



# ACS Guidelines for Nutrition and Physical Activity

About 2 out of 3 Americans are overweight or obese. Many Americans are also less physically active than they should be. Obesity increases the risk of many types of cancer. It also increases the risk of heart disease, stroke, diabetes, and other health outcomes, such as dying at an early age.

While it is not clear exactly how excess body fat, consuming too many calories, and lack of physical activity raise cancer risk, there is no question that they are linked to an increased risk of many types of cancer and that they are a serious and growing health problem.

The World Cancer Research Fund estimates that about 20% of all cancers diagnosed in the US are related to body fatness, physical inactivity, excess alcohol consumption, and/or poor nutrition, and thus could also be prevented.

## Achieve and maintain a healthy weight throughout life

- Be as lean as possible throughout life without being underweight.
- Avoid excess weight gain at all ages. For those who are overweight or obese, losing even a small amount of weight has health benefits and is a good place to start.
- Get regular physical activity and limit intake of high-calorie foods and drinks as keys to help maintain a healthy weight.

## Body weight and cancer risk

Being overweight or obese is clearly linked with an increased risk of several types of cancer:

- Breast (among women who have gone through menopause)
- Colon and rectum

- Endometrium (lining of the uterus)
- Esophagus
- Kidney
- Pancreas

Being overweight or obese also likely raises the risk of other cancers:

- Gallbladder
- Liver
- Non-Hodgkin lymphoma
- Multiple myeloma
- Cervix
- Ovary
- Aggressive forms of prostate cancer

In addition, having too much belly fat is linked with an increased risk of colorectal cancer, and is probably linked to a higher risk of cancers of the pancreas, endometrium (lining of the uterus), and breast cancer (in women past menopause).

Some studies have shown a link between weight loss and a lower risk of breast cancer after menopause. The risk of some other cancers may also be lowered by weight loss. While there is still much to be learned about this area, people who are overweight or obese are encouraged to lose weight.

## Getting to and maintaining a healthy weight

A healthy weight depends on a person's height, so recommendations for a healthy weight are often expressed in terms of body mass index (BMI). BMI is a number that is calculated using your weight and height. In general, the higher the number, the more body fat a person has (although there are exceptions).

BMI is often used as a screening tool to help decide if your weight might be putting you at risk for health problems, such as heart disease, diabetes, and cancer. People should strive to maintain a healthy weight, as seen in the table below.

For most adults, experts consider a BMI within the range of 18.5 to 24.9 to be healthy, a BMI between 25 and 29.9 to be overweight, and a BMI of 30 and over to be obese.

| BMI    | 19               | 20  | 21  | 22  | 23  | 24  | 25         | 26  | 27  | 28  | 29  | 30    | 31  | 32  | 33  | 34  | 35  |
|--------|------------------|-----|-----|-----|-----|-----|------------|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|
| Height | Weight in Pounds |     |     |     |     |     |            |     |     |     |     |       |     |     |     |     |     |
| 4'10"  | 91               | 96  | 100 | 105 | 110 | 115 | 119        | 124 | 129 | 134 | 138 | 143   | 148 | 153 | 158 | 162 | 167 |
| 4'11"  | 94               | 99  | 104 | 109 | 114 | 119 | 124        | 128 | 133 | 138 | 143 | 148   | 153 | 158 | 163 | 168 | 173 |
| 5'     | 97               | 102 | 107 | 112 | 118 | 123 | 128        | 133 | 138 | 143 | 148 | 153   | 158 | 163 | 168 | 174 | 179 |
| 5'1"   | 100              | 106 | 111 | 116 | 122 | 127 | 132        | 137 | 143 | 148 | 153 | 158   | 164 | 169 | 174 | 180 | 185 |
| 5'2"   | 104              | 109 | 115 | 120 | 126 | 131 | 136        | 142 | 147 | 153 | 158 | 164   | 169 | 175 | 180 | 186 | 191 |
| 5'3"   | 107              | 113 | 118 | 124 | 130 | 135 | 141        | 146 | 152 | 158 | 163 | 169   | 175 | 180 | 186 | 191 | 197 |
| 5'4"   | 110              | 116 | 122 | 128 | 134 | 140 | 145        | 151 | 157 | 163 | 169 | 174   | 180 | 186 | 192 | 197 | 204 |
| 5'5"   | 114              | 120 | 126 | 132 | 138 | 144 | 150        | 156 | 162 | 168 | 174 | 180   | 186 | 192 | 198 | 204 | 210 |
| 5'6"   | 118              | 124 | 130 | 136 | 142 | 148 | 155        | 161 | 167 | 173 | 179 | 186   | 192 | 198 | 204 | 210 | 216 |
| 5'7"   | 121              | 127 | 134 | 140 | 146 | 153 | 159        | 166 | 172 | 178 | 185 | 191   | 198 | 204 | 211 | 217 | 223 |
| 5'8"   | 125              | 131 | 138 | 144 | 151 | 158 | 164        | 171 | 177 | 184 | 190 | 197   | 203 | 210 | 216 | 223 | 230 |
| 5'9"   | 128              | 135 | 142 | 149 | 155 | 162 | 169        | 176 | 182 | 189 | 196 | 203   | 209 | 216 | 223 | 230 | 236 |
| 5'10"  | 132              | 139 | 146 | 153 | 160 | 167 | 174        | 181 | 188 | 195 | 202 | 209   | 216 | 222 | 229 | 236 | 243 |
| 5'11"  | 136              | 143 | 150 | 157 | 165 | 172 | 179        | 186 | 193 | 200 | 208 | 215   | 222 | 229 | 236 | 243 | 250 |
| 6'     | 140              | 147 | 154 | 162 | 169 | 177 | 184        | 191 | 199 | 206 | 213 | 221   | 228 | 235 | 242 | 250 | 258 |
| 6'1"   | 144              | 151 | 159 | 166 | 174 | 182 | 189        | 197 | 204 | 212 | 219 | 227   | 235 | 242 | 250 | 257 | 265 |
| 6'2"   | 148              | 155 | 163 | 171 | 179 | 186 | 194        | 202 | 210 | 218 | 225 | 233   | 241 | 249 | 256 | 264 | 272 |
| 6'3"   | 152              | 160 | 168 | 176 | 184 | 192 | 200        | 208 | 216 | 224 | 232 | 240   | 248 | 256 | 264 | 272 | 279 |
|        | Healthy Weight   |     |     |     |     |     | Overweight |     |     |     |     | Obese |     |     |     |     |     |

Source: US Department of Health and Human Services, National Institutes of Health, National Health, Lung, and Blood Institute. The Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults: Evidence Report. September 1998 [NIH pub. No. 98-4083].

The way to achieve a healthy body weight is to balance energy intake (what you eat and drink) with energy use (physical activity). Excess body fat can be reduced by lowering the number of calories you consume and increasing your physical activity.

You can lower the number of calories that you take in by eating smaller amounts of food (lowering portion sizes), limiting between-meal snacks, and limiting foods and drinks that are high in calories, fat, and/or added sugars, and that provide few nutrients. Fried foods, cookies, cakes, candy, ice cream, and regular soft drinks should be replaced with vegetables and fruits, whole grains, beans, and lower calorie beverages.

## Be physically active

- Adults should get at least 150 minutes of moderate intensity or 75 minutes of vigorous intensity activity each week (or a combination of these), preferably spread throughout the week.
- Children and teens should get at least 1 hour of moderate or vigorous intensity activity each day, with vigorous activity on at least 3 days each week.
- Limit sedentary behavior such as sitting, lying down, watching TV, and other forms of screen-based entertainment.
- Doing some physical activity above usual activities, no matter what one's level of activity, can have many health benefits.

# Benefits of physical activity

Physical activity may reduce the risk of several types of cancer:

- Breast
- Colon
- Endometrium (lining of the uterus)
- Prostate (advanced cancers)

The risk of other cancers may be lowered as well, although the evidence is limited.

A physically active lifestyle may also lower a person's risk of other health problems such as heart disease, high blood pressure, diabetes, and osteoporosis (bone thinning).

Being active may also help to prevent weight gain and obesity, which may in turn reduce the risk of developing cancers that have been linked to excess body weight.

## Types of activity

*Usual activities* are those that are done on a regular basis as part of one's daily routine. These activities include those done at work (such as walking from the parking garage to the office), at home (such as climbing a flight of stairs), and those that are part of daily living (such as dressing and bathing). Usual activities are typically brief and of low intensity.

*Intentional activities* are those that are done in addition to these usual activities. These activities are often planned and done at leisure, as regularly scheduled physical activity or fitness sessions (exercise), such as a bike ride or a run. Other intentional activities may involve adding more purposeful physical activity into the day and making lifestyle choices to add to or replace other routine activities, such as walking to use public transportation or commuting by bicycle instead of driving.

Usual and intentional activities can also be grouped by intensity:

- *Light* intensity activities include activities such as housework, shopping, or gardening.
- *Moderate* intensity activities are those that require effort equal to a brisk walk.
- *Vigorous* intensity activities generally use large muscle groups and result in a faster heart rate, deeper and faster breathing, and sweating.

### Examples of moderate and vigorous intensity physical activities

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|                             | <b>Moderate intensity</b>   | <b>Vigorous intensity</b>  |
|-----------------------------|---|--|
| <b>Exercise and leisure</b> | Walking, dancing, leisurely bicycling, ice and roller skating, horseback riding, canoeing, yoga | Jogging or running, fast bicycling, circuit weight training, aerobic dance, martial arts, jumping rope, swimming |
| <b>Sports</b>               | Volleyball, golfing, softball, baseball, badminton, doubles tennis, downhill skiing             | Soccer, field or ice hockey, lacrosse, singles tennis, racquetball, basketball, cross-country skiing             |
| <b>Home activities</b>      | Mowing the lawn, general yard and garden maintenance  | Digging, carrying and hauling, masonry, carpentry  |
| <b>Workplace activity</b>   | Walking and lifting as part of the job (custodial work, farming, auto or machine repair)        | Heavy manual labor (forestry, construction, fire fighting)   |

## Recommended amount of activity

Adults should get at least 150 minutes per week of moderate intensity activity or 75 minutes per week of vigorous intensity activity, or an equal combination, in addition to normal activities of daily living.

When combining different types of activity, 1 minute of vigorous activity can take the place of 2 minutes of moderate activity. For example, 150 minutes of moderate activity, 75 minutes of vigorous activity, and a combination of 100 minutes of moderate activity plus 25 minutes of vigorous activity all count as the same amount.

This level of activity has been shown to have clear health benefits, including lowering the risk of dying at an early age and lowering the chance of getting or dying from certain types of cancer. Higher amounts of physical activity may be even better for lowering cancer risk.

It is not clear if daily activity provides the most benefit if done all at once or in smaller blocks of time throughout the day, but it is reasonable to get your activity in separate sessions of at least 20 to 30 minutes each.

For people who are not active or just starting a physical activity program, activity levels below the recommended levels can still help your health, especially your heart. The amount and intensity of activity can then be increased slowly over time. Most children and young adults can safely do moderate and/or vigorous activities without checking with their doctors. But men older than 40 years, women older than 50 years, and people with chronic illnesses or risk factors for heart disease should check with their doctors before starting a vigorous activity program.

Children and teens should be encouraged to be active at moderate to vigorous intensities for at least an hour a day, every day. Activities should be age appropriate, enjoyable, and varied, including sports and fitness activities in school, at home, and in the community. To help reach activity goals, daily physical education programs and activity breaks should be provided for children at school, and "screen time" (TV viewing, playing video games, or social networking on the computer and similar activities) should be limited at home.

## Limiting time spent sitting

There is growing evidence that the amount of time spent sitting is important, regardless of your activity level. Sitting time raises the risks of obesity, type 2 diabetes, heart disease, and some types of cancer, as well as of dying at a younger age.

Lifestyle changes and advances in technology have led to people being less active and spending more time sitting each day. This is true both in the workplace and at home, due to increased TV, computer, and other screen time. Limiting the amount of time spent sitting, as suggested in the table below, may help maintain a healthy body weight and reduce the risk of certain cancers.

### Tips to reduce sitting time

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- Limit time spent watching TV and using other forms of screen-based entertainment.
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- Use a stationary bicycle or treadmill when you do watch TV.
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- Use stairs rather than an elevator.
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- If you can, walk or bike to your destination.
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- Exercise at lunch with your coworkers, family, or friends.
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- Take an exercise break at work to stretch or take a quick walk.
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- Walk to visit coworkers instead of phoning or sending an e-mail.
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- Go dancing with your spouse or friends.
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- Plan active vacations rather than only driving trips.
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- Wear a pedometer every day and increase your number of daily steps.
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- Join a sports team.
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## **Eat a healthy diet, with an emphasis on plant foods**

### **Choose foods and drinks in amounts that help you get to and maintain a healthy weight.**

- Read food labels to become more aware of portion sizes and calories. Be aware that "low-fat" or "non-fat" does not necessarily mean "low-calorie."
- Eat smaller portions when eating high-calorie foods.
- Choose vegetables, whole fruit, and other low-calorie foods instead of calorie-dense foods such as French fries, potato and other chips, ice cream, donuts, and other sweets.
- Limit your intake of sugar-sweetened beverages such as soft drinks, sports drinks, and fruit-flavored drinks.
- When you eat away from home, be especially mindful to choose food low in calories, fat, and added sugar, and avoid eating large portion sizes.

### **Limit how much processed meat and red meat you eat.**

- Minimize your intake of processed meats such as bacon, sausage, lunch meats, and hot dogs.
- Choose fish, poultry, or beans instead of red meat (beef, pork, and lamb).
- If you eat red meat, choose lean cuts and eat smaller portions.
- Prepare meat, poultry, and fish by baking, broiling, or poaching rather than by frying or charbroiling.

### **Eat at least 2½ cups of vegetables and fruits each day.**

- Include vegetables and fruits at every meal and for snacks.



- Eat a variety of vegetables and fruits each day.
- Emphasize whole fruits and vegetables; choose 100% juice if you drink vegetable or fruit juices.
- Limit your use of creamy sauces, dressings, and dips with fruits and vegetables.

### **Choose whole grains instead of refined grain products.**

- Choose whole-grain breads, pasta, and cereals (such as barley and oats) instead of breads, cereals, and pasta made from refined grains, and brown rice instead of white rice.
- Limit your intake of refined carbohydrate foods, including pastries, candy, sugar-sweetened breakfast cereals, and other high-sugar foods.

Studies showing that higher vegetable and fruit intake reduces cancer risk have led researchers to try to figure out which specific nutrients from these foods are responsible. But many studies have not found that supplements containing certain nutrients (like vitamins) reduce cancer risk, and some have even suggested they may cause harm. This is complicated because researchers must try to choose how best to give the supplement, including the exact dose, what group of people to give it to, and how long to give it for, which isn't always known.

Studies of nutritional supplements to reduce cancer risk have not all been disappointing, but for the most part, research does not support their use in lowering cancer risk.

Foods and nutrients probably each have small effects on health that add up when consumed together, and they may interact in complex ways that are not well understood. The best advice at this time is to eat whole foods as part of an overall healthy diet as outlined in this guideline, with special emphasis on controlling calorie intake to help get to and maintain a healthy weight.

## **If you drink alcohol, limit your intake**

People who drink alcohol should limit their intake to no more than 2 drinks per day for men and 1 drink per day for women. The recommended limit is lower for women because of their smaller body size and slower breakdown of alcohol.

A drink of alcohol is defined as 12 ounces of beer, 5 ounces of wine, or 1½ ounces of 80-proof distilled spirits (hard liquor). In terms of cancer risk, it is the amount of alcohol consumed that is important, not the type of alcoholic drink.

These daily limits do not mean you can drink larger amounts on fewer days of the week, since this can lead to health, social, and other problems.

Alcohol is a known cause of cancers of the:

- Mouth
- Throat (pharynx)
- Voice box (larynx)
- Esophagus
- Liver
- Colon and rectum
- Breast

Alcohol may also increase the risk of cancer of the pancreas.

Alcohol also interacts with tobacco use to increase the risk of cancers of the mouth, larynx, and esophagus many times more than the effect of either drinking or smoking alone.

The recommendation for limiting alcohol is complicated because low to moderate alcohol intake has been linked with a lower risk of heart disease. Despite the effects on the heart, the American Heart Association states that there is no compelling reason for adults who do not drink alcohol to start drinking in order to reduce their risk of heart disease, because the risk can be lowered by other means (such as avoiding smoking, eating a healthy diet, staying at a healthy weight, and staying physically active).

Some groups of people should not drink alcohol at all. These include:

- Children and teens
- People of any age who cannot limit their drinking or who have a family history of alcoholism
- Women who are or may become pregnant
- People who plan to drive or operate machinery
- People who take part in other activities that require attention, skill, or coordination
- People taking prescription or over-the-counter medicines that interact with alcohol

## Recommendations for community action

Although many Americans would like to adopt a healthy lifestyle, many encounter barriers that make it hard to do so. These guidelines therefore stress the importance of public, private, and community organizations working together at national, state, and local levels to apply policy and environmental changes that:

- Increase access to affordable, healthy foods in communities, places of work, and schools, and decrease access to and marketing of foods and drinks of low nutritional value, particularly to youth.
- Provide safe, enjoyable, and accessible environments for physical activity in schools and workplaces, and for transportation and recreation in communities.

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**MORE IN STAY HEALTHY**

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## **Stay Away From Tobacco**

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## **Be Safe in the Sun**

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## **Eat Healthy and Get Active**

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## **Protect Against HPV**

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## **Cancer Screening Guidelines**

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## **Exams and Tests**

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