Honey, I shrunk the kids (but it was probably worth it)

Anxious parents can take some comfort from two recent reviews that explore the impact of inhaled corticosteroids on the growth of children with mild to moderate persistent asthma. The first, which included 25 trials with more than 8400 children, concluded that steroids reduce growth during the first year of treatment (by about half a centimetre). The reduction is less pronounced in subsequent years, and seems minor compared with the known benefits of these drugs for controlling asthma. The second review, which included data on 3400 children from 22 trials, found that lower doses of corticosteroids have less impact on growth, supporting the “minimal effective dose” approach (doi: 10.1002/14651858.CD009471.pub2; 10.1002/14651858.CD009878.pub2).

Of course, when it comes to obesity, shrinking is desirable. The recently updated review of surgery for weight loss in adults, which now includes 22 trials with 1800 participants, found that compared with no surgery, body mass index was six units lower 1 to 2 years after surgery. This finding extended to improvements in health-related quality of life and aspects of diabetes. The review highlights potentially important differences in surgical procedures; for example, three studies found that gastric bypass achieved greater weight loss than adjustable gastric bands. Given that most trials followed participants for only 1 or 2 years, the long-term effects of surgery remain unclear (doi: 10.1002/14651858.CD003641.pub4).

There’s no doubting the effects of topical antifungal treatments for tinea cruris and tinea corporis. A new review, which includes 129 trials involving over 18 000 participants, contains that all-too-rare phrase, “All of the treatments examined appeared to be effective”. Terbinafine and naftifine were found to be effective, with only mild and infrequent side effects. Similarly, other topical antifungal treatments, particularly azoles, were also effective, but the high or unclear risk of bias of many studies made it difficult to pick a clear winner (doi: 10.1002/14651858.CD009992.pub2).

With shiftwork and non-standard working hours becoming an increasingly common feature of modern life (to say nothing of parenting), what can we do to counteract sleepiness and sleep disturbances? A new review of pharmacological interventions included 15 small trials involving 700 shiftworkers. It found that melatonin increases sleep length (by about 25 minutes) compared with placebo but not sleep quality, and that both modafinil and armodafinil increased alertness and reduced sleepiness but were associated with adverse events, meaning that neither drug is approved for shiftworkers in Europe. And what of the familiar staple, caffeine? In one trial, caffeine reduced sleepiness during night shifts, when workers also napped before shifts. Nothing about whether the analysis was barista-adjusted (doi: 10.1002/14651858.CD009776.pub2).

For more on these and other reviews, check out the ever-growing Cochrane Library at www.thecochranelibrary.com.
Pathways to effective drug policies

The Global Commission on Drug Policy, headed by former Brazil president Fernando Henrique Cardoso, has released its much anticipated report. The commission recommends a shift from law enforcement to health and social interventions; ensuring equitable access to essential medicines, “including opiate-based medications for pain”; alternatives to incarceration for non-violent, low-level participants in drug markets; legally regulating markets in currently illicit substances, “beginning with but not limited to cannabis … and certain novel psychoactive substances”. “The international community is further away than ever from realizing a drug-free world … despite increasing resources being directed towards enforcement”, the commission wrote.

Battles in the war on superbugs

Biological engineers believe they have come up with a novel technology that may help combat drug-resistant bacteria, Science Daily reports. A team from the Massachusetts Institute of Technology is using a gene-editing system which can, they say, “disable any target gene” so they can “selectively kill harmful genes that confer antibiotic resistance”. Meanwhile, Wired reports that researchers in North Carolina have confirmed that hog farmers are carrying home livestock-associated methicillin-resistant Staphylococcus aureus (MRSA) from the farms and, crucially, their bodies are capable of spreading MRSA for up to 14 days. Medical News Today also reports on a technology called Sharklet, a coating for hospital surfaces with “microscopic bumps that mimic the scaly surface of shark skin”, which is claimed to reduce MRSA and methicillin-susceptible S. aureus transmission by 94% and 97%, respectively.

Jaw-dropping gadgets

Canadian researchers have developed a chin strap that can harvest energy from jaw movements and could be used to power hearing aids, cochlear implants and communication devices, according to Medical News Today. They estimate an average of 7 milliwatts of power can be generated just from chewing during meals. In Nebraska, another group is working on “electronic skin”, made from nanoparticles and polymers, which can detect and produce images of small breast tissue lumps that could be missed in a manual examination. Meanwhile, Cate Swannell reports in BBC that researchers in Sydney School of Public Health, NSW, are working on a self-stabilising spoon designed to make life easier for people with Parkinson disease, using technology similar to image stabilisation features in cameras, reports the BBC.

Richard III killed by blows to head, pelvis

King Richard III, whose remains were found in a Leicester car park in February 2013, was struck by 11 blows to the head from swords, two of which proved fatal, forensics experts at the University of Leicester report. A third blow to the pelvis was also harsh enough to prove fatal but may have been delivered postmortem. “Richard’s injuries represent a sustained attack or an attack by several assailants with weapons from the later medieval period”, the authors wrote. “The wounds to the skull suggest that he was not wearing a helmet, and the absence of defensive wounds on his arms and hands indicate that he was otherwise still armoured at the time of his death.”