

EDITOR'S CHOICE

Water, water, every where

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I knew things had got out of hand when my fellow swimmer perched a sports drink at the end of her lane to ward off dehydration. In a joint investigation this week with BBC's *Panorama*, Deborah Cohen tells how dehydration has emerged as one of sport's greatest fears (doi:10.1136/bmj.e4737). It's an unedifying tale of scientists, sports and sports medicine organisations, guideline developers, and medical editors—and the sports drinks companies that bankroll them. Science's role has been to dazzle, not to illuminate.

Somewhere amid “the coupling of science with creative marketing” it was forgotten, or obscured, that healthy bodies have exquisitely sensitive mechanisms for maintaining plasma osmolality (doi:10.1136/bmj.e4171). Thirst is the best sign that fluid replacement is needed, yet sports people have been hoodwinked into believing it's an unreliable marker of dehydration. Cue a billion dollar industry of flavoured water for which extravagant claims have been made and guidelines dutifully written.

The new “science” of hydration looks distinctly ropy. As part of the investigation, researchers asked companies for the evidence that supported their promotion of sports drinks. Of the several companies approached, only GlaxoSmithKline provided a list of studies (for Lucozade). The median sample size was nine; many studies used outcomes irrelevant to performance in real life events; most lacked allocation concealment and blinding, and so on. In short, these studies can't support the enormous edifice that has been erected upon them.

The European Union agency charged with evaluating these claims, the European Food Safety Authority, has fallen short of its brief. Matthew Thompson and colleagues “found a major discrepancy between what they set out to do, and what they actually did” (doi:10.1136/bmj.e4753). The authority seems

unaware of the value of meta-analyses and systematic reviews in evaluating evidence.

Meanwhile the focus of campaigns has shifted from elite athletes to people like my fellow swimmer, and to schoolchildren. Despite assurances that Lucozade is not marketed to children under 16, its manufacturers have appointed pop stars popular with younger children as brand ambassadors. The latest guidance from the American Academy of Pediatrics says that “appropriate fluid should be readily accessible and consumed at regular intervals before, during, and after all sports participation.” This leads to the ridiculous spectacle of winter football games being interrupted for children to swig urgently on sports drinks, to stave off dehydration, heat stroke, and who knows what.

This feels like familiar territory. In his column this week Des Spence lists some of the transgressions that have resulted in massive recent fines for GlaxoSmithKline and other big pharma companies (doi:10.1136/bmj.e4825). They include suppression of data, excessive hospitality, expert panels paid bloated fees, disease mongering, payments to lobby groups and charities, and omnipresent threats of litigation. He believes that the solution rests with doctors cleaning up their act.

Although not every doctor who has worked with the sports drinks industry emerges covered with glory, the solution in this case lies elsewhere. EU legislation exists to evaluate health and nutrition claims related to food, and there's an agency responsible for doing so. It's still early days, and the European Food Safety Authority is overwhelmed by the first tranche of claims. We can only hope that it's quickly staffed up and skilled up to discharge its obligations, free from the pressure that big money can buy.

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