Running vs. Cycling: Burning Calories

Running requires the same amount of energy to run one mile at any speed; you burn 110 calories per mile. It doesn't matter if you are a super fit athlete, or an out of shape beginner you will still burn the same number of calories per mile.

However, bike riding is affected by wind resistance so the faster you ride, the more energy you use, and the more calories you burn. You have to compare running and cycling at different cycling speeds.

This is according to fitness expert Dr. Edward Coyle of The University of Texas in Austin, who has worked with Lance Armstrong and other top athletes. He determined average values of oxygen consumption by cyclists to develop a table to estimate the approximate caloric equivalence between running and cycling.

He found that if you ride at 15 mph, you burn 31 calories per mile. This means if you ride 20 miles you burn 20 x 31 = 620 calories. Take the 620 calories and divide by 110 calories per mile for running and you get 5.63 miles of running to burn the same number of calories. Therefore, riding a bicycle 20 miles at an average 15 miles per hour is equal to running 5.6 miles at any speed.

Dr. Coyle's conversion figures are for an average-size adult (approximately 155 pounds). A larger cyclist would divide by a slightly higher number, a smaller cyclist, by a slightly lower one. Wind and hills are not accounted for in the table; nor is drafting behind another rider, which can reduce your energy expenditure by up to one-third.

The number of miles ridden divided by the conversion factor for the speed of riding equals the number of miles running to use the same amount of energy and calories burned. Here is the conversion table:

MPH CYCLING	CALORIES BURNED PER MILE	CONVERSION FACTOR
10	26	4.2
15	31	3.5
20	38	2.9
25	47	2.3
30	59	1.9

Riding 20 miles at 10 miles per hour, divide 20 miles by the conversion factor of 4.2 to get 4.8 miles equivalent running. For riding at 20 miles at 20 miles per hour, divide 20 miles distance by 2.9 conversion factor to get 6.9 miles running.

Running will give you a more intense workout in less time. However, a person would need to be at a reasonable fitness level to run 4.8 miles without causing themselves distress. Whereas, it would be easier to ride 20 miles on a bicycle, at 10 mph, to burn the same amount of calories. There would also be far less stress on the body's joints.

During the 1990s I was in pretty good shape and I could run 10 miles quite easily. My weight stayed steady. Ten years later, I could no longer manage that distance due to hip problems and had to cut back to 5 or 6 miles; the result was I gained weight, even with exercise. Eventually I had to give up running, and went back to cycling.

Now with the same level of fitness, it took me to run 5 or 6 miles, I can easily ride 50 miles at an average speed of 15 mph which equals 1,550 calories burned. I would have to run 14 miles to burn the same number of calories.

I am starting to loose weight again, and as my fitness level increases, my average speed increases, therefore, my calorie burning level increases. If I were still running, it would not matter what fitness level I attained, I would still only burn 110 calories per mile.

It seems to me that cycling is the best bet for anyone trying to burn calories and loose weight. There is far less stress on knee and hip joints, and the harder you push yourself the greater the reward in calories burned.

A person overweight by a considerable amount, who initially can only manage a few miles at say 10 mph, can also take heart that the extra weight they are carrying is in itself causing more calories to be burned.