

## APP OF THE WEEK

## Keep on running, or riding

**Katie McGregor**  
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**RunCycleSwim**  
HK\$8  
Rating 7/10

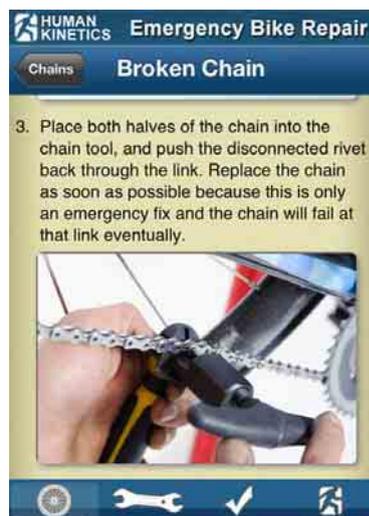
**Shoedometer**  
Free  
Rating 7/10

**Emergency Bike Repair**  
HK\$23  
Rating 9/10

This week, I'm reviewing not one but three apps that would be useful to triathletes. These are apps that keep gear in check.

As much as you may love a pair of running shoes, they have a limited lifespan, and once that has been exceeded, you risk discomfort and injury. RunCycleSwim is a simple app that allows you to track the kilometres covered in your running shoes. Take a photo and name each pair of shoes, and you can keep individual shoe running diaries.

The Shoedometer app tracks only your shoes' distances, but if you use distance-measuring devices such as Garmin Connect or Nike+, you can upload your distances to it. You can customise your shoes' profile, either by taking a photo or



choosing a photo from the library. Shoedometer also allows you to set a distance at which you will receive a "retire your shoes" warning. The big question is, what distance should you set?

At this point, you realise that the apps are redundant because the recommended retirement distance for any pair of shoes depends on your weight, running style, the terrain on which you run and the shoe brand, and can vary from 500 to 1,000 kilometres.

Because of this, most sites and experts recommend that the best way to decide whether to retire your shoes is a visual check.

My purchase of the Emergency Bike Repair app is like "closing the barn door after the horse has bolted". But now, if I have a problem while out cycling, I have a repair kit, as advised, with Allen keys and a chain tool.

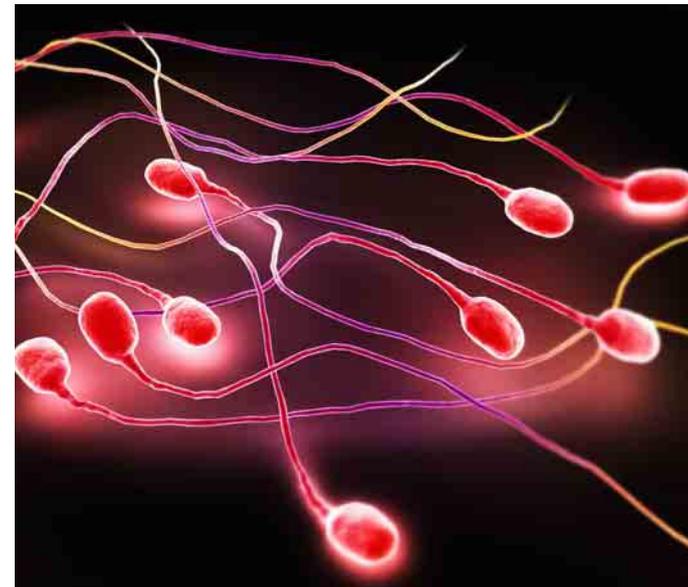
For the emergency repairs section, there are photographs and text to guide you through repairing chains, tyres, derailleurs and more.

## HEALTH BITES

**Jeanette Wang**  
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**Get a wriggle on**

Scientists at Cardiff University in Wales are a step closer to treating male infertility with their latest discovery: adding a missing protein to infertile sperm can "kick-start" its ability to fertilise an egg and significantly increase the chances of a successful pregnancy. The team found that the sperm protein, called PLC-zeta, is transferred to the egg upon fertilisation and activates all the biological processes necessary for development of an embryo. Some forms of male infertility are due to defective PLC-zeta. In the lab, the scientists prepared active human PLC-zeta and injected it into an unfertilised egg. The egg responded exactly as it should at fertilisation, says lead researcher Professor Tony Lai, adding: "In the future, we could produce the human PLC-zeta protein and use it to stimulate egg activation in a completely natural way." The study was published last week in the journal *Fertility and Sterility*.

**A choc to the system**

The roots of chocolate temptation lies in an unexpected part of the brain previously linked with movement, according to new findings by researchers at the University of Michigan. In a study published last week in *Current Biology*, rats were injected with an opiate-like drug called enkephalin, which was delivered straight to a brain region called the neostriatum. The rats then gorged themselves on more than twice the number of M&M chocolates than they would otherwise have eaten. As they ate, enkephalin – produced naturally in the same brain region – surged, too. "The same brain area we tested here is active when obese people see foods and when drug addicts see drug scenes," says lead researcher Alexandra DiFeliceantonio. "It seems likely that our enkephalin findings in rats mean that this neurotransmitter may drive some forms of overconsumption and addiction in people."

**Not-so-sweet 16**

What's the best way to keep your weight in check? Cut sugar-sweetened beverages out of your diet, says a new study published in the *New England Journal of Medicine*. Teens who did so for a year as part of the study by the New Balance Foundation Obesity Prevention Centre of Boston Children's Hospital maintained their body mass index and gained an average of 1.8 fewer kilograms than their peers in a control group who continued to consume sugary drinks. The teens in the intervention group received deliveries of non-caloric beverages for one year, as well as check-in visits and reminder messages from the researchers. However, in the second year of the study, in which there was no intervention, both groups of teens showed similar weight gain. These findings suggest that teens are likelier to make healthier choices (drinking non-caloric beverages) when they are more easily available to them. This probably applies to adults, too.

ASK THE DOCTORS  
DR MICHAEL SOON

**Q:** What are long-term effects of wearing high-heeled shoes to work?

**A:** Wearing high heels changes your centre of balance and alters your gait. There is an increased risk of ankle sprains and fractures, but these are traumatic and not a consequence of chronic high-heel use.

When you wear a high-heeled shoe, the toe box (the area where your toes go) is narrow and squeezes your toes. The higher the heel, the greater the force. This can lead to bunions, hammer toes and toes crossing each other.

A stiletto has minimal medial arch support. Over time, this can lead to strain or injury of the plantar fascia (connective tissue on the sole of the foot) – leading to pain over the heel, arch and toes.

Reducing the heel height reduces force on the toes. A wider toe box also helps. To prevent strain, alternate heels with high-heeled platforms.

If your ankle and foot are always in a flexed position, the Achilles' tendon will gradually shorten. You can end up with an almost tip-toe gait, even when you remove your heels. A shortened Achilles' tendon suffers extra strain when you wear flats, which leads to pain at the back of the calf. I have a patient who is so used to three-inch heels she cannot wear flats. To combat this wear sneakers and change shoes at the office. Remove the heels when possible to stretch the tendon.

Dr Michael Soon is a consultant orthopaedic surgeon at the Centre for Orthopaedics in Singapore

**Correction** In last week's cover story *Cold Comfort*, the photo caption stated incorrectly that umbilical cord blood is stored at minus 135 degrees Celsius at the CordLife facility. CordLife stores the umbilical cord blood at minus 190 degrees Celsius.

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**Safety in numbness**

If you've got major surgery lined up, take heart: survival after a general anaesthetic and within 48 hours of surgery has greatly improved worldwide over the past 50 years, according to a report in *The Lancet*. The paper analysed data from 87 studies spanning more than six decades and involving more than 21.4 million anaesthetics given worldwide. The estimates suggest that although more operations are carried out on patients who are considered high-risk or who need more complicated surgeries now than in the past, the likelihood of dying after a general anaesthetic has dropped by roughly 90 per cent to 34 per million people. The risk of dying from any cause within 48 hours of surgery has also decreased by about 88 per cent to 1,176 per million. However, the researchers note that the greatest and most progressive decline has been in developed countries, and more must be done to reduce anaesthetic mortality rates in developing countries.