MINERVA

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A 60 year old with progressive nail pigmentation in both hands Try the picture quiz in ENDGAMES, p 177

A device for measuring blood pressure has been field tested for use in low resource settings. The device was manufactured according to WHO criteria and is inexpensive, semi-automated, and solar powered. It was successfully validated against a European protocol and later tested in Uganda and Zambia, where it was found to be valid for systolic, but not diastolic, blood pressure. Agreement between the solar powered device and a sphygmomanometer for systolic blood pressure was 93.7%. Given the choice, patients preferred the new device, and its operational simplicity is likely to appeal to non-physician health workers (*Hypertension* 2010;56:1047-53, doi:10.1161/hypertensionaha.110.160408).

The size of the amygdala has been found to correlate with the size and complexity of social networks in adult humans, confirming previous research that suggests the amygdala is important for social behaviour (*Nature Neuroscience* 2010, doi:10.1038/nn.2724). Participants reported the number of regular contacts they maintain and the number of different social groups these contacts belong to, and then had their brains scanned. The results suggest that the amygdala may have evolved in part to deal with an increasingly complex social life. Minerva wants to know if there's a correlation between amygdala size and number of Facebook friends.

Being "bare below the elbows" is recommended by the UK Department of Health for clinical staff to reduce infection rates. But what's the evidence for this guidance? A study that compared clinicians who were bare below the elbows with those who were not found no difference in the number of colonies cultured on microbiology plates from imprints of their hands and forearms before handwashing. Handwashing reduced the colony counts, with the greatest change on fingers, palms, and dominant wrists, but this happened regardless of clothing (Annals of the Royal College of Surgeons of England 2011;93:13-6).

Studies in animals show that clopidogrel inhibits intimal hyperplasia, so it could be a useful addition to aspirin for reducing saphenous vein graft intimal hyperplasia after coronary artery bypass grafting. But compared with aspirin on its own, the combination of aspirin and clopidogrel did not significantly reduce the process of graft hyperplasia one year later in a double blind trial involving 113 patients undergoing bypass grafting.





This 63 year old woman presented with right upper evelid aponeurotic ptosis and secondary brow overaction (top, arrow) as the patient physiologically attempted to clear her vision. Right upper eyelid height improved five minutes after topical treatment with 2.5% guttae phenylephrine (bottom). This sympathetic agonist contracts Müller's muscle in the upper eyelid to improve lid height, replicating a surgical correction. The right visual axis is now clear, reducing the sympathetic drive to lift the lid. However, stimulation to the contralateral upper eyelid has undergone a corresponding reduction—a physiological response described by Hering's law of equal innervation. Accordingly, a paradoxical left ptosis (arrow) is seen and bilateral ptosis surgery will therefore be needed.

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Patient consent obtained.

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Graft patency was 95.2% in the combined group and 95.5% in the aspirin alone group, P=0.9 (*Circulation* 2010;122:2680-7, doi:10.1161/circulationaha.110.978007).

Purple potatoes may make a healthier meal than plain ones. A randomised trial assessed the effects of eating purple or yellow potatoes, compared with white ones, on biomarkers of inflammation and oxidative stress in healthy men. Blood sampling at baseline and at six weeks indicated reduced inflammation and genetic damage in those who ate pigmented potatoes. These possible benefits are attributed to higher concentrations of antioxidants, including phenolic acids and carotenoids, in pigmented potatoes (Journal of Nutrition 2010;141:108-11, doi:10.3945/jn.110.128074).

A study in the Journal of Bone and Joint Surgery (2010;92:2878-83, doi:10.2106/JBJS.1.01036) set out to examine the commonly held stereotype that surgeons are insensitive to the plight of others. Four spinal surgeons and four non-operative spine specialists assessed 400 patients referred with spinal symptoms for psychological distress. The patients also completed a standardised questionnaire, which showed that 64% had some level of psychological distress—and judged against these results, spinal surgeons showed a significantly lower sensitivity than non-operative specialists in detecting this distress.

About 80% of all the patient safety alarms that go off in operating theatres or anaesthetic rooms have no therapeutic consequences during cardiac surgery (*Anesthesia and Analgesia* 2011;112-78-83, doi:10.1213/ANE.0b013e3181fcc504). Of the nearly 900 alarms that went off during 25 consecutive elective surgeries, the vast majority were haemodynamic alarms, and the rest were ventilatory. For each procedure, the rate of alarms going off was 1.2 per minute. The non-valid alarms were mainly triggered by patient manipulations, such as blood sampling and electrocautery.

Low levels of vitamin A and zinc are common in people with tuberculosis, and it has been postulated that this may have an adverse effect on cell mediated immune responses. A South African team tested the effect of giving extra vitamin A and zinc for eight weeks to patients attending a tuberculosis clinic, some of whom were HIV positive. Disappointingly, neither treatment outcomes nor time taken to detect a positive culture was affected by supplementation (American Journal of Clinical Nutrition 2010;93:93-100).

It turns out the Neanderthals ate plants and grains as well as meat, according to remnants of fossilised food debris found stuck between their teeth (*Proceedings of the National Academy of Sciences* 2010, doi:10.1073/pnas.1016868108). Food particles trapped in the plaque on Neanderthal teeth dug up at archaeological sites in Northern Europe and Iraq include a type of wild grass, legumes, roots, and tubers. Some have been physically altered in ways that match experimentally cooked starch grains, so Neanderthals may have harnessed fire just like early modern humans. Tools don't seem to have been used, however, suggesting they did not practise agriculture.

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