

Sonic “tractor beam” could have medical uses

The tractor beam, a *Star Trek* staple, could be about to happen, and there could be medical applications, report *The Japan Times* and *The Guardian*. Researchers from the University of Bristol in the UK, and Spain’s Public University of Navarre say they have developed a tractor beam that “uses high-amplitude sound waves [at a frequency of 40 kilohertz] to levitate, move and rotate small objects without making contact with them”. The waves took the form of “tweezers to lift an object, a vortex to hold a levitating object in place and a cage to surround an object and hold it in place”. “Sound cannot travel through the void of space, but it can do it through water or human tissue. This potentially enables the manipulation of clots, kidney stones, drug capsules, microsurgical instruments or cells inside our body without any incision,” one of the lead researchers said.



Two-thirds of the world's under 50s have herpes

The **World Health Organization** reports that more than 3.7 billion people under the age of 50 – or 67% of the population – are infected with herpes simplex virus type 1 (HSV-1). “Some 140 million people aged 15-49 years are infected with genital HSV-1 infection, primarily in the Americas, Europe and Western Pacific”, WHO says. “Fewer people in high-income countries are becoming infected with HSV-1 as children, likely due to better hygiene and living conditions, and are instead at risk of contracting it genitally through oral sex after they become sexually active.” WHO estimated that 417 million people aged 15-49 years have HSV-2 infection, which causes genital herpes. Taken together, the estimates reveal that over half a billion people between the ages of 15-49 years have genital infection caused by either HSV-1 or HSV-2.



23andMe is back in business

Two years after it was banned from distributing health information to its customers, controversial health and ancestry information provider 23andMe is back in business, reports **Gizmodo Australia**. In 2013, the US’s Food and Drug Administration stopped the company from providing private customers with health and ancestry information directly from their sequenced DNA, saying it was “concerned about the public health consequences of inaccurate results from the [23andMe] device ... the main purpose of compliance with FDA’s regulatory requirements is to ensure that the tests work”. Now

the FDA has given 23andMe the green light to resume distributing health information, albeit in a more limited way. “The new reports will provide details about what’s known as ‘carrier status’. The tests will identify genetic mutations in DNA samples that could lead to the passing of one of 36 diseases — including cystic fibrosis, sickle cell anaemia and Tay-Sachs — on to offspring. In each case, the disease would only be passed on if both parents shared the same mutation and the child inherited both mutated genes.” 23andMe has also hiked prices from USD\$99 to USD\$199.

Can Google Glass help autistic kids?

Wired reports that researchers at Stanford University in the US are working on software for Google’s wearable computer, Glass, which will help autistic children recognise and understand facial expressions and, through them, emotions. Lead researcher Catalin Voss has previously developed a Glass app which recognises emotions, which is now being turned into heads-up technology for cars. The new app is designed like an interactive game. “Children are asked to, say, find someone who is happy”, the researchers said. “When they look at someone who is smiling, the app recognises this and awards points. You can plot, as they wear the glasses, how they’re improving, where they’re improving. You can look at video to understand why.” The app is now being tested in a clinical trial with 100 children.



“Flakka” worse than ice, says toxicologist

A synthetic drug considered fatal has been detected in Australia and has the potential to be worse than ice, the *International Business Times* reports. “Flakka” is man-made, “has a similarity to cocaine and can be injected, snorted or smoked”. It can lead to a series of extreme symptoms called “excited delirium”, marked by violent behaviour, paranoia and spikes in body temperature. Reports from the United States suggest flakka, also known as “gravel” has caused several deaths there. “Flakka comes in bulk from China and is sold through gas stations, via the internet and other dealers”. Forensic toxicologist Andrew Leibie said that the drug has become so popular with people that “it will be appearing on the streets, it will be appearing in schools, it will be appearing in workplaces.”

Cate Swannell doi:10.5694/mja15.n1116



A devotee of the Chinese Samkong Shrine walks with spikes pierced through his cheeks during a procession celebrating the annual vegetarian festival in Phuket, Thailand. The festival, featuring face-piercing, spirit mediums, and strict vegetarianism, celebrates the local Chinese community's belief that abstinence from meat and various stimulants during the ninth lunar month of the Chinese calendar will help them obtain good health and peace of mind.

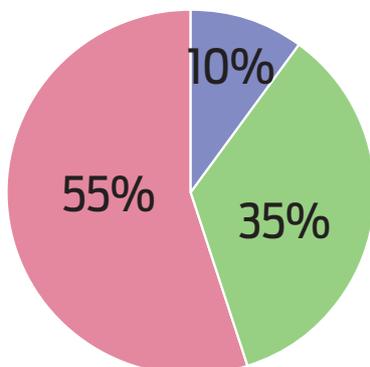
Picture: Jorge Silva/Reuters/Picture Media

MJA InSight Poll

Were you aware that some Australian patients use crowdfunding to undergo private surgical procedures?

Total respondents: 133

- Yes – but not concerned
- Yes – am very concerned
- No



Take part in next week's poll on: www.mja.com.au/insight

MJA Podcasts



Professor Ian Olver is director of the Sansom Institute for Health Research at the University of South Australia, and a former CEO of Cancer Council Australia. To coincide with his Editorial in this issue, he discusses rare cancers, as well as updating us on the Sansom Institute's latest projects. Also available as a video.



Dr Katrina Alford, a consultant health economist, discusses the shortfall in Government spending on Indigenous health in contrast to the complex needs of Indigenous Australians, to accompany her Short Report published in this issue. Also available as a video.

Podcasts are available at www.mja.com.au/multimedia/podcasts and from iTunes. Also available as videos at www.mja.com.au/multimedia

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John Mattick: Be brave

"...we should shift the emphasis to funding people, based on the excellence of their track record and the potential of their vision" – Professor John Mattick, executive director of the Garvan Institute of Medical Research, Sydney

<https://www.mja.com.au/insight/2015/41/john-mattick-be-brave>

Call to end "abortion tourism"

"The figures in our study of women attending a private abortion service suggested that poorer women may have less access to abortion" – Professor Kirsten Black, from the Discipline of Obstetrics, Gynaecology and Neonatology, University of Sydney

<https://www.mja.com.au/insight/2015/41/call-end-abortion-tourism>

Correction

In the article *"Abortion law in Australia: it's time for national consistency and decriminalisation"*, published in the 2 November 2015 issue of the Journal (*Med J Aust* 2015; 203: 349-350), there was an error in the second sentence of the third paragraph. It should read: "Fetal abnormality is specifically discussed in the legislation of Western Australia, South Australia and the Northern Territory, and covered by the decriminalisation of abortion in Victoria, Tasmania and the ACT ..." The corrected article is available at <https://mja.com.au/doi/10.5694/mja15.00543>.

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