

## Swimming Target Heart Rate

The easiest way to know if you are exercising at the intensity necessary to gain the greatest cardiovascular benefit is to measure your heart rate. The ideal heart rate range for an exercise participant to maintain during exercise is found by first calculating the participant's maximal heart rate, and then their target heart rate (THR) for exercise intensity. When swimming, the target heart rate (THR) should be 10 to 13 beats lower than the THR for most exercises performed on the land, because a swimmer's horizontal position and the muscles used when swimming prevent the heart rate from increasing as much as it would during vertical land exercise of the same intensity.

You may use the table included on this page as a general THR guide, or you may want to calculate your own personal THR by using the formula in the section titled "Calculate Your Own THR" on page 2. Additionally, you will find instructions for taking your pulse under the cleverly-titled heading of "Taking Your Pulse," also located on page 2.



### Using the Swimming Target Heart Rate Chart

It is first important to point out that this table is only a guide. The information contained here will give you a general idea of what your swimming THR should be (see "Calculating Your Personal THR" for more on finding your THR.).

To use the table, perform the following steps:

1. Find your age category on the left hand side of the table. Round your age up or down, if necessary, to the closest age mark on the table.

Example:

age 41 would be age 40 on the table.

2. Find your maximal heart rate (MHR) to the right of your age.

Example:

age 40 = 180 (MHR)

3. Find your desired exercise intensity level on the top row of the table. To get your swimming THR number, move down the column containing your desired intensity percentage, stopping even with your age mark on the left column.

Example:

70% (desired intensity percentage) at age 40 = 12 (THR number).

4. Multiply the THR number found on the table by 10. This number will be your approximate training heart rate while exercising.

Example:

12 x 10 = 120 (swimming THR)

Age	MHR	60%	70%	75%	80%	85%
20	200	11	13	14	15	16
25	195	11	13	14	14	15
30	190	11	12	13	14	15
35	185	10	12	13	14	15
40	180	10	12	12	13	14
45	175	10	11	12	13	14
50	170	9	11	12	12	13
55	165	9	11	11	12	13
60	160	9	10	11	12	12
65	155	8	10	11	11	12
70	150	8	10	10	11	12
75	145	8	9	10	10	11

# Swimming Target Heart Rate (continued)

## Calculating Your Personal Swimming THR

Your target heart rate calculation will be determined as a percentage of your maximal heart rate. Maximal heart rate can be measured by using the results of a maximal functional test (using a treadmill or bicycle) or by age predicted heart rate tables that typically use the “220-minus-age” formula. The formula for the age predicted heart rate method of estimating target heart rate is:

$$\begin{aligned} \text{Swimming Target Heart Rate} &= \text{Predicted maximal heart rate (220-age)} \\ &\quad \times 60\% \text{ to } 85\% \text{ (desired intensity)} \\ &\quad - 10 \text{ (allowance for horizontal swimming position)} \end{aligned}$$

For example, a 40-year-old woman for whom an intensity level of 70% of maximal heart rate is desired while swimming would be calculated this way:

$$\begin{aligned} 220-40 &= 180 \text{ (predicted maximal heart rate)} \\ 180 &\text{ (predicted maximal heart rate)} \\ \times .70 &\text{ (70\% swimming intensity)} \\ = 126 &\text{ (target heart rate for land exercise)} \\ - 10 &\text{ (allowance for horizontal swimming position)} \\ = 116 &\text{ (target heart rate for swimming activity)} \end{aligned}$$



### Disclaimer

This is to inform you that you are solely responsible for the way that you perceive and utilize the content of this information, including all content, links and other recommendations, and that the use of same will be at your own risk.

## Taking Your Pulse

Your heart rate can be determined by palpating (feeling) the pulse or by using a cardio tachometer or electrocardiogram. For practical reasons, feeling your pulse is the easiest and most accessible method to obtain your heart rate. Two of the points on your body where your pulse can be measured by palpation is at the radial pulse on your wrist, and the carotid artery on the side of your neck.

To measure your pulse at your radial artery, place the tips of your index and middle fingers (not your thumb; it has a pulse of its own!) on your wrist, in line with the base of your thumb. With your fingers over the artery, lightly apply pressure.

To measure your pulse at your carotid artery, place the tips of your index and middle fingers over the artery at the side of your larynx. With your fingers over the artery, lightly apply pressure while taking care not to press too hard.

To check your heart rate, first find your pulse. Then, while timing for 10 seconds, count the pulse beats. The first pulse beat will be counted as “0” at the start of the 10 second period, followed by “1” on the second beat, and so on. Multiply your 10 second pulse count by 6 to obtain your heart rate in beats per minute, then compare your results to your target heart rate.

For instance, if you were to count 20 pulse beats during a 10 second timing period, it would be calculated this way:

$$\begin{aligned} &20 \text{ (number of pulse beats in the 10 second timing period)} \\ &\times 6 \\ &= 120 \text{ (heart rate in beats per minute)} \end{aligned}$$



carotid artery



radial artery