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MINERVA

Beers criteria and other stories . . .

Bad drugs for older patients

It is universally acknowledged that many older people take too many drugs, and that many are being harmed by taking the wrong drugs or the wrong combination of drugs. One metric for this is called the Beers criteria, endorsed by the American Geriatrics Society and recently applied to a sample of 13 900 patients aged 65 or over from the UK Clinical Practice Research Dataset (*BMC Geriatr* 2015;15:146, doi:10.1186/s12877-015-0143-8). Polypharmacy rates have risen sharply since 2003, but high risk medication prevalence has remained stable over a decade. A third of older people take high risk drugs, but only half of the total prevalence was long term. Non-steroidal anti-inflammatory drugs top the list.

Protective poo

Dutch researchers have recently uncovered the protective role of intestinal microbiota during pneumococcal pneumonia (*Gut* 2015, doi:10.1136/gutjnl-2015-309728). Admittedly this was in a faecal transplantation experiment in mice, but it does give Minerva new respect for the contents of the large bowel. The wonder of medical science lies in the constant discovery of how everything is connected to everything else.

Thalidomide for nosebleeds

Although the terrible story of thalidomide, well told in Druin Burch's *Taking the Medicine*, has still not reached full resolution, the drug has a surprising variety of unexpected uses. It is now a familiar drug for multiple myeloma and has just undergone a phase II unblinded trial in people with hereditary haemorrhagic telangiectasia (*Lancet Haematol* 2015;2:e465-73, doi:10.1016/S2352-3026(15)00195-7). Low dose thalidomide showed benefit in all the 31 patients who had recurrent severe epistaxis, with a complete response in three.

Where brains light up

Having emerged fully grown from her father Zeus's forehead, Minerva observed the working of his brain at close quarters. Now mere mortals can do this using the Neurosynth site (www.neurosynth.org), a platform for large scale automated synthesis of functional magnetic resonance imaging (fMRI) data. It "takes thousands of published articles reporting the results of fMRI studies, chews on them for a bit, and then spits out images." This is data sharing on an epic scale, and fun to dabble in.

Placebo neuroscience

The latest phenomenon to be given the full neuroscientific work-up is the placebo response (*Neuroscience* 2015;307:171-90, doi:10.1016/j.neuroscience.2015.08.017). This review goes beyond mere neuroimaging to discuss the theory of expectancy learning mechanisms and even "a promising link between genetic variants in the dopamine, opioid, serotonin, and endocannabinoid pathways and placebo responsiveness." Not an article for those with a strong nocebo response to speculation.

Authors, check your Ps

Damned lies about statistics are to be found everywhere but are often simply due to errors of calculation. The inventors of a new P value checker that can automatically scan text looked at more than 258 000 P values reported in articles in eight major psychology journals from 1985 to 2015 (*Behav Res Methods* 2015, doi:10.3758/s13428-015-0664-2). About half the articles contained a P value error and 13% contained an error that changed their conclusion: non-significant results were reported as significant, or vice versa. The statcheck program is available on open source software (*Nature* 2015, doi:10.1038/nature.2015.18657) and its developers suggest that as well as being useful for journal editors, many reporting errors could be avoided if researchers used it to check their own papers.

Softly moaning flutes

The earliest known flutes date to 43 000 BC, long before the shepherds of antique poetry tootled them on every hill, and Greek ladies of pleasure used them for entertainment at the end of drinking parties. These ancient little pipes bear scant resemblance to the modern metal flute, played through a side hole and held in an awkward horizontal position. A survey of the literature (*Occup Med (Lond)* 2015, doi:10.1093/occmed/kqv162) estimated that 15-95% of flautists experienced musculoskeletal symptoms, depending on the populations and symptoms investigated. Minerva wonders if the same range of discomfort also applies to listeners.

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