One cannot live on water alone

Dear Alice,

How long can the body survive on water alone? I have a bet with a co-worker. He says a person can live for six months on water alone. Is this true?

Thanks.

Answer

Dear Reader,

How much did you bet? It's time for your co-worker to pay up!

The human body can survive a surprisingly long time on water alone, but it is nowhere near six months. When the body is deprived of new fuel (i.e., food), it breaks into its energy reserves to keep going. The body stores energy in the form of carbohydrates, fats, and proteins.

After one day without food, the body will have used up its carbohydrates, which are stored as glycogen in liver and muscle cells. After that, it's on to the fat reserves. Your average Joe/Jane, weight-wise, has enough fat reserves to live for four to six weeks without food. After that, the body begins to use its protein reserves (basically, the body itself). Body proteins are used up at a much faster rate than fat, and you could really only get another two to three weeks out of protein. At that point, however, you can't really call it living since so much irreparable damage has been done to the body, including the brain.

Bottom line: an average person could live for about eight weeks on water alone, give or take about a week for an over- or underweight person, respectively.

Alice!
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