

For many that gamble is the possibility of side effects. A study and subsequent article in the *BMJ* questioned the data behind the NICE recommendations, warning that some trials included in the analysis were funded by statin manufacturers and that data on side effects was lacking.

Patients taking statins often anecdotally report muscle pain, although this has not been seen in the major, placebo-controlled trials. The *BMJ* article said that one in five people on statins experiences a side effect of some kind, although it later withdrew this claim after Rory Collins at the University of Oxford, a leading statin researcher, spoke out against the accuracy of the statistics.

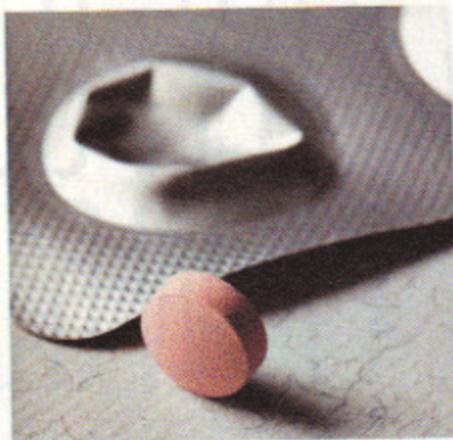
Yet the anecdotal reports continue to surface. "Some doctors say they keep seeing patients with the same complaint and they feel it's due to the statin," says David Preiss of the University of Glasgow. "It doesn't look that way from the trials, but we need a better answer."

There does seem to be a link to diabetes. Preiss has studied the connection between statins and type 2 diabetes. He says taking a medium-dose statin raises your risk by 10 per cent, and the risk continues to rise in line with dosage. "These are modest changes - people who are probably already on the trajectory to diabetes, and the statin pushes them over the threshold."

In light of all the concerns, Collins is undertaking a major review of the data on side effects, which he hopes will reassure people. That's important, he says, because fears over statins are discouraging people from taking them, to the detriment of their health.

The results should be out later this year. In the meantime, if you've ever had a heart attack or stroke, you should be on a statin if possible, says Preiss. "And if you haven't, but you've been shown to be moderately or markedly at risk of having a heart attack, the benefits of a statin considerably outweigh any risks."

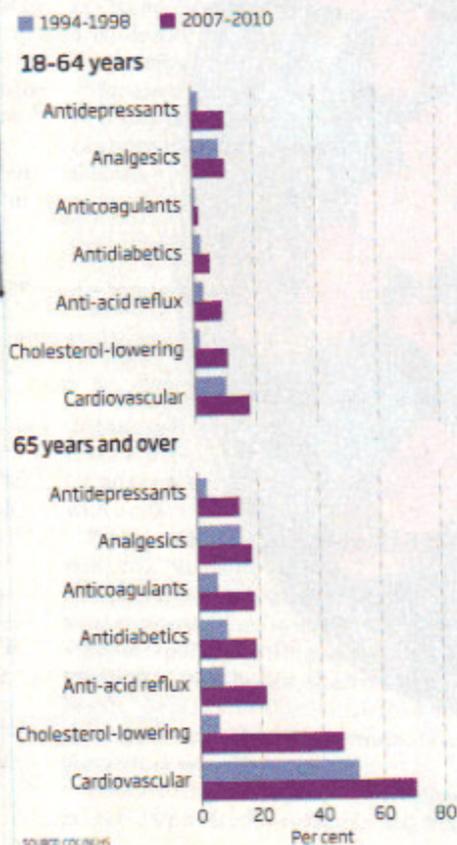
No one should pin all their hopes on a pill in any case. Taking statins should be accompanied by lifestyle changes such as taking exercise and giving up smoking.



"For every heart attack prevented, more people will be taking statins for no benefit"

What they popped

The percentage of adults taking the commonest types of prescription drugs is rising, according to a US survey



SOURCE: COLLINS

TESTOSTERONE

If the adverts are to be believed, testosterone supplements are a cure-all for men facing the unfortunate effects of middle age. The hormone is claimed to improve muscle strength, energy and sex drive. However, not only is there little evidence for this, several studies have found a link with heart disease.

Traditionally, testosterone was prescribed to men with abnormally low levels due to a congenital condition or damage to the testes from chemotherapy. Now, though, middle-aged men are being prescribed "testosterone replacement therapy" (TRT) to make up for the natural decline that often comes with age.

In the US, the number of men being prescribed testosterone rose from 1.3 million to 2.3 million in the five years up to 2013, and the UK has seen a similar trend, although the numbers are far lower (see graph, below right).

But in March, the US Food and Drug Administration cautioned that testosterone should only be prescribed to men with low levels caused by medical conditions, rather than general ageing, and confirmed by a lab test. The European Medicines Agency has issued a similar statement.

The health bodies also asked manufacturers and prescribers of testosterone products to warn users about a possible risk of heart attacks and strokes after a number of studies showed an association. One trial was even terminated early due to an "excess of cardiovascular events" among participants. Worryingly, a 2013 analysis found that the level of cardiovascular risk reported varied, depending on whether the study was funded by the pharmaceutical industry.

One possible mechanism for testosterone's effect on the heart could be through raising the number of red blood cells, which thickens the blood and can lead to dangerous clotting.

Another worry is prostate cancer, which feeds on testosterone; drugs blocking testosterone are sometimes used to stop the cancer spreading. A meta-analysis published in 2014 found no link with TRT in the short term, but called for more long-term data.

"There's an absence of data on the use of testosterone outside its key clinical application and yet some clinician enthusiasts, particularly private practitioners in the US, have just exploded testosterone prescribing to the point where it's almost become mainstream," says Richard Quinton, an endocrinologist at Newcastle University, UK.

Part of the problem, at least in the US, is that men are not being properly tested before starting treatment, says Sander Greenland an epidemiologist at the University of California,