

SPOTTED

Oversold diets; big brains explained; tracking CRISPR and more

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8 JUNE 2018

WEEK OF JUNE 4TH

Oversold diets

“No definite proof” exists that any **specific dietary intervention** benefits people with autism, researchers conclude from a survey of the literature. Studies evaluating options such as the ketogenic or gluten/casein-free diet have yielded mixed and unconvincing results so far, according to a report published 30 May in the *World Journal of Pediatrics*. These diets should be reserved only for children with conditions known to require a special diet, such as a food allergy, they say.

SOURCES:

World Journal of Pediatrics / 30 May 2018

Are therapeutic diets an emerging additional choice in autism spectrum disorder management?
<https://link.springer.com/article/10.1007%2Fs12519-018-0164-4>

Big brains explained?

A gene in a **chromosome region tied to autism** plays a role in how big the brain becomes, researchers reported 31 May in *Cell*. The gene, NOTCH2NL, may underlie the evolution of a **large brain in people**. In addition, duplications of the chromosome region containing the gene are linked to autism and **macrocephaly** (an enlarged head), whereas deletions of this region are tied to schizophrenia and microcephaly (an unusually small head).

SOURCES:

Cell / 31 May 2018

Human-specific NOTCH2NL genes affect notch signaling and cortical neurogenesis

Tracking CRISPR

If you've got the money, honey, *STAT*'s got the tools. For people willing to pony up for the publication's pay-only access, *STAT* offers a **searchable CRISPR tracker** that it promises will list preprints, company announcements, newly published studies and anything else that involves a "key advance" related to the genome-editing technology. *STAT* teased the CRISPR Tracker on 1 June on its *STAT Plus* channel.

SOURCES:

STAT Plus / 01 Jun 2018

CRISPR advances are coming fast. Here's your guide

<https://www.statnews.com/2018/06/01/crispr-tracker-disease-experiments/>

Urinary biomarkers

As the search for **biomarkers for autism continues**, another entry on the roster is a pair of urinary amino acids. **Low urine levels** of two amino acids — valine and tryptophan, a **neurotransmitter** precursor — are associated with an autism diagnosis in children, according to research published 28 May in the *Journal of Clinical Neuroscience*.

SOURCES:

Journal of Clinical Neuroscience / 28 May 2018

Decreased levels of urinary free amino acids in children with autism spectrum disorder

[https://www.jocn-journal.com/article/S0967-5868\(17\)30468-X/fulltext](https://www.jocn-journal.com/article/S0967-5868(17)30468-X/fulltext)

Keto claims

Netflix is under fire from the Australian Medical Association for airing an "irresponsible" documentary featuring a celebrity chef promoting a **ketogenic diet for autism**. "The Magic Pill," made by Australian chef Pete Evans, touts the extremely low-carb, high-fat and high-protein diet as a therapy for a number of conditions, including autism. The film uses a case study to claim that the diet eased features of autism in a child after only five weeks of exposure.

The association says the diet can be risky, *The Guardian* reported 3 June. The article says that publication of one of Evans' cookbooks was halted in 2015 because a recipe for a do-it-yourself baby milk formula involved vitamin A levels that could be fatal to babies.

SOURCES:

The Guardian / 03 Jun 2018

Pete Evans' documentary should be cut from Netflix, doctors group says

<https://www.theguardian.com/australia-news/2018/jun/03/pete-evans-documentary-should-be-cut-from-netflix-doctors-group-says>

Epigenetics critique

The “flimsiest of evidence” underlies the popular idea that “grandma’s trauma” could affect the **genomes of her grandchildren** without changing the DNA sequence itself. That’s the sweeping critique that neuroscientist **Kevin Mitchell** levels at the concept of **transgenerational epigenetics**. Mitchell, writing 29 May on the blog “Wiring the Brain,” asserts that some findings supporting the idea “are simply noise” and “spurious statistical blips.”

SOURCES:

Wiring the Brain / 29 May 2018

Grandma’s trauma — a critical appraisal of the evidence for transgenerational epigenetic inheritance in humans

<http://www.wiringthebrain.com/2018/05/grandmas-trauma-critical-appraisal-of.html>

Research wish list

An aggregation of input from the **#AutINSAR Twitter chat** during the 2018 **International Society for Autism Research** meeting is available. People on the spectrum took the opportunity to state what they think should be **autism research priorities**. They listed their top three choices and talked about technology-related studies they’d like to see, as well as their picks for promising ongoing research. *Thinking Person’s Guide to Autism* published a record of the discussion on 30 May.

SOURCES:

Thinking Person’s Guide to Autism / 30 May 2018

#AutINSAR 2018: what do autistic people want from autism research?

<http://www.thinkingautismguide.com/2018/05/autinsar-2018-what-do-autistic-people.html>

Lure of China

Along with its ambitious **brain research initiative**, China poses another challenge to U.S. preeminence in science. China's **increased emphasis on research** is luring a growing number of U.S.-based researchers to the country, *The Washington Post* reported 3 June.

China has pulled into second place behind the United States in fiscal outlay for scientific research and is poised to move into first by the end of 2018, the newspaper reports.

SOURCES:

The Washington Post / 03 Jun 2018

China increasingly challenges American dominance of science

https://www.washingtonpost.com/national/health-science/china-challenges-american-dominance-of-science/2018/06/03/c1e0cfe4-48d5-11e8-827e-190efaf1f1ee_story.html

Screening app

A mobile app for iPhone **automatically codes videos** of children who were recorded as they watched videos of bubbles, bunnies and other visual stimuli that can elicit autism-related behaviors. The app, which researchers tested for a year, delivered “usable data” about the children’s head position and facial expressions for 87.6 percent of 4,441 videos that families uploaded. That huge volume of data did not require the usual manual review and coding to catalog the behaviors. The team published their findings 1 June in *npj Digital Medicine*.

SOURCES:

npj Digital Medicine / 01 Jun 2018

Automatic emotion and attention analysis of young children at home: a ResearchKit autism feasibility study

<https://www.nature.com/articles/s41746-018-0024-6>

News tips

Do you have a new paper coming out? Are you making a career move? Did you see a study or news story that you want to share? Send your news tips to news@spectrumnews.org.
