If feeling older than you look appeals to you, take a seat while you read this: A recent study [1] found that women who sit longer than 10 hours a day, combined with low physical activity, have cells that are biologically older — *eight years older to be exact* — than their actual age.

The study looked at the lifestyles of 1,500 women, between the ages of 64 and 90, who are part of a Women's Health Initiative (WHI) — a national study on chronic disease and postmenopausal women. Researchers found that women who sat for more than ten hours per day, and exercised less than 40 minutes daily, had shorter telomeres — the caps at the ends of DNA strands which protect chromosomes. Shorter telomeres have been associated with increased risk for disease and poor survival, which is why low activity combined with prolonged sitting can contribute to cell aging. The picture was not as bad for women who incorporated at least 30 minutes of daily moderate to vigorous physical activity, even if they spent most of their day sitting at a desk.
The notion that physical activity contributes to keeping your cells healthy isn't new, or surprising.

At the core of what keeps cells young and healthy is our DNA. Too many cycles of cell division can trigger faster aging, before division stops altogether. In another study, which was published in the journal *Science Advances*[^2], researchers specifically focused on cell division and its effects on our chromosomes. Each time a cell divides, researchers founds, a compound called nuclear respiratory factor 1 (NRF1) regulates the production of a factor that controls the shortening of telomeres attached to each of our chromosomes. Exercise boosts levels of NRF1, which in turn protects telomeres from shortening.

With each period of moderate to intense exercise, telomeres are 'refreshed,' thus helping your DNA stay healthy and your cells young.

How much exercise and when to do it has been up for debate, though. Most recent research has shown that exercising longer over the weekend can redeem your sedentary self throughout the week. We wrote about the findings last week[^3], while sitting at our desk, contemplating some cardio after work.

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[2] http://advances.sciencemag.org/content/2/7/e1600031