Higher Altitude Means Much Lower Death Rates

A new study from Austria reports “*Lower mortality rates in those living at moderate altitude*”. As we’ll see here, higher altitude means much lower death rates.

Here’s a graph showing death from colon cancer in men, and breast cancer in women, by altitude:

![Graph showing death rates by altitude](image)

*Figure 1.* Altitude-dependent decrease of age-standardized mortality rates (ASMR, 95% CI) from male colorectal cancer (squares) and female breast cancer (triangles). The numbers indicate N of deaths from male colorectal cancer (upper line) and from female breast cancer (lower line) at different altitudes.
Death rates from both of these cancers were about half as high at an altitude of greater than 1000 meters (3300 feet). The study also found about a 30% reduction in deaths from coronary artery disease at >1000 meters.

This accords well with a number of other studies. For example, “Lower Mortality From Coronary Heart Disease and Stroke at Higher Altitudes in Switzerland”. This study found 22% less heart disease death for every +1000 meters in altitude, and 12% less stroke death.

“Association Between Alzheimer Dementia Mortality Rate and Altitude in California Counties”: This study found about half the death rate from Alzheimer’s at an altitude of 1600 meters vs that at sea level.

There’s less diabetes at high altitude.

Are there population differences, so that genes play a role? Not likely. The studies adjust for it, e.g. the first study confined results to towns of <20,000 population to control for migration from elsewhere; migrants overwhelmingly live in cities. Also, there’s increased death from COPD and respiratory infections at higher altitudes, so if there were some kind of general wealth or IQ effect, we wouldn’t see this.

What’s going on here?

In a word, hormesis, which is the biological response to low doses of toxins or stressors that results in making the organism healthier and stronger. It results in lower incidence of the diseases of aging, including heart disease, cancer, and diabetes. One of the main ways that hormesis works is through activation of the Nrf2 system, which increases cellular defenses.

Hormetic factors at play with higher altitude include

- hypoxia, or less oxygen
- background radiation – from being surrounded by massive rock formations
- solar radiation, including cosmic rays – from less atmosphere to block them
- exercise – walking around at high altitude (up and down) is more strenuous than at sea level
- iron: at higher altitudes, humans have higher hemoglobin, which requires iron, and thus ferritin levels are lower

Non-hormetic factors could be cleaner air and higher blood levels of vitamin D from all the sunshine.

Seems that someone really serious about an anti-aging program would do well to consider moving to the mountains. Lower obesity rates are also found in the mountains.

PS: For more on anti-aging, see my book, Stop the Clock.
PPS: Check out my Supplements Buying Guide for Men.