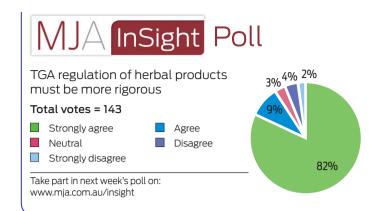


An artificial heart manufactured by French firm Carmat is seen during the company's news conference in Paris recently. Late in 2016, five patients died during its PIVOTAL trial. Carmat CEO Stephane Piat announced that "the first patient's death was due to an interruption in the power supply system, following an incorrect battery handling by the patient, as a result of which the prosthesis stopped functioning". Carmat has withdrawn a request to resume the trial, stating they were unable to meet the timeframe set by the French National Agency for Medicines and Health Products Safety.

Photo: Christian Hartmann/Reuters/Picture Media.



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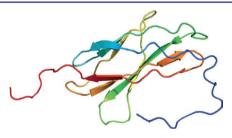
Dr Brian Draper is conjoint associate professor at the Euroa Centre for Health Brain Ageing at the University of New South Wales. He discusses older doctors and retirement, to accompany his editorial in this issue.



Dr Vera Golder is a rheumatologist and clinical research fellow at Monash University. Dr Alberta Hoi is Head of the Monash Lupus Clinic. They discuss systemic lupus erythematosus, to accompany their update in this issue.



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Gene linked to "Rain man" brain disorder

Murdoch Childrens Research Institute (MCRI) researchers have discovered a new gene linked to a congenital brain abnormality experienced by the person who inspired the movie Rain Man. Associate Professors Paul Lockhart and Rick Leventer led an international team which has discovered the first gene, called Deleted in Colorectal Cancer (DCC), known to cause the loss of the main connection between the two halves of the brain, in the absence of any other syndromes linked to the condition. About one in 4000 babies are born with agenesis of the corpus callosum (ACC). Symptoms of ACC, where the corpus callosum is missing, are varied but can include intellectual disability, autism and cerebral palsy. Individuals with ACC who also have the DCC gene change often struggle with "mirror movements". This means if they move one hand, the other hand automatically moves in the same way. This causes problems with everyday tasks including eating, washing the dishes, writing, driving a car and using a mobile phone or tablet. Lockhart and Leventer's study suggests that individuals with ACC caused by mutations in this gene have much better neurodevelopmental outcomes than people with ACC linked to a particular syndrome. This holds important implications for decision making if the condition is detected during prenatal testing, they wrote. "The results of this research will provide better information to parents regarding potential outcomes for their children, helping to make more informed reproductive decisions," Lockhart said. "Our research also provides important new information about how nerves connect to the appropriate part of the brain during development of the embryo. This has potential implications

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for our understanding of a broad range of neurodevelopmental conditions such as autism spectrum disorder. This gene is playing a role in how nerves connect with each other and transfer information. Deficits or problems in this process are emerging as associated with autism spectrum disorder." The finding was published in *Nature Genetics*.

http://dx.doi.org/10.1038/ng.3794

Life expectancy booming



By 2030 there is a greater than 95% probability that life expectancy at birth among Australian men will surpass 80 years, and a greater than 27% probability that it will surpass 85 years, according to research published in *The Lancet*. Researchers from Imperial College London and other international

sites, developed 21 forecasting models, then applied the approach to project age-specific mortality to 2030 in 35 industrialised countries with high quality vital statistics data. They used age-specific death rates to calculate life expectancy at birth and at age 65 years, and probability of dying before age 70 years. The increase in life expectancy will be largest in South Korea, some western European countries and some emerging economies. South Korean women are predicted to live beyond 86 years by 2030, with a 57% probability that their life expectancy will be beyond 90 years. The smallest increases will be in the USA, Japan, Sweden, Greece, Macedonia, and Serbia. "Countries with high projected life expectancy are benefiting from one or more major public health and health-care successes. Examples include high-quality healthcare that improves prevention and prognosis of cardiovascular diseases and cancers, very low infant mortality, low rates of road traffic injuries and smoking (Australia, Canada, and New Zealand), and low body-mass index (French and Swiss women) and blood pressure (Canada and Australia)."

http://dx.doi.org/10.1016/S0140-6736(16)32381-9