimum number of sets and repetitions needed to develop strength and muscular endurance. It was noted that significant gains in strength can be achieved by exercising 3 to 5 days a week using 1 to 10 sets at 2- to 10-RM. For endurance gains, loads greater than 10-RM are more effective. Guidelines for designing a practical weight training program for dynamic strength and endurance development are presented below.

**DYNAMIC STRENGTH EXERCISE PRESCRIPTION GUIDELINES**

- **Intensity:** 85% 1-RM
- **Duration:** 6 weeks or more
- **Frequency:** 3-5 days/week
- **Sets/Reps:** 3 Sets, 6 Repetitions (Increase weight when able to complete 10 repetitions at this load.)

If you stop exercising, deconditioning occurs quickly; the same activity begins to require more effort.

**DYNAMIC ENDURANCE EXERCISE PRESCRIPTION GUIDELINES**

- **Intensity:** 60% 1-RM
- **Duration:** 6 weeks or more
- **Frequency:** 3-5 days/week
- **Sets/Reps:** 3 Sets, 15 Repetitions (Increase weight when able to complete 20 repetitions at this load.)
The Female Advantage Fatigue Resistance Training Implications

- Females capable of ↑ volume workouts
- Females require less recovery time between sets
- Females may need fewer days between intense (~ 80% 1-RM) workouts

Reps/Intensity/Effect Summary

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<thead>
<tr>
<th>Reps</th>
<th>Intensity</th>
<th>Effect</th>
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<tr>
<td>1 - 5</td>
<td>100 - 85% 1RM</td>
<td>Strength</td>
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<td>6 - 8</td>
<td>84% - 77% 1RM</td>
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<td>9 - 12</td>
<td>76% - 70% 1RM</td>
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<td>13 - 20</td>
<td>69% - 60% 1RM</td>
<td>Endurance gains</td>
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Benefits of Resistance Training for Women

- ↑ Bone mineral density
- ↑ Fat-free mass
- ↑ Muscular strength & muscular endurance
- ↑ Increased glucose metabolism (insulin sensitivity)
- ↑ HDL-C (~)
- ↓ TC & LDL-C (~)
- ↑ RMR
- ↑ Psychological well-being

Strength Training: Hypertrophy

- F do not exhibit the same hypertrophic effects as M due to wt training
  - Hypertrophy is linked to plasma testosterone
  - Strength training of M & F research (Wilmore 1974)
    - Little change in total body weight
    - Increases in FFM
    - Significant decreases in fat and relative %fat
    - Hypertrophy greater in M
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<tr>
<th>Muscle Group</th>
<th>Barbells/Dumbbells</th>
<th>Universal Gym</th>
<th>Nautilus Machines</th>
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</table>
| Gluteus maximus/lower back (proceed with caution) | half squat  
  stiff-legged deadlift  
  good mornings squat | squat  
  leg press  
  hyperextension | hip and back  
  squat  
  leg press |
| Quadriceps                        | squat  
  hack squat  
  half squat | leg extension  
  leg press  
  leg squat  
  real runner | leg extension and  
  super leg extension  
  squat  
  leg press |
| Hamstrings                         | squat  
  half squat | leg curl  
  leg press | leg curl  
  squat  
  leg press  
  compound leg  
  hip duo and back |
| Gastrocnemius                      | toe raise  
  calf raise | toe press on leg press          | calf raise on multi exercise  
  toe press on leg press |
| Latissimus dorsi                   | bent-over row  
  bent-armed pullover  
  stiff-armed pullover  
  incline press | chin-up  
  pulldown on lat machine | pullover  
  behind neck  
  torso/arm  
  chin-up on multi exercise |
| Trapezius                          | shoulder shrug  
  dumbbell shoulder shrug  
  bent-over row | shoulder shrug | neck and shoulder rowing torso |
| Waist, hand and forearm            | wrist curls  
  Thor’s hammer reverse curls | hand gripper  
  wrist conditioner | wrist curl on multi exercise |
| Foot and ankle                     | ankle curls  
  toe presses | leg press  
  squat | leg press  
  squat |
| Deltoids                           | bench press  
  press behind neck  
  upright rowing  
  forward raise  
  side raise with dumbbells  
  front raise with dumbbells | seated press  
  upright rowing | double shoulder  
  1. lateral raise  
  2. overhead press  
  omni shoulder  
  rowing torso |
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<th>Baseball</th>
<th>Basketball</th>
<th>Cycling</th>
<th>Football</th>
<th>Golf</th>
<th>Gymnastics</th>
<th>Ice Hockey</th>
<th>Nordic (cross country)</th>
<th>Skiing</th>
<th>Swimming</th>
<th>Backstroke</th>
<th>Breaststroke</th>
<th>Butterfly</th>
<th>Freestyle</th>
<th>Tennis</th>
<th>Sprinting</th>
<th>Hurdling</th>
<th>Javelin</th>
<th>Long Jump</th>
<th>Distance Running</th>
<th>Pole Vault</th>
<th>High Jump</th>
<th>Discus and Shot Put</th>
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Overload Manipulation Alternatives

1. Increasing the weight being lifted.
2. Increasing the speed of movement per repetition.
3. Stricter adherence to the isolation principle involving muscle groups.
4. Increasing the range of movement per repetition.
5. Increasing the duration of effort per repetition.
6. Increasing the number of sets and/or repetitions.
7. Minimizing the resting time between sets and/or repetitions.
8. Maximizing the activity level during rest periods by adding movement.
9. Increasing the number of physical activity sessions per day and/or week.
10. Adding additional movement patterns to the physical activity session.

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<thead>
<tr>
<th>Variable</th>
<th>Explosive Strength (Power)</th>
<th>Hypertrophy (Size)</th>
<th>Muscular Endurance</th>
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<td>80-100</td>
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<td>Duration (seconds per set)</td>
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<td>90-120</td>
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<td>Repetitions per Set</td>
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<td>10-15</td>
<td>40-50</td>
</tr>
<tr>
<td>Sets per Exercise</td>
<td>3-4</td>
<td>4-6</td>
<td>2-4</td>
</tr>
<tr>
<td>Rest between Sets (minutes)</td>
<td>3-4</td>
<td>4-5</td>
<td>1-2</td>
</tr>
<tr>
<td>Speed per Repetition (% of optimal)</td>
<td>90-100</td>
<td>80-90</td>
<td>70-80</td>
</tr>
<tr>
<td>Physical Activity Sessions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per Week (frequency)</td>
<td>3-4</td>
<td>5-6</td>
<td>10-14</td>
</tr>
</tbody>
</table>
Overload Manipulation Alternatives

1. Increasing the weight being lifted.
2. Increasing the speed of movement per repetition.
3. Stricter adherence to the isolation principle involving muscle groups.
4. Increasing the range of movement per repetition.
5. Increasing the duration of effort per repetition.
6. Increasing the number of sets and/or repetitions.
7. Minimizing the resting time between sets and/or repetitions.
8. Maximizing the activity level during rest periods by adding movement.
9. Increasing the number of physical activity sessions per day and/or week.
10. Adding additional movement patterns to the physical activity session.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Explosive Strength (Power)</th>
<th>Hypertrophy (Size)</th>
<th>Muscular Endurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load (% of maximum)</td>
<td>80-100</td>
<td>70-80</td>
<td>60-70</td>
</tr>
<tr>
<td>Duration (seconds per set)</td>
<td>5-10</td>
<td>30-40</td>
<td>90-120</td>
</tr>
<tr>
<td>Repetitions per Set</td>
<td>3-5</td>
<td>10-15</td>
<td>40-50</td>
</tr>
<tr>
<td>Sets per Exercise</td>
<td>3-4</td>
<td>4-6</td>
<td>2-4</td>
</tr>
<tr>
<td>Rest between Sets (minutes)</td>
<td>3-4</td>
<td>4-5</td>
<td>1-2</td>
</tr>
<tr>
<td>Speed per Repetition (% of optimal)</td>
<td>90-100</td>
<td>80-90</td>
<td>70-80</td>
</tr>
<tr>
<td>Physical Activity Sessions per Week (frequency)</td>
<td>3-4</td>
<td>5-6</td>
<td>10-14</td>
</tr>
</tbody>
</table>
Flexibility

Flexibility is the range of motion possible around a joint. Stretching exercises are utilized to maintain or increase this range of movement, to help prevent muscle soreness, and to prevent injuries. Since flexibility is specific to every joint, it is incorrect to refer to flexibility in a general sense (i.e. John has good flexibility). Each joint must be evaluated separately. Another common misconception is to assume that to have good flexibility a person must have an excessive amount, such as a gymnast or a dancer. Athletes and performers often place their bodies in positions which stretch muscles and connective tissue beyond the point deemed necessary for normal function. They do this for the sake of competition or aesthetics even though injuries often result.

Many people hate to stretch because they feel uncomfortable. This is because they have been using the wrong positions and techniques. Some of the stretching positions we have used traditionally are now known to be injurious. For example, the "hurdler's position" puts the knee in a position of misalignment which can cause injury to tendons and ligaments. Most traditional stretches were designed by flexible people and the majority of us are not very flexible. The good news is that a regular flexibility program can produce results, be painless, and promote relaxation and release of muscle tension.

Types of Stretching

There are three basic types of stretching.

Ballistic stretching consists of quick, repetitive, bouncing type movements. Although this method is somewhat effective, the increased range of motion is achieved through a series of jerks and pulls on the resistant muscle tissue. The momentum can result in damage to muscle and connective tissue and may be responsible for increased muscle soreness.

Static stretching involves going into a position of stretch until tension is felt. The position is then held for ten to thirty seconds or even longer. Since static stretching is more controlled, there is less chance of exceeding the limits of the tissue thereby creating injury.

Contract and Relax methods involve contraction of muscles or muscle groups for five to ten seconds followed by relaxing and stretching. Traditionally, this procedure has been utilized by therapists for rehabilitation purposes. If carefully instructed and supervised, contract/relax methods can be effective in flexibility programs. Some of the positions require a partner, however, which increases the risk of overstretching and consequent injury.
General Rules for Stretching Safely

Avoid Hyperextension of the Spine - This arched position places the back in an extremely vulnerable position. The same compression that occurs with forward flexion also makes arching the back dangerous.

Avoid Locking any Joint - When stretching, performing muscular conditioning exercises, lifting weights or any other activity it is important to keep the knees and other joints "softened" to guard against unnecessary stretching or tearing of ligaments and connective tissue.

Never Force a Movement - Do not place your body in unnatural positions and do not perform movements which cause discomfort. Listen to signals that you may be overextending your limits.

Avoid Forward Flexion of the Spine - Some of the positions which result in a high injury rate involve forward flexion of the spine. Forward flexion simply means bending forward from the waist.

The spine is a flexible column formed of a series of bones called vertebrae. The vertebrae are stacked on top of each other with the spinal cord running through the middle. Between each one are intervertebral discs which are filled with a soft, pulpy, highly elastic substance. These discs act as cushions for the bony vertebrae, however, they tend to degenerate with age, sometimes beginning as early as age 25. Forward flexion causes the front border of the intervertebral discs to compress. The pressure this places on the pulpy center can be so great that it ruptures causing severe back pain. The problem is magnified if any twisting motion is added to the forward flexion (windmills, side bends, elbow to knee, etc.). Over time these positions contribute to chronic degeneration and can greatly increase the chance of low back pain or herniation of a disc.

This position also forces the hamstrings to stretch and contract simultaneously in order to maintain balance. The muscle cannot relax and thus the stretch will be less effective. In addition, too much time in this inverted position may cause an adverse blood pressure response.

When lifting heavy objects we are often reminded to use our legs, not our back. The justification for this is the same as for avoiding forward and side bending exercise positions. Exercise is not the only culprit. Gardening, tying your shoes, and other forward bending movements can all contribute to wear and tear on the discs.
WARMING UP FOR A
SAFE WORKOUT

Both competitive and recreational athletes often make the mistake of equating the words "warm-up" and "stretching." Although stretching exercises should be included in the pre-workout routine, the most important goal when preparing to exercise should be to increase the body temperature and to prepare the muscles, connective tissue, and circulatory system to safely accommodate more intense exercise. Stretching cold can be more harmful than not stretching at all.

For these reasons the warm-up phase is divided into two parts: The circulatory warm-up followed by the stretching warm-up.

The Circulatory Warm-up

The circulatory warm-up should be designed to raise local and core temperature and to increase blood flow to the working muscles. Because of this increase in temperature and blood saturation, a proper warm-up improves performance and reduces injury. Improved blood flow is necessary so that enough oxygen and nutrients are carried to the cells and so that the additional waste products produced can be adequately removed. The heart also has time to adjust to the increased demand. The higher body temperature allows nerve impulses to travel faster which maximizes coordination. In addition, the metabolic reactions that produce fuel for activity occur more quickly and more efficiently. In the muscle, the mechanical efficiency of contraction is enhanced and the contraction itself is quicker and more forceful. Muscles are more elastic and the extensibility of tendons, ligaments and other connective tissue is increased.

These physiologic principles make a strong case for not omitting the circulatory warm-up. It is especially important when exercise is performed in a cool or cold environment. Extremely cold surroundings may require a ten to fifteen minute circulatory warm-up.

Practically, the circulatory warm-up is simple. Performing medium intensity, general movements for four to six minutes will accomplish the intended goal. If an active warm-up is not possible or convenient, a passive warm-up such as a hot shower or applied heat can also be effective. Examples of proper circulatory warm-ups include:

Walking with arm movements
Slow cycling, swimming or jogging
Mild rope skipping
Low intensity aerobic dance routine

Remember that no stretching should be included during this segment. The circulatory warm-up should continue until a very light perspiration is present. At this point you should not feel tired or out of breath. Your heart rate and respiration rate are slightly elevated, your muscles are warmer and you are ready to proceed to the next portion of your workout.

Stretching Warm-up

Three to five minutes of mild stretching exercises should follow the circulatory warm-up. The purpose is to prepare your body for the stress of exercise. Stretching prevents injury by relaxing contracted muscles and lengthening tendons and connective tissue. The muscles are still not as warm as they should be, therefore, more intense stretching is better left for the end of the workout. Warm tissues stretch more easily, providing more permanent results and less risk of injury. A good rule to follow is: Stretch first to prevent injury, stretch last to increase or maintain flexibility.
The basic stretching session

1. **NECK STRETCH.** Tilt head to right, keeping shoulders down. Place right hand on left side of head. Gently pull head toward right shoulder for 10 to 30 seconds. Switch sides and repeat.

2. **CALF STRETCH** (for gastrocnemius and soleus muscles). Stand 2 to 3 feet from a wall, with feet perpendicular to wall, and lean against it for 10 to 30 seconds. Keep feet parallel to each other; make sure rear heel stays on floor. Switch legs and repeat. Variation: keep rear knee slightly bent during stretch.

3. **THIGH STRETCH** (for quadriceps). Placing left hand against wall for balance, grab right ankle with right hand and pull heel gently toward buttocks for 10 to 30 seconds. Do not arch back. Switch sides and repeat.

4. **OUTER THIGH STRETCH** (for iliobial band). Placing left hand against wall for balance, place left foot behind and beyond right foot. Bend left ankle and lean into wall. Hold for 10 to 30 seconds, then switch and repeat.

5. **HIP STRETCH** (for hip flexor). From a kneeling position, bring right foot forward until knee is directly over ankle; keep right foot straight. Rest left knee on floor behind you. Leaning into front knee, lower pelvis and front of left hip toward floor to create an easy stretch. Hold for 10 to 30 seconds, then switch legs and repeat.

6. **BUTTERFLY STRETCH** (for adductor muscles in groin). Sit on floor, bringing heels together near groin and holding feet together. Have a partner gently push your legs down; hold for 5 seconds. Try to bring your knees upward as partner provides resistance. Relax, then have partner gently push down again for a greater stretch. Repeat. You can do the first part without a partner, simply by lowering your knees as far as possible.

7. **SPINAL TWIST** (for back and sides). Sit with right leg straight out, and left knee bent, with left foot placed on the outside of right knee. Bend right elbow and place it on outside of upper left thigh, just above knee, to keep that leg stationary. Place left hand behind you, slowly turn head to look over left shoulder, and twist upper body toward left arm. Hold for 10 to 30 seconds. Switch sides and repeat.

8. **CROSSOVER STRETCH** (for lower back). Lying on back, bend left knee at 90° and stretch arms out to sides. Place right hand on left thigh and pull that bent knee over right leg. Keeping head on floor, turn to look toward outstretched left arm. Pull bent left knee toward floor, keep shoulders flat on floor. Hold for 10 to 30 seconds, then switch sides and repeat.

9. **THIGH STRETCH** (for hamstrings). Lie on back with both knees bent. Grasp behind the right thigh with both hands and pull toward chest. Slowly straighten leg, keeping foot relaxed. Hold for 10 to 30 seconds, then lower leg, switch legs, and repeat.

10. **LUMBAR STRETCH** (for lower back). Lying on back, tuck one hand under each knee. Gently pull both knees toward chest, keeping lower back on floor. Hold for 10 to 30 seconds, relax, then repeat.

Drawings by Susan Blauberg
Weight Training
Approximately 10 Minutes

1. 15 seconds each arm (page 41)
2. 20 seconds (page 43)
3. 20 seconds (page 44)
4. 25 seconds each leg (page 71)
5. 15 seconds each leg (page 71)
6. 30 seconds (page 53)
7. 30 seconds (page 52)
8. 20 seconds (page 65)
9. 30 seconds (page 56)
10. 25 seconds each leg (page 33)
25 seconds each leg (page 36)
30 seconds (page 93)
20 seconds (page 24)

3 times
5 seconds each
(page 25)

25 seconds each side (page 24)

20 seconds (page 40)

20 seconds each leg (page 48)

15 seconds each arm (page 40)

5 times (page 85)
Weight management and body composition

Basics of nutrition

Cardiovascular fitness

Stress management

Flexibility

Aquatic ability

Muscle strength

Skill-related fitness

Muscle endurance

Exercise

TOTAL

FITNESS
IT'S NOT VERY LONG UNTIL MY HIGH SCHOOL REUNION.

I'VE GOT TO GET MY HAIR DONE!... GET A COMPLETE FACIAL!... GET A FABULOUS TAN!

I'VE GOT TO LOSE 15 POUNDS!... HAVE MY LEGS WAXED!... GET A TUMMY TUCK!

I WANT THEM TO SEE THE REAL ME!

OK WHAT CAME IN THE MAIL? IT'S AN INVITATION TO MY HIGH SCHOOL REUNION! I CAN'T WAIT!

BUT I THOUGHT YOU HATED HIGH SCHOOL.

IT WAS A TIME FILLED WITH JEALOUSY AND ENVY, PETTY RECRIMINATIONS, UNDUE PEER PRESSURE, AND CRUEL CRITICISMS.

I LOVED EVERY MINUTE OF IT!

ARFIELD®

ARFIELD, I'M PUTTING YOU ON A DIET! ARRRGH!

I KNOW YOU HATE DIETS. IF YOU CAN THINK OF A BETTER WAY TO LOSE WEIGHT, I'M WILLING TO LISTEN.

AMPUTATE SOMETHING?

by Jim Davis
"You're not getting enough calcium."

How Your Digestive System Works

Your digestive system's job is to turn food into useful body parts. To save itself a lot of aggravation, your digestive system has a
# Target Heart Rate Sheet

**Example**

<table>
<thead>
<tr>
<th>START WITH 220</th>
<th>EXAMPLE</th>
<th>FOR YOU</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>-12</td>
<td>-72</td>
<td></td>
</tr>
<tr>
<td>208</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>136</td>
<td>81.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>153</td>
<td>YOUR THR</td>
</tr>
</tbody>
</table>

**Start with 220**

- Subtract your age
- Equals maximum times heart should beat/min.

**Subtract resting heart rate**

- Multiply by:
  - 60% = Inactive
  - 70% = Active
  - 80% = Very active

**Add resting heart rate**

- Equals target heart rate (THR) beats per minute

**For You**

**Your THR**
<table>
<thead>
<tr>
<th>Age</th>
<th>10 to 20</th>
<th>21 to 30</th>
<th>31 to 40</th>
<th>41 to 50</th>
<th>51 to 60</th>
<th>61 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Heredity</strong></td>
<td>No known</td>
<td>1 relative with</td>
<td>2 relatives with</td>
<td>1 relative with</td>
<td>2 relatives with</td>
<td>3 relatives with</td>
</tr>
<tr>
<td></td>
<td>history of</td>
<td>cardiovascular</td>
<td>cardiovascular</td>
<td>cardiovascular</td>
<td>cardiovascular</td>
<td>cardiovascular</td>
</tr>
<tr>
<td></td>
<td>heart disease</td>
<td>disease over 60</td>
<td>disease over 60</td>
<td>disease under 60</td>
<td>disease under 60</td>
<td>disease under 60</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>More than</td>
<td>-5 to + 5 lbs.</td>
<td>6-20 lbs.</td>
<td>21-35 lbs.</td>
<td>36-50 lbs.</td>
<td>51-65 lbs.</td>
</tr>
<tr>
<td></td>
<td>5 lbs. below standard weight</td>
<td>standard weight</td>
<td>overweight</td>
<td>overweight</td>
<td>overweight</td>
<td>overweight</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td><strong>Tobacco Smoking</strong></td>
<td>Nonuser</td>
<td>Cigar and/or pipe</td>
<td>10 cigarettes or less a day</td>
<td>20 cigarettes a day</td>
<td>30 cigarettes a day</td>
<td>40 cigarettes a day or more</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td><strong>Exercise</strong></td>
<td>Intensive occupational and recreational exertion</td>
<td>Moderate occupational and recreational exertion</td>
<td>Sedentary work and intense recreational exertion</td>
<td>Sedentary occupational and moderate recreational exertion</td>
<td>Sedentary work and light recreational exertion</td>
<td>Complete lack of all exercise</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Cholesterol or Fat % in Diet</strong></td>
<td>Cholesterol below 188 mg.%</td>
<td>Cholesterol 181-205 mg.%</td>
<td>Cholesterol 206-230 mg.%</td>
<td>Cholesterol 231-255 mg.%</td>
<td>Cholesterol 256-280 mg.%</td>
<td>Cholesterol 281-300 mg.%</td>
</tr>
<tr>
<td></td>
<td>Diet contains no animal or solid fats</td>
<td>Diet contains 10% animal or solid fats</td>
<td>Diet contains 20% animal or solid fats</td>
<td>Diet contains 30% animal or solid fats</td>
<td>Diet contains 40% animal or solid fats</td>
<td>Diet contains 50% animal or solid fats</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td><strong>Blood Pressure</strong></td>
<td>100 upper reading</td>
<td>120 upper reading</td>
<td>140 upper reading</td>
<td>160 upper reading</td>
<td>180 upper reading</td>
<td>200 or over reading</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>Female under 40</td>
<td>Female 40-50</td>
<td>Female over 50</td>
<td>Male</td>
<td>Stocky male</td>
<td>Bald stocky</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

The purpose of this game is to give you an estimate of your chances of suffering a heart attack. The columns—from left to right—represent the coronary risk factors. The risk factors are some of the medical conditions and habits associated with your chances of suffering a heart attack. Not all risk factors are measurable enough to be included in this game; see next page for other risk factors.

**HOW TO PLAY**

Study each risk factor then find the item applicable to you and circle the large number in it. For example, if you are 37, circle the number in the column labeled 31-40.

After checking out all the rows, add the circled numbers. This total—your score—is an estimate of your risk.
If you Score
6-10 Risk well below average
12-15 Risk below average
18-24 Risk generally average
25-31 Risk moderate
32-40 Risk at a dangerous level
41-62 Danger urgent. See your doctor now.

THE RISK FACTORS

Heredity
Count parents, grandparents, brothers, and sisters who have had heart attack and/or stroke.

Tobacco Smoking
If you inhale deeply and smoke a cigarette way down, add one to your classification. Do NOT subtract because you think you do not inhale or smoke only a half inch on a cigarette.

Exercise
Lower your score one point if you exercise regularly and frequently.

Cholesterol or Saturated Fat Intake Level
You should obtain a cholesterol blood level from your doctor. If you can't get one from your doctor, then estimate honestly the percentage of solid fats you eat. These are usually of animal origin—lard, cream, butter, and beef, and lamb fat. If you eat much of this, your cholesterol level probably will be high. The U.S. average—40 percent—is too high for good health.

Blood Pressure
If you have no recent reading, get one. In the meantime, consider yourself to be normal (120 for upper reading) if you are under 30.

Sex
This line takes into account the fact that men have from six to ten times more heart attacks than women of childbearing age.

Because of the difficulty in measuring them, these RISK FACTORS are not included in RISKO:
1. Diabetes, particularly when present for many years.
2. Your character or personality, and the stress under which you live.
3. Vital Capacity—determined by measuring the amount of air you can take into your lungs in proportion to the size of your lungs. The less air you can breathe, the higher your risk.
4. Electrocardiogram—if certain abnormalities are present in the record, these electrical currents generated by your heart, you have a higher risk.
5. Gout—caused by a higher than normal amount of uric acid in the blood. Persons with gout have an increased risk.

If you have a number of risk factors, for the sake of your health, ask your doctor to check your medical conditions and quit your risk-factor habits.

Note: The fact that various habits or conditions may be rated similarly in this test does not mean these are of equal significance. The reaction of individual human beings to risk factors—as to many other things—is so varied it is impossible to draw valid conclusions for any individual.

This scale has been developed only to highlight what the Risk Factors are and what can be done about them. It is not designed to be a medical diagnosis.

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The Lifestyle File

Accumulating evidence suggests that the progression of coronary artery disease can be slowed or even stopped through changes in lifestyle. As reported in Circulation, a practical and sustained diet and a carefully monitored exercise program can slow the progression of coronary artery disease.