

Betsy says HI!!!!

Announcements

The next LABQUEST meeting will be Wednesday, March 11, 2026 at “WeAchieve”, 10501 New Hampshire Ave.

Science Report Highlights

Betsy and Dan thought all the items in following science report from Charles were interesting but most liked the following:

- Advanced Pancreatic Cancer
- Many Rural Hospitals Are Disappearing
- Autism Spectrum Disorder -Two recently studies of concluded that taking paracetamol (acetaminophen) during pregnancy does not increase the risk of autism.
- Neuroscience Advances
- Acceptance Of Conspiracy Theories
- Recharging Aging Cells
- In 2025 China Installed More Than 50% Of All Wind and Solar Projects Globally
- Solar Passes Both Coal and Natural Gas in Germany in 2025

Science Report

Self-Protective Measures -

You should get vaccination advice from your doctor or your pharmacist ... not from this Report or the internet. Everyone should consider maintaining current vaccinations for the three respiratory viruses: Covid, flu and RSV (for RSV, adults [over 60](#) and children <8 months), unless your doctor/pediatrician advises against. Adults over 50 should have had the [Shingrix vaccine for shingles](#) (two doses 2 to 6 months apart, good indefinitely), and also the [Pneumococcal Vaccine](#). Many states are making access to these vaccines less complex - [map](#).

Vaccine and Therapeutic News -

- [Advanced Pancreatic Cancer](#) - has sadly been a condition with little remedy - 67,440 new diagnoses and 51,980 US deaths in 2025. [Novocure](#) (Root Switzerland and Portsmouth NH) has recently [announced](#) a new type of *non-invasive* therapy using externally applied 200 kHz alternating electric fields. Preliminary results from the company's Phase 3 human trial ([publication](#)) show a 33% improvement in survival rate (over the standard of care) after 24 months of treatment. **Update 2/12/26:** FDA has [approved](#) the company's medical device Optune Pax for this condition (locally advanced, non-resectable pancreatic cancer), *for use in addition to the standard of care*. [Mike and Greg K.]
- [Medication To Slow Progression Of Pediatric Myopia](#) - Glasses correct the symptoms, but don't deal with the causes. [Sydnexis](#) (Del Mar CA) has [announced](#) (11/6/25) that SYD-101, its medication for this indication, has been approved for use in the UK and the EU through its licensee [Santen](#) (Osaka Japan) under the brand name Ryjunea Not yet approved by FDA. Why not?

- Many Rural Hospitals Are Disappearing - More than 100 have *closed* since 2005. 85 have *downsized* (eliminating in-patient care) since 2005, and been *repurposed* into urgent care, nursing home, or rehab facilities. Since 2023, 42 have been *converted* to stand-alone ERs with an average patient stay of 24 hours. See three maps showing the disappeared hospital locations, [here](#). The trend is continuing, with [more than 300 at immediate risk](#) due to finances.
- HPV Testing And Cervical Cancer - The human papillomavirus (HPV) is responsible for most cervical cancer. In 2024 FDA approved a home, self-collection sample kit that can be used for screening tests - ordered by a healthcare provider. Details, including recommended test frequency, from the National Cervical Cancer Coalition (NCCC), [here](#). American Cancer Society advice [here](#). 14,000 cases of cervical cancer are diagnosed in the US annually and over 4,000 women die. Early detection is key. [CC]
- Scientific Report Of The 2025 Dietary Guidelines Advisory Committee - This [report](#), issued every 5 years, is intended to be the *scientific* basis for the subsequent official 2025-30 'Dietary Guidelines For Americans' (DGA) issued jointly every 5 years by the US Department of Health and Human Services and the US Department of Agriculture. Note particularly Chapter 4 titled 'Food Sources of Saturated Fat'. See the resulting official 2025-30 DGA [here](#). The DGA provides the foundation for federal nutrition programs and policies.
- Autism Spectrum Disorder - Two recently published studies [[#1](#), [#2](#)] of paracetamol (acetaminophen) concluded that "Taking paracetamol during pregnancy does not increase the risk of autism, attention-deficit hyperactivity disorder (ADHD), or intellectual disability among children.". [Acetaminophen](#) is the active ingredient in the over-the-counter pain relievers **Tylenol** and **Panadol**. See the University of London public statement, [here](#). The views of senior US federal officials described [here](#).
- Neuroscience Advances - [Axsome Therapeutics](#) (New York) - Neuroscience Pipeline Diagram [here](#)
 - Fibromyalgia - The company has [announced](#) encouraging preliminary results from two human trials for its oral medication AXS-14 (esreboxetine) for this indication. Not yet approved by FDA.
 - Alzheimer's Disease (AD) - The company has announced that its candidate medication for this condition has been awarded '[Breakthrough Therapy](#)' designation by FDA for AD agitation. Not yet approved by FDA.
 - Vitamin B-12 - is important to neurological and cognitive health, [publication](#). About 6% in the US under 60, and about [20% over 60 are deficient in B-12](#). Easily tested for along with other blood tests during an annual physical exam.
- Risk Of Coronary Heart Disease - rises earlier in men than in women, according to a recently [published](#) study, suggesting that men begin to be screened for this condition beginning in their mid-30s. [Details](#) on this, and other types of heart disease.

Other Health Science News -

- Acceptance Of Conspiracy Theories - In December, research psychologists published a [study](#) concluding that those who hold a low tolerance for ambiguity are the most subject to conspiracy theories. When presented with a complicated set of issues or events, they are more likely to accept a conspiracy theory offering an easy answer, even if it's wrong ... or an oversimplification. [Details](#) and a [Publication](#).
- Shoveling Snow Over Age 45 - increases risk of heart attacks, especially in very cold weather, especially in the morning. Three cardiologists explain why, [here](#). Position of the American Heart Association, [here](#). It's the sudden transition from a sedentary lifestyle to extreme activity, particularly in cold weather, that is the central risk factor.

- Research On Aging -
 - Superagers - are those over 80 who show unusual resistance to dementia compared to their age-peers. Whereas *genetics isn't the only factor*, a recently published study has shown that superagers may have [two key genetic advantages](#) that make them far less likely to develop dementia, including Alzheimer's Disease (AD). They are 68% *less* likely to have the APOE-ε4 variant of the APOE gene than those with AD, and they are 103% *more* likely to have the protective APOE-ε2 variant. [Publication](#). The new medical field of genetic/genomic therapy is just beginning. Genetic characteristics are no longer considered immutable. New research from the University College of London [adds useful details](#). [Publication](#). [John H.]
 - 117 Year Old Supercentenarian - She gave her body to science, and a recently [published](#) study showed some of the reasons for her long life, [details](#). She had many things going for her based on genetics, but the lesson we might *all* take from her is her diet. She ate three servings of probiotic, *active* culture yogurt (*Streptococcus thermophilus* and *Lactobacillus delbrueckii bulgaricus*) daily for the last 20 years of her life, and generally followed a Mediterranean diet. [Details](#). Dietary run-down on *active culture* Greek yogurt, [here](#). [CC]
 - Recharging Aging Cells - by essentially installing new batteries. A cell's [mitochondria](#) are its source of power. When their numbers begin to diminish, the cell *ages* (slows down) and becomes more subject to disease. Researchers at Texas A&M have devised flower shaped nanoparticles (nanoflowers) that scavenge damaging oxygen molecules, triggering genes that increase the number of mitochondria in stem cells (recharge them) ... nanoflowers are molybdenum disulfide (MoS₂) flower- shaped nanoparticles with atomic-scale vacancies. The recharged stem cells can then share their mitochondria with damaged neighboring cells, *de-ageing* them and putting them back to work. The cell culture experiments were successful, [publication](#). Details and a video, [here](#). Next animals ... and then us.
 - Glaucoma - On January 28, 2026 [Life Biosciences](#) (Boston MA) [announced](#) that FDA has granted the company permission to conduct a [Phase 1 human trial](#) of its candidate medication ER-100 for treating open-angle glaucoma, and non-arteritic anterior ischemic optic neuropathy. ER-100 is a *cellular rejuvenation* therapy that uses epigenetic reprogramming - reprograms the epigenome of aged/injured cells to *restore cellular function to a younger state*. [Details](#). This research presents significant opportunities for extension.
- Vaccine For HIV - The first dosing for the [human trial of a candidate vaccine for HIV has begun](#). The trial will be managed by scientists in South Africa, recruit volunteers from South Africa, and be [funded by a South African government grant](#) ... subsequent to the [cancellation of a grant from US AID](#). Good catch! 'Keep calm and carry on.'
- Hair Washing Frequency - See advice and tips from a Professor of Dermatology, [here](#). Summary: Curly hair, less than once every week. Fine hair, every two or three days. Shampoo is for the roots, not the hair itself.
- Listening To Your Own Gut - Seven signs that your [gut microbiome](#) is asking for help ... and advice on what you can do about it yourself, from a registered dietitian, [here](#). Summary of the signs: bloating, food sensitivities, skin issues (eczema, acne), unexpected fatigue, unintended weight changes, sugar cravings, sleep disturbances.

Practical Nutrition -

- 5 Underrated Vegetables Recommended By A Heart Surgeon - with some cooking suggestions, [here](#).
- Avocado-On-Toast Or Peanut-Butter-On-Toast - Both are healthy, with whole grain bread. Peanut butter (just peanuts, no additives) has more protein. Avocados have more fiber. Details and a nutritional rundown from a registered dietitian, [here](#).
- Walnuts Support Healthy Aging - [Details](#). [More than any other nut](#), according to a registered dietitian. That's because they are packed with appropriate nutrients: [fatty acids](#) (healthy fats), a range of micronutrients, and plenty of fiber. Look for the [American Heart Association check mark](#) on packaged foods, and see their requirements [here](#).
- Eat The Peel - To gain the full measure of their antioxidants and fiber (could be 50% more), a registered dietitian recommends eating the peel of 10 fruits and vegetables, list and details [here](#). Wash/scrub thoroughly. Consider blending into smoothies to improve palatability.
- Buying Dark Chocolate - **Dark** chocolate (70%+ cacao) is rich with antioxidants, and is healthy in moderation, especially if you pay attention to these [9 tips from a registered dietitian](#) when you buy it. Don't choose *Dutch Process* or *Alkali Process* varieties because these processes reduce antioxidants. Not complicated, really.

Environmental Science News -

- Illinois Wants More Battery Storage - and has [set a goal](#) to add 3 GW of utility-scale storage by 2030. Illinois has also lifted a moratorium on large nuclear reactor development. [Details](#). These changes matter to the DMV states because significant parts of Illinois are in the service area of the [PJM interconnection](#) regional transmission organization that provides their electrical power.
- China Is Reshaping Distribution Of Renewable Energy Across China - by constructing a 435 mile ultra high voltage (UHV >800 kV DC) transmission line to bring 8 GW of wind and solar power from Inner Mongolia to eastern cities like Beijing. The new line is expected to enter service in 2027. Photo, and details on several projects, [here](#). In 2024, *Earth's* total electricity capacity ... every coal, gas, hydro, and nuclear power plant plus all of the renewables ... was 10 TW. The [Chinese can now manufacture 1 TW of solar panels annually!](#) Huge competitive advantage!
- In 2025 China Installed More Than 50% Of All Wind And Solar Projects Globally - See *spectacular* photos, [here](#).
- Offshore Wind Performance During US East Coast Winter Storm Fern - [South Fork Wind](#) (NY) and [Vineyard Wind](#) (MA, 95% complete) performed on par with gas-fired power plants, and better than coal-fired plants, [details](#). By the end of 2026, *major* additional offshore capacity will be online along the US East coast, from Massachusetts down to Virginia. Next for NY, [Sunrise Wind](#) and [Empire Wind](#). Soon in Virginia - [Coastal Virginia Offshore Wind](#). Go!
- Solar Passes Both Coal And Natural Gas In Germany in 2025 - As a percentage of generated energy, [solar was at 18%](#), coal at 16% and natural gas at 14%. Impressive, with no sunny deserts. Wind produced 27%. Well done!
- World's First Megawatt-Class High-Altitude Wind Turbine - is designed for urban deployment. The Stratospheric Floating Wind Power Systems, [SAWES S2000](#), has a maximum power output of about 3 MW. Winds are stronger at higher altitudes, and energy produced is proportional to the cube of the velocity. Details, a photo and a video, [here](#).
- Mining For Rare Earths In the Swedish Arctic - Every day the miners from the state owned [LKAB mining company](#) blast their way 16 feet closer to the rich rare earth bearing [Per Geijer](#) deposit 1.2 miles away - starting from the 3,000 foot deep level of the

100 year old Kiruna iron mine in [Kiruna Sweden](#). Per Geijer has all 17 rare earth elements, including the most sought after *heavy* rare earths Neodymium and Praseodymium that are 100% controlled by China. Kiruna is the EU's best shot at establishing rare earth supply chain independence from China.

- [North America's First Cobalt Refinery](#) - [Electra Battery Materials Corporation](#) (Toronto Canada, video) has released a [progress report](#) on the construction of their Cobalt Sulfate refinery in Ontario [[map](#)]. Capacity: 5 tons of refined Cobalt annually, enough to power 1.5 million EVs. Cobalt is required for the magnets in electric motors. The plant will also recycle EV batteries.
- [Magnets](#) - [Noveon Magnetics](#) (San Marcos TX) has [announced](#) plans to expand its production of sintered rare earth (NdFeB) permanent magnets beyond 2,000 per year. Rare earth permanent magnets are essential to automotive systems, defense platforms, AI and data storage technologies, robotics, and advanced manufacturing applications.
- [Australia Strategic Reserve Plan For Gallium, Antimony And Rare Earths](#) - is not just a warehouse with materials stacked up, but a market savvy, dynamic framework responsive to market conditions. Details, and a table showing what applications each element is important to, [here](#) ,, defense, energy, and technology advancement.
- [US Backing For Alumina And Gallium Production](#) - The US Department of Defense has purchased a \$150 million stake in [Atlantic Alumina](#) (Gramercy LA and Discovery Bay Jamaica) as a way of guaranteeing availability in the US for these two critical materials. The company will invest a further \$300 million to expand production of [alumina](#) (aluminum oxide), and institute Gallium refining (usually co-produced with alumina). The company's [announced](#) annual production targets are 1 million tons of alumina, 50 tons of Gallium. [Details](#). Additional US funding expected.
- [Bald Eagle Nest](#) - Live cam view of the nest in Big Bear Valley California, [here](#). Jackie and Shadow come and go. [choose view, turn on sound, EST minus 3 hours]. [Background](#).

Other Science News -

- [Dune Buggies Go To Ukraine](#) - The 'Tempest' is equipped by US company [V2X](#) (Reston VA) with millimeter-wave guided AGM-114L Hellfire Longbow missiles, [details](#). Photo and video [here](#). The Ukrainian crew downed 21 Russian Shahed drones on their first mission with [Tempest](#).
- [Unmanned Ground Vehicles \(UGVs\)](#) - The Ukrainian company [DevDroid](#) is said to be developing a UGV capable of mounting a 30 mm cannon, for front line use with or without (autonomous) ground troops. [Background](#). [Nedi P.]
- [First New US Aluminum Production Plant In 50 Years](#) - [Century Aluminum](#) (Chicago IL), partnering with [Emirates Global Aluminum](#) (Dubai UAE), has [announced](#) plans for a 750,000 ton annual capacity primary Aluminum production plant to be built in Inola Oklahoma, located on the McClellan-Kerr Arkansas River Navigation System, connected to the Mississippi River system for efficient bulk freight movement.

Nice Thing - [full screen, skip ads]

[Les Barricades Mystérieuses](#) - François Couperin, composed in the [rondeau form](#), originally for the mellow lower register of the harpsichord, 1717.

- [Harpsichord Performance](#) - [here](#).
- [Piano Performance](#) - Éva Szalai, [here](#).
- [Guitar Performance](#) - Raphaël Feuillâtre, [here](#).
- [String Quartet Performance](#) - Tippet Rise Art Center, 8/24/2024, Fishtail, Montana, [here](#). [Louise F.]

Useful Health And Nutrition Websites -

- Health Biomarker Websites -
 - NIH BMI Calculator - [NIH](#) National Heart, Lung and Blood Institute [calculator](#). Find your Body Mass Index (BMI).
 - Basal Metabolic Rate (BMR) - Your BMR is how many calories you burn just sitting in your chair, [calculator](#).
 - Body Roundness Index (BRI) - Estimate your *visceral* fat, [details](#) and [calculator](#). Harvard background, [here](#).
 - Are Your Stools Healthy? - Check the Bristol Stool Chart [here](#). You should be a Type 3 or 4. Not complicated. [Details](#).
- Nutrition Websites -
 - Is Your Favorite Food Ultra-Processed? - and good substitutes. Northeastern University [TrueFood Dashboard](#).
 - Most Nutritious Vegetables and Fruits Rank-Ordered by CDC - List [here](#). Chinese cabbage = bok choy.
 - Misleading Words For Sugar - High-fructose corn syrup, sucrose, barley malt, dextrose, maltose and rice syrup are all [forms of sugar](#). Erythritol and Xylitol have been [linked to heart disease and stroke by Cleveland Clinic researchers](#), and should be avoided as food additives. Chemical sugar substitutes to be avoided: acesulfame potassium, advantame, allulose, aspartame, brazzein, lactitol, maltitol, mannitol, neotame, rebaudioside A (reb-A), saccharin, sorbitol, thaumatin and trehalose.