

2.2: Target Heart Rate Zone

Target Heart Rate and Estimated Maximum Heart Rate

One way of monitoring physical activity intensity is to determine whether a person's pulse or heart rate is within the target zone **during physical activity**.

For moderate-intensity physical activity, a person's target heart rate should be 50 to 70% of his or her maximum heart rate. This maximum rate is based on the person's age. An estimate of a person's maximum age-related heart rate can be obtained by subtracting the person's age from 220. For example, for a 50-year-old person, the estimated maximum age-related heart rate would be calculated as $220 - 50 \text{ years} = 170$ **beats per minute (bpm)**. The 50% and 70% levels would be:

- 50% level: $170 \times 0.50 = 85$ bpm, and
- 70% level: $170 \times 0.70 = 119$ bpm

Thus, moderate-intensity physical activity for a 50-year-old person will require that the heart rate remains between 85 and 119 bpm during physical activity.

For vigorous-intensity physical activity, a person's target heart rate should be 70 to 85% of his or her maximum heart rate. To calculate this range, follow the same formula as used above, except change "50 and 70%" to "70 and 85%". For example, for a 35-year-old person, the estimated maximum age-related heart rate would be calculated as $220 - 35 \text{ years} = 185$ beats per minute (bpm). The 70% and 85% levels would be:

- 70% level: $185 \times 0.70 = 130$ bpm, and
- 85% level: $185 \times 0.85 = 157$ bpm

Thus, vigorous-intensity physical activity for a 35-year-old person will require that the heart rate remains between 130 and 157 bpm during physical activity.

Taking Your Heart Rate

Generally, to determine whether you are exercising within the heart rate target zone, you must stop exercising briefly to take your pulse. You can take the pulse at the neck, the wrist, or the chest. We recommend the wrist. You can feel the radial pulse on the artery of the wrist in line with the thumb. Place the tips of the index and middle fingers over the artery and press lightly. Do not use the thumb. Take a full 60-second count of the heartbeats, or take for 30 seconds and multiply by 2. Start the count on a beat, which is counted as "zero." If this number falls between 85 and 119 bpm in the case of the 50-year-old person, he or she is active within the target range for moderate-intensity activity.



When starting an exercise program, calculating a target heart rate zone can be very beneficial to ensure that you are exercising safely and effectively. Heart rates are referred to as "beats per minute" or *bpm*.

$$220 - \text{Age} = \text{Maximum Heart Rate}$$

Finding Your Target Heart Rate Zone:

Age	Target Heart Rate Zone: 50-85%	Maximum Heart Rate: 100%
20	100-170 beats per min.	200 beats per min.
25	98-166 beats per min.	195 beats per min.
30	95-162 beats per min.	190 beats per min.
35	93-157 beats per min.	185 beats per min.
40	90-153 beats per min.	180 beats per min.
45	88-149 beats per min.	175 beats per min.
50	85-145 beats per min.	170 beats per min.
55	83-140 beats per min.	165 beats per min.
60	80-136 beats per min.	160 beats per min.

65	78-132 beats per min.	155 beats per min.
70	75-128 beats per min.	150 beats per min.

Public domain content

- Target Heart Rate and Estimated Maximum Heart Rate. **Authored by:** Centers for Disease Control and Prevention. **Provided by:** U.S. Department of Health and Human Services. **Located at:** <http://www.cdc.gov/physicalactivity/basics/measuring/hearttrate.htm>. **License:** *Public Domain: No Known Copyright*

This page titled [2.2: Target Heart Rate Zone](#) is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by [Andrew Paasch](#).