

Can you predict your heart rate when exercising? ^[1]

Dear Alice,

Is there an equation that would relate the relationship between exercise and heart rate. I understand the maximum and minimum heart rate equations for exercising. I would like to know if someone who is at their max. heart rate would be able to predict their heart rate if they increased their intensity. I am looking for something relating work intensity to heart rate.

Thank you very much for your time.

Joseph

Answer

Dear Joseph,

Your heart rate is influenced by a wide array of factors including age, sex, physical activity habits, medication, heredity, cardiovascular fitness level, body conditions (such as hydration), blood volume, body size, emotional state, and environment (such as humidity and temperature). Given the number and potential combinations of these variables, it's nearly impossible to predict how increased intensity translates into a specific rate of elevation in your heartbeat. Response to physical activity also varies greatly from person to person. Therefore, it may be more beneficial to monitor certain factors, such as your breathing or performance, during physical activity to gauge the intensity of your workout.

As a person improves their fitness level, the resting heart rate decreases ? meaning it may take a greater effort to elicit a specific heart rate. For example, someone who is just starting a physical activity routine may be short of breath after climbing up a flight of stairs, whereas a person who has been active for several or more months may be able to bound up those stairs with ease because her/his heart is already well conditioned. In this scenario, the more active person may need to climb up ten flights to significantly raise their heart rate. This adaptation occurs over time and is constantly changing.

Joseph, you mention understanding the maximum and minimum heart rate formulas. Another one that you may already be aware of is target heart rate. This is the range that's the most optimal for your heart rate during physical activity because you're exercising your heart. To get a general sense of what your target or recommended heart rate is check out [Minimum and maximum heart rate for aerobic exercise](#) ^[2] in the *Go Ask Alice!* archives. Once you've determined what your target heart rate is, one way to become more aware of your

conditioning is to monitor changes in your heart rate as a result of physical activity. Perhaps buying a heart rate monitor at a local sporting goods store (or via the Internet) will help you keep better track of the ups and downs of your heart rate. And, though you don't mention how active you are at this time, it's worth mentioning the recommendation to ramp up physical activity slowly to avoid injury or burnout for fitness newbies. During the first few weeks of a new workout routine, it's good to aim for 50 percent of your maximum heart rate and gradually build up to a higher range (i.e., 85 percent your maximum heart rate).

Another indicator of intensity is a person's ability to hold a conversation while breaking a sweat. Physical activity is considered at a moderate intensity [3] level if a person can carry a conversation but can't sing while being active. If it's difficult to get out even a few words while moving and grooving, their intensity level may be considered vigorous. Utilizing these strategies may be useful in real time as a person is being active to determine intensity level, rather than pulling out a calculator or consulting a gadget for readout.

While plugging away at the math or channeling your inner chatter box may help determine your intensity level, they're only estimates and don't actually predict heart rate from the intensity of the activity. In lieu of this, it's helpful to pay attention to your breathing, sweating, and performance while being active. Hopefully these tips help you follow your heart at a healthy pace!

Alice!

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Links

- [1] <http://www.goaskalice.columbia.edu/answered-questions/can-you-predict-your-heart-rate-when-exercising-0>
- [2] <http://goaskalice.columbia.edu/minimum-and-maximum-heart-rate-aerobic-exercise>
- [3] <http://goaskalice.columbia.edu/answered-questions/what-exactly-does-moderate-intensity-mean>
- [4] <http://www.goaskalice.columbia.edu/category/nutrition-physical-activity>
- [5] <http://www.goaskalice.columbia.edu/category/fitness>
- [6] <http://www.goaskalice.columbia.edu/category/cardiovascularaerobic-exercise>
- [7] <http://www.goaskalice.columbia.edu/category/working-out>
- [8] <http://www.goaskalice.columbia.edu/answered-questions/beginning-exercise-and-out-breath-0>
- [9] <http://www.goaskalice.columbia.edu/answered-questions/spinning-out-control>
- [10] <http://www.goaskalice.columbia.edu/answered-questions/altitude-training-does-it-work>
- [11] <http://www.goaskalice.columbia.edu/resource/dodge-fitness-center-morningside>
- [12] <http://www.goaskalice.columbia.edu/resource/bard-athletic-center-cumc>