

# Visualizing and Predicting Heart Diseases with an Interactive Dash Board

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## **Exploration Of Max Heart Rate During The Chest Pain:**

### **Average Max Heart Beat Achieved during Chest Pain:**

Here we are plotting the average Max Heartbeats recorded for a person based on Gender and Chest Pain Type.

**For moderate-intensity physical activity**, your target heart rate should be between 64% and 76%<sup>1,2</sup> of your maximum heart rate. 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  $220 - 50 \text{ years} = 170 \text{ beats per minute (bpm)}$ . The 64% and 76% levels would be:

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

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.

**For vigorous-intensity physical activity**, your target heart rate should be between 77% and 93%<sup>1,2</sup> 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  $220 - 35 \text{ years} = 185 \text{ beats per minute (bpm)}$ . The 77% and 93% levels would be:

- 77% level:  $185 \times 0.77 = 142 \text{ bpm}$ , 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.



## Maximum and Target Heart Rates by Age

Age	Maximum Heart Rate	Target Heart Rate
20	200	100 – 170
30	190	95 – 162
35	185	93 – 157
40	180	90 – 153
45	175	88 – 149
50	170	85 – 145
55	165	83 – 136
60	160	80 – 136

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*\*calculated based on information from the American Heart Association*

