



## Smart monitoring . . . and other stories

### Diagnosis by smartwatch

Smartwatches use photoplethysmographic sensors to measure heart rate. Analysed by a neural network, the same data can be used to identify atrial fibrillation. At the moment, the investigators are calling it proof-of-concept, but it might not be long before the watch can warn its wearer that he or she needs to seek medical attention. It's even possible to imagine that emergency services could be dispatched to the GPS-determined location. Failing that, smartwatch detection of arrhythmias would certainly beat Holter monitors for convenience (*JAMA Cardiol* doi:10.1001/jamacardio.2018.0136).

### Newer anti-epileptic drugs

More than a dozen new anti-epileptic drugs with a variety of mechanisms of action have become available over the past 20 years. Unfortunately, a longitudinal study from Glasgow, UK, provides little evidence that this has improved outcomes for newly diagnosed patients with epilepsy (*JAMA Neurol* doi:10.1001/jamaneurol.2017.3949). Most patients who achieved complete control of seizures did so with the first or second anti-epileptic drug that they tried. If the first two failed, the probability that subsequent drugs would be more effective was low. For more than a third of patients, epilepsy could not be fully controlled.

### Cardiovascular fitness in midlife and dementia

Nearly 200 middle aged Swedish women had their cardiovascular fitness measured by an ergometer cycling test in 1968. They've been followed up ever since, with neuropsychiatric examinations on seven occasions. Women with the highest level of fitness (equivalent to a work load of >120 W) were strikingly less likely to develop dementia and to

develop it at an older age than women in the medium or low fitness groups. High fitness delayed age at dementia onset by 9.5 years, and time to dementia onset by five years compared with medium fitness (*Neurology* doi:10.1212/WNL.0000000000005290).

### Tobacco and mortality

Smoking tobacco is so firmly established as a powerful cause of respiratory and cardiovascular disease that Minerva doubts if further research is necessary. However, an investigation in *JAMA Internal Medicine* argues that tobacco products have changed in recent years and that up-to-date estimates of the dangers are needed (*JAMA Intern Med* doi:10.1001/jamainternmed.2017.8625). Maybe so, but the up-to-date estimates aren't very different from the old ones. In a nationally representative US cohort of nearly 360 000 people, all-cause mortality was higher in current and former smokers than in people who had never smoked. Deaths from chronic obstructive pulmonary disease and lung cancer were more than 10 times commoner in smokers than in non-smokers.

### Fenofibrate for gout

The FIELD study, a large randomised controlled trial of fenofibrate in people with type 2 diabetes, found no reduction in the primary outcome of numbers of coronary events. But a post hoc analysis reports that plasma uric acid concentrations fell by an average of 20% in those taking the active drug. What's more, participants randomised to fenofibrate were only half as likely to experience an acute attack of gout over the five years of the trial as those taking placebo (*Lancet Diabetes Endocrinol* doi:10.1016/S2213-8587(18)30029-9). Hyperuricaemia is common in groups of people with a high prevalence of obesity and metabolic syndrome. Fenofibrate, which lowers uric acid concentrations by increasing renal clearance, might prove a valuable treatment.