



LETTER TO EDITOR

“Cycling vs. Running – An in-depth Analysis”

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DEAR EDITOR

Fitness, especially cardiovascular fitness, is the talk of the town in today's world. People are more aware about fitness in recent times than ever before. Cardiovascular fitness or continuous aerobic training is an exercise of steady intensity that lasts for more than 20 minutes (1). It includes running, cycling, swimming, etc. In this article, we will reveal a few facts about running and cycling.

Running is the finest form of exercise for maintaining an athletic physique and bodyweight. It is the second most productive exercise next to country skiing as far as calories burned per minute is concerned (2). According to a few studies, running may boost the HDL cholesterol level in our blood that helps in maintaining a healthy heart (3). Generally, we consider cycling to be a workout for the lower body, but it improves the overall strength and enhances one's stamina as it involves almost the whole body. It is also a friendly option to lose weight for beginners, elderlies, and people who have knee and back issues as the exercise is easy on joints. According to a few studies, pedaling your bicycle instead of taking public transport or your car to work can improve your cardiovascular fitness by 3-7% (2).

There is a belief that runners have increased tendency of developing osteoarthritis. However, there is no evidence that running increases the likelihood of osteoarthritis. In

addition, the risk of osteoarthritis was found significantly decreased in people who ran 12.4 km/week, suggesting that running is more likely to decrease the risk of osteoarthritis rather than increasing it (4). Body weight also has a strong association with running compared to other exercises. So, preventing weight gain is another way of restraining the risk of osteoarthritis (5).

On comparing some physiological aspects of both exercises, we can say that both running and cycling are good for improving cardiovascular fitness, i.e., low resting heart rate and higher Volume O₂ max (VO₂ max is one's capacity to utilize oxygen during exercise). An average middle-aged man has VO₂ max of 35–45 while cyclists and runners have a value higher than this. An average man's resting heart rate is around 70 beats per minute, whereas cyclists and runners mostly fall under 60 beats per minute. If a person runs and cycles for equal periods of time, running would come out as a better calorie burner than exercise (6). Cycling is associated with more impairment in ventilation in comparison with running while muscular adaptation to a given exercise, which is important for improvement in submaximal physiological variables, is probably larger in cycling than running (7).

Studies have showed that fatigue and decrease in maximal strength are important features after prolonged running as compared to cycling (7). This statement is also supported by

Table 1. A glance at the things that are offered by Cycling or Running

Cycling	Running
Builds strength and improves stamina	Increases the level of good cholesterol in our body
Enhances muscle tone	Boosts immune system
Great for improving cardiovascular fitness	Reduces the risk of heart attack, stroke, and breast cancer
Good for burning extra calories (steady cycling burns approximately 300 calories per hour)	Great for weight loss (burns more calories per hour than cycling)
Puts less pressure on knee and back and is good for weight loss in significantly overweight people and beginners	Puts more pressure on the knee and back as compared to cycling
Less dynamic so less injury-prone	More injury-prone than cycling

a research which concludes that runners experience notably more muscle damage, inflammation and delayed onset of muscle soreness (DOMS). Another research of Appalachian State University's Human Performance Laboratory (HPL) says that muscle damage, inflammation and soreness is experienced more by long-distance runners than cyclists after a session of vigorous workout. The researchers suggested that people who are starting exercise should pick cycling over running to wave off the chances of injury (8).

After this in-depth review as a bottom-line, we can conclude that cycling and running are good for cardiovascular fitness, fat loss, and overall health. Maximum advantage

can be yielded from these two exercises when they are used together. However, cycling has an edge over running as it is suitable for beginners, elderly, overweight people, and people with ongoing joint diseases. Since it is a low-impact sport, cycling has lower injury risks and is a preferable form of long-term aerobic exercise.

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