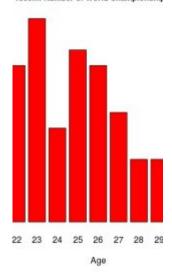
## 1500m: Number of World Championship



## **Aging Starts Young**

Answering the question "what is aging?" is essential to having the ability to do something about it. As we'll see, we do know a great deal of the answer, and this leads to the conclusion that aging starts young.

Perhaps the earliest indication of aging is <u>muscle loss</u>. As we age, we lose muscle to the extent that by the age of 80, the average 80-year-old man will have lost half of his muscle. But this decrease in muscle starts early, and can be detected as early as when someone is in his thirties.

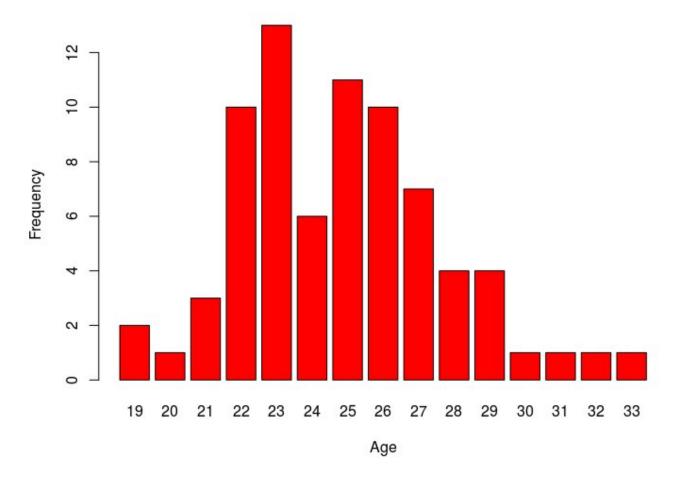
Aging includes not only loss of muscle, but a decline in the functions of the brain and nervous system, immune function, hormones, bone loss, and others.

One way to detect the beginnings of the decline in these functions would be to use a test capable of fine discrimination between people, since the deterioration of aging isn't noticeable to the naked eye or even a thorough physical examination.

We do have such a finely discriminatory test: athletics.

The following chart shows the winners of men's championship track and field events by age, and was put together by Erwin Schmidt using data from Wikipedia.

100, 200, 400, 800, 1500m: Number of World Championship Gold Medalists by Age



The chart shows that the number of gold medalists peaks at age 23 or 24. (Small sample size means that the number of medalists at age 24 could be a fluke.)

The number of medalists at ages 19 to 21 is small, perhaps because men that age have not reached a peak of development and are still adding muscle to their frames. It could also be due to more and harder training as they reach age 19 and begin to ramp up for a world-class battle.

At age 23 (or 24), the number of medalists peaks. Afterwards we see a steady decline, until at ages 30 to 33, only one runner of each age won a gold medal. There are no gold medalists above the age of 33. By the age of 34, all championship runners have aged enough so that they're not competitive at the world-class level.

Sprinting and short-distance running seem ideal for this sort of determination. In sprinting, intensity of effort is key, and all physiological systems must be in peak form and able to deliver 100% performance.

Sprinting also requires less skill (dexterity) than other sports, so we don't confound the acquisition of skills as a person ages with physiological condition. And of course, skill is also a determinant in team sports, and sprinting is a solo sport.

## Aging is damage

Aging means the <u>accumulation of damage</u> to tissues, cells, their organelles, and their constituent molecules (proteins and lipids).

Damage occurs at any age, but when an organism is young, it has full ability to clear and repair the damage.

Very likely, an important way that an organism clears damage is through dilution of the damage. When an organism grows, cells divide, and any damage present in one cell becomes diluted in the daughter cells, so that each cell has less damage overall.

We can see — or imagine — this process in the chart of the gold medalists above. The runners are still growing until the age of 23, which accounts for the smaller numbers of medalists at ages 19 to 22.

After the runners have reached maximum growth, then aging begins, and the number of medalists at each age declines. That's what I speculate anyway.

But whatever the mechanism, it's clear that aging starts young.

## Fighting aging

While all body systems decline in aging, one of the earliest seen is the decrease in muscle mass and/or muscle power, and this probably (in my opinion) drives the decline in numbers of gold medal winners in track by age.

It follows that strength training, starting at an early age, could help stave off the earliest manifestations of aging. For instance, I now have more muscle mass in my sixties than I did at age 30. So I've covered at least that aspect of aging.

The decline in muscle mass and strength in the runners must be minuscule at those ages, but may be enough to affect the outcome of a world-class athletic event.

PS: For more on keeping and building muscle, read my book <u>Muscle</u> <u>Up</u>, and for more on fighting aging, read my book <u>Stop the Clock</u>.

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