

Workout of the Month: The Foster Sub-Max Heart Rate Test

To effectively train in each of the five heart zones, it is important to accurately determine your maximum heart rate, which is the anchor point for setting training zones. There are three ways to accomplish this: 1) Sub-Max field tests 2) a maximum test to exhaustion or 3) a mathematical formula, none of which are sufficiently accurate.

Here's one of the best Sub-Max tests to take. Developed by Carl Foster, Ph. D., University of Wisconsin, this test is published in peer-reviewed professional journals.

Foster Sub-Max Heart Rate Test

Steps	Activity
Step 1.	Warm-up adequately for 5-10 minutes.
Step 2.	Each stage is 2 minutes in duration. Starting at 120 bpm, increase your effort by 10 beats per minute (bpm) every 2-minute stage.
Step 3.	One minute and 30 seconds into each 2-minute exercise stage, recite the Pledge of Allegiance out loud.
Step 4.	At the final moments of each stage and after reciting the Pledge of Allegiance out loud, answer this question: Can you speak comfortably?
Step 5.	There are only two possible answers: Yes or Uncertain. Choose only one of these answers and each time you ask yourself the question, Can you speak comfortably? <input type="checkbox"/> Yes or <input type="checkbox"/> Uncertain.
Step 6.	Continue to increase your exercise effort 10 bpm every 2 minutes until you answer the question "Can you speak comfortably?" as Uncertain. Record the Uncertain heart rate number in bpm.
Step 7.	Cool down adequately for 5-10 minutes.
Step 8.	To calculate your estimated maximum heart rate, add to the heart rate number at the Uncertain stage the Math Factor based on your current level of fitness: <ul style="list-style-type: none">∞ If you are in poor shape add the Math factor: 50 bpm.∞ If you are in average shape add the Math factor: 40 bpm.∞ If you are in excellent shape add the Math factor: 30 bpm.∞ If you are in competitive athletic shape add the Math factor: 20 bpm. Example: Heart rate at "Uncertain" (150 bpm) + Math factor for average shape (40) = 190 bpm, estimated maximum heart rate.

There are few exercise scientists in the world with the credentials and authority of Carl Foster, Ph. D. His academic qualifications are stellar and his research extraordinary. With 30 years of research and over 300 peer-reviewed published articles, Carl is the past president of the American College of Sports Medicine, textbook author, and a distinguished Heart Zones Conference faculty member.

For more on how to set your five training zones now that you have an accurate estimate of your maximum heart rate, read the article "Sub-Max Testing: Why and How."
