



Maximum Heart Rate and Physical Activity

(Source: CDC Website)

Before exercising you need to know your Maximum Heart Rate. Everyone is born with their own unique maximum heart rate. There are two ways to determine your maximum heart rate. The best way is to do a stress test in your doctor's office. My (Mike

Navolio) maximum heart rate was estimated to be 193 by stress test when I was about 59 years' old.

If you can't do a stress test the CDC suggests that you can estimate your maximum heart rate based on your age. To estimate your maximum age-related heart rate, subtract your 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). Using this method my (Mike Navolio) maximum heart rate would have been calculated as $220 - 59 \text{ years} = 161$ bpm (much less than the stress test estimate). At my age in 2021 (70) my maximum heart rate would be calculated as $220 - 70 = 150$.

For moderate-intensity physical activity, your target heart rate should be between 64% and 76% of your maximum heart rate. The 64% and 76% levels for a 50-year-old would be:

- 64% level: $170 \times 0.64 = 109$ bpm, and
- 76% level: $170 \times 0.76 = 129$ bpm

This shows that moderate-intensity physical activity for a 50-year-old person will require that the heart rate remains between 109 and 129 bpm during physical activity. Using this method my (Mike Navolio at age 70) target heart rate range for moderate-intensity physical activity would be 96-114bpm.

For vigorous-intensity physical activity, your target heart rate should be between 77% and 93% of your maximum heart rate. To figure out this range, follow the same formula used above, except change "64 and 76%" to "77 and 93%". 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 77% and 93% levels would be:

- 77% level: $185 \times 0.77 = 142$ bpm, and
- 93% level: $185 \times 0.93 = 172$ bpm

This shows that vigorous-intensity physical activity for a 35-year-old person will require that the heart rate remains between 142 and 172 bpm during physical activity. Using this method my (Mike Navolio at age 70) target heart rate range for moderate-intensity physical activity would be 116-140bpm.

