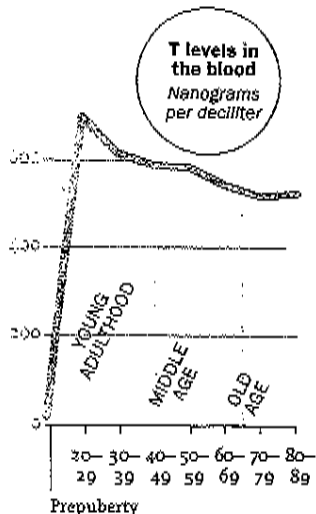


# The Lowdown On Low T

Testosterone levels normally peak in a man's 20s, then fall by 1% to 2% per year. They fluctuate from morning to afternoon and from day to day.



## How Low T Is Diagnosed

These are some symptoms of testosterone deficiency—some of which are also associated with other illnesses and normal signs of aging.

### BREAST DISCOMFORT

Tender or enlarged breasts could be a sign of hormone imbalance in men.

### FRAIL BONES

Bones that lose minerals become prone to fracture.

### HAIR LOSS

Shaving may become less necessary. Armpit and pubic hair may fall out or thin.

### DIMINISHED SEX DRIVE

Low T could result in depressed sexual desire and fewer spontaneous erections.

### DEPRESSION

It may also dampen energy, motivation, initiative and confidence.

### REDUCED MUSCLE MASS

Physical activity may be more challenging with diminished muscle strength.

### LOW SPERM COUNT

Men may not be able to father children. They may also experience shrinking testes.

Sources: Endocrine Society; Framingham Heart Study; Mayo Clinic; Hormone Health Network; Merck; Androgens and the Aging Male; Kantar Media; IMS Health; Global Industry Analysts; FDA  
Graphic by Emily Barone and Len Tveeten

false friend or an inconstant lover. Such backstabbing pales beside the “inevitable hour,” to borrow from the poet Thomas Gray, when the body betrays itself.

In tragic cases, it happens without warning, as when the heart of a seemingly healthy man stops beating. More typical, though, is slow-dawning treachery. Pizza and beer that once burned away quickly begin to cling to the belly. Aches and pains that used to vanish overnight linger a few days, then a few weeks, then forever. The eyes start to blur. The ears muffle. Legs lose their spring. Cells mutate and cancers activate. Most distressing for many men, one's manhood itself changes personality. Once as eager as a Labrador puppy to jump up and play, more and more it resembles an old dog that would rather nap than fetch.

Eventually the realization dawns on a fellow that something systemic is afoot. Scattered clues click into place. He comes to the grim conclusion that his body—this marvelous apparatus that he thought he knew so well—is actually out to get him. He has been marked for death. His own corpus is the assassin. And the whole op-

eration is a suicide mission. His body will kill him by killing itself.

You might say the same thing happens to women, but it's not exactly the same, judging by the demographic profile of sports-car buyers. Women handle the betrayal more matter-of-factly—a nip, a tuck, a tint, maybe, but not a Vegas condo. Perhaps their own anatomy makes them more intimate with the cycles of life, more attuned to the fact that, to quote another poet, T.S. Eliot, time the healer is also time the destroyer.

In any event, what happens next is one of the oldest of human stories. Men start searching for a loophole, a hidden door behind life's bookcase. We see this anxiety threaded through the ages. It's in the *Natural History* of Pliny the Elder, who advised men of 1st century Rome that leeks and the water of boiled asparagus were good for fighting impotence and that garlic “when pounded with fresh coriander and taken in neat wine” made for an aphrodisiac. It's on the mind of the medieval friar Albertus Magnus, who counseled flaccid men to roast the penis

of a wolf, cut it into small pieces and chew a bit to reverse the effects of time.

In short, the achy, the wan, the flabby and the limp have never been far from the minds of the world's scientists and hucksters. On the advice of doctors and quacks, men through the years have plunged their packages into cold baths, choked down heaping spoonfuls of wheat germ, swallowed vitamin E and stockpiled Viagra.

Meanwhile, the science of endocrinology emerged, but like all science, it was gradual. During the 1920s and '30s, chemists pinned down the role of hormones in producing the sex traits of women and men. By 1939, two scientists shared the Nobel Prize for Chemistry for their work in isolating and identifying testosterone. Proof of their findings came when the hormone passed the so-called capon test, an experiment devised by earlier researchers. Neutered chickens, known as capons, were dosed with testosterone, and in short order they developed combs and other rooster-like characteristics. The proof was in the crowing: this was a principal trigger of maleness.