

January 7, 2005

Uphill or down? Study finds one choice is better for some

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The Associated Press

NEW ORLEANS - If exercise is too much of an uphill battle, you may want to try the downside.

A novel study of hikers in the Alps made the intriguing discovery that different types of exercise had different effects on fats and sugars in the blood.

Going uphill cleared fats from the blood faster, going downhill reduced blood sugar more, and hiking either way lowered bad cholesterol.

Both types of hiking are beneficial, but one may help diabetics more than the other, said Dr. Heinz Drexel of the Academic Teaching Hospital of Feldkirch, Austria, who reported the research at a recent American Heart Association conference in New Orleans. His was a most unusual study, involving steep mountains and lifts at a ski resort.

"If you think about this in practical terms, it's pretty hard to imagine how any human being could just go one way and get back to where they started unless they happen to live near a cable car, which was used in this study," said Dr. Raymond Gibbons, a cardiologist at the Mayo Clinic in Rochester, Minn., who had no role in the research.

Still, Dr. Gerald Fletcher, a cardiologist at the Mayo Clinic in Jacksonville, Fla., said the findings could be applied in the real world: People who work in office buildings, for example, could take the stairs one way and the elevator the other, depending on what their exercise goals were.

Hiking uphill is concentric exercise, where muscles are shortened, which happens when you bend your arm or step upward. Going downhill is eccentric muscle work, such as extending your arm or actively resisting stretching, which happens when you step down.

The Austrian researchers tested both forms of exercise on 45 healthy people who normally exercised very little. For the study, the participants took three to five hourlong hikes each week. For two months they hiked uphill and rode the ski lift down. The next two months they took the lift up and hiked down.

Their blood sugar and cholesterol levels were checked before the study started and after each two-month exercise segment. They also were given tests to see how quickly and well their blood removed fats and sugar after each phase.

The researchers were surprised to find that hiking downhill removed blood sugars and improved glucose tolerance, while uphill hiking mostly improved levels of fats called triglycerides.

This could be good news for diabetics, who often have trouble with concentric and types of aerobic exercise, Drexel said.

One problem with going downhill is pressure on the knees. Fletcher said more gyms need exercise machines that work downhill muscles without stressing knees.