

Betsy says HI!!!!

Announcements

The next LABQUEST meeting will be Wednesday, January 14, location is WOMC in Philanthropy Conference Room on the 2nd floor of Medical Pavilion.

Science Report Highlights

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

- Erectile Dysfunction
- Bird Flu
- *Oral* GLP-1 Treatment For Obesity
- Gonorrhea
- Shingles Vaccine reduces risk of dementia
- Can Massage-Enhanced Cerebrospinal Fluid (CSF) Flow Reduce Risk Of Alzheimer's Disease?
- Quebec Hydroelectric Power Will Soon Flow To New England
- UK Is Funding The Switch To EVs
- Renewable Electrical Energy Generation In The EU
- Mysterious 4,000 Year Old Ancient Minoan Structure Discovered On Hilltop in Crete


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 -

- Erectile Dysfunction - [Dicot Pharma](#) (Uppsala Sweden) has [announced](#) encouraging preliminary results from the Phase 2a human study for its oral medication LIB-01 for this indication. After the initial, well tolerated 3-day dose series, effectiveness was shown out to 8 weeks without further medication. The company will now continue testing in a Phase 2b study. In parallel, the company will also conduct preclinical (animal) studies to investigate the effectiveness of LIB-1 with respect to metabolic diseases. Promising new tech approach. Side effects minimal, patents extend to 2042.
- Frontotemporal Degeneration (FTD) - is a type of hereditary dementia caused by mutations in the progranulin gene (GRN), resulting in a reduction in progranulin levels. [Vesper Bio](#) (Copenhagen Denmark) has [announced](#) encouraging results of its Phase 2 human trial for the use of its oral medication VES001 to treat FTD by successfully restoring progranulin concentrations to near normal levels. Stay tuned.
- Oral GLP-1 Treatment For Obesity - FDA has [approved](#) an oral version of the previously approved [Novo Nordisk](#) (Copenhagen Denmark) injectable medication Wegovy for

this indication. Like its injectable cousin, the oral version was also approved to reduce cardiac risk. [Publication](#). A wave of competition is on the way. 

- [Gonorrhea](#) - [Innoviva Specialty Therapeutics](#) (Waltham MA) has [announced](#) FDA approval of the company's oral antibiotic for gonorrhea, the first new treatment of this increasingly *antibiotic resistant* condition in two decades!
- [Dementia Risk](#) -
 - [Shingles Vaccine](#) - A recently [published](#) study from researchers at Stanford University concluded that the current Shingles vaccine (Shingrix) can [reduce the risk of dementia by 20%](#). A second study [concluded](#) that it can also slow progression *after* onset.
 - [Sense Of Purpose](#) - A recently [published](#) study concluded that finding a sense of purpose can [reduce dementia risk by 28%](#).
- [Wiskott-Aldrich Syndrome \(WAS\)](#) - is a genetic disease resulting in bleeding, eczema, recurrent infections, and increased risk of autoimmunity and lymphoreticular malignancies. FDA has [approved](#) (Biologic License Application Approval, BLA) the cell-based gene therapy Waskyra (etuvetidigene autotemcel) for this indication. [Fondazione Telethon ETS](#), a non-profit based in Milan Italy. FDA prescribing information, [here](#).
- [Bird Flu](#) - [Moderna](#) (Cambridge MA) has received a \$54 million grant to *continue* the [Phase 3 human trial](#) of its promising candidate vaccine mRNA-1018 for this indication ... from the international Coalition for Epidemic Preparedness Innovations ([CEPI](#)) Oslo Norway, replacing a US federal grant that was abruptly canceled. [Details](#).

Other Health Science News -

- [Can Massage-Enhanced Cerebrospinal Fluid \(CSF\) Flow Reduce Risk Of Alzheimer's Disease?](#) - Scientists at the Korea Advanced Institute of Science and Technology have discovered a previously unknown network of lymphatic channels 5 mm below the surface of the face and neck (mice and monkeys). CSF exits the brain through a network of thin lymphatic channels that help flush out brain waste products such as beta-amyloid, a biomarker for Alzheimer's Disease and Parkinson's Disease. The scientists showed that downward stroking of the face and neck [increased CSF flow through the brains of the test animals at up to three times the previous rate](#) for 30 minutes after the massage, a rate characteristic of younger animals. A promising, non-invasive idea. Humans next? [Publication](#)
- [Dementia, Amyloid Plaques And Tau Tangles](#) - Although we don't yet know what causes neurodegenerative diseases like dementia, Parkinson's Disease and Alzheimer's Disease, we *do* know that the referenced two protein structures, and other cerebral waste products, are *associated* with these conditions and their progression (using [cerebrospinal fluid taps](#) and [PET scans](#)). Researchers at Baylor University now suggest (mouse studies) that a third protein, Sox9, activates the brain's [astrocytes](#) (specialized star-shaped cells) to 'vacuum' them out. Details [here](#), publication [here](#).
- [Blood Types And Liver Disease](#) - Researchers have linked Type A to higher risk for autoimmune hepatitis, and Type B to higher risk for primary biliary cholangitis. Type O was associated with a lower risk for liver disease. [Publication](#).
- [Testosterone](#) - is a hormone produced by the adrenal cortex. It is present in, and important to, both men and women. See the symptoms of levels that are both too high and too low, [here](#). Testosterone production tends to slow with age. A routine blood sample can tell the story.
- [Spinal Compression Fractures And Osteoporosis](#) - Researchers at Researchers at Osaka Metropolitan University found that stem cells from fat tissue can be used to repair spinal fractures like those caused by osteoporosis. The rats in their study turned these cells into bone-

forming clusters which, when paired with a bone-rebuilding material, caused them to regain stronger, healthier spines. [Details](#). [Publication](#).

- [Hunter Syndrome](#) - is a hereditary children's disease caused by a faulty gene that prevents the body from making a crucial enzyme that breaks down complex sugar molecules. As the molecules accumulate, they cause joint stiffness, hearing loss, heart problems and cognitive decline resembling dementia. Life expectancy is 10 to 20 years. A [clinical trial in progress at the Manchester Centre for Genomic Medicine in the UK](#) is showing promising early results.
- [Fermented Dairy Intake Linked To Cognitive Health](#) - A study recently published by geriatrics researcher at Niimi University in Japan concluded that the (at least weekly) consumption of fermented dairy products such as cheese is associated with a measurably *reduced risk* of the onset of dementia, [details](#). Examples of other widely available fermented dairy products are kefir, yogurt and cottage cheese. [Publication](#).
- [Sleeping In The T. Rex Position](#) - The symptoms that indicate it may be problematic, and what to do about it, [here](#).
- [Best Nighttime Sleep Temperature](#) - According to a sleep consultant, and licensed marriage and family therapist, the ideal range is 65-70° F ... with the upper end being for the warmer months of the year. [Details](#). For those who share a bed with someone on a different temperature track, there are mattress temperature control systems. [Baby sleep](#).
- [The Mind And The Body Are One](#) - In a recent [published](#) study conducted by researchers at the University of Auckland in New Zealand, volunteers were asked to walk either upright or bent over while conducting stressful tasks. The upright walkers showed calmer physiology and steadier mood than those asked to walk slumped. [Details](#)

Practical Nutrition -

- [Refrigerate Wine After Opening](#) - [Yes](#). Reds and whites (cork in) should last 3-5 days, sparkling wines 1-3 days.
- [White Flecks Or Crystallized Patches](#) - on the *surface* of aged, low-moisture cheeses (like Parmesan, aged Cheddar, Gruyère, or Manchego) are signs of a well-aged, full flavored cheese ... in most cases they are safe to eat. Avoid cheese with a raised or fuzzy surface, and the blue, green, or black color ... indicates mold. Details [here](#).
- [How To Cook Broccoli To Maximize Antioxidants](#) - Summary: chop and set aside for about 90 minutes. Then lightly saute or steam for 3 or 4 minutes. Do not overcook. Details [here](#).
- [Environmental Working Group \(EWG\) Food Scores](#) - See an example of their rating for a particular brand of shredded wheat, [here](#). [Thanks CC]
- ['Dave's Killer Bread' Releases A New Loaf](#) - [Supreme Sourdough](#) is currently a West coast exclusive. Stay tuned.
- [4 Kinds Of Bread To Avoid](#) - for better blood sugar control, according to a registered dietitian, [here](#). Also see the tasty alternatives. If you're the baker, choose whole grain flour and non-sugar natural sweeteners like Monk Fruit or Stevia.
- [Black Beans Vs Pinto Beans](#) - Both are rich in [protein and fiber](#) ... black beans have slightly more antioxidants and magnesium, pinto beans have more potassium and [folate](#) ... both are good for heart health, [blood sugar](#) and digestion.
- [Salt And Iodine](#) - Iodine deficiency, leading to hypothyroidism (low thyroid function) is on the rise, [here](#). This can easily be misdiagnosed as a much more serious thyroid issue, so get your doc to measure iodine levels in your blood work during your routine annual physical exam. [Sea salt, and other fancy salts](#), typically have *no iodine at all*. Regular, off-the-shelf salt has iodine added - but most foods don't have iodine unless they've been fortified.

- Soybean Oil - can lead to unexpected weight gain, according to a recently [published](#) study from researchers at University of California Riverside. [Details](#).
- Energy Drinks, Stroke, Heart Disease - Summary of a case study done in the UK, [here](#). [Publication](#).

Environmental Science News -

- EPA Approves Pesticide That Generates PFAS - [EPA has approved isocycloseram](#) as an active ingredient in pesticides used on golf courses, lawns and food crops such as oranges, tomatoes, almonds, peas, and oats. Isocycloseram is moderately persistent, and breaks down into 40 or more smaller PFAS chemicals, some [highly persistent](#). Among the concerning harms are reduced testicle size, lower sperm count, liver toxicity, health risks to young children, and high toxicity to bees and other pollinators. Action on safety is now left to individual states.
- Formaldehyde - is a known carcinogen. The US Environmental Protection Agency (EPA) has recently [proposed](#) doubling the amount of formaldehyde considered safe to breath. [Details](#). Conflict of interest issues have been raised.
- Two New US Wildlife Crossings -
 - Largest Wildlife Crossing Bridge In The World - The [Wallis Annenberg Wildlife Crossing](#) will open soon. It crosses all ten lanes of the 101 Freeway in Agoura Hills, California, creating a space nearly one acre in size ... the largest bridge of its kind in the world. The [native plant](#) installation began recently, including narrowleaf milkweed to attract butterflies, purple sage to attract hummingbirds, and California aster to provide pollen and nectar to bees. The Crossing is intended to connect and extend habitat for the California cougar.
 - Greenland Wildlife Overpass Opens In Colorado - It crosses over Interstate 25 near Larkspur Colorado, between Denver and Colorado Springs. About 100,000 vehicles travel under it daily in an area known for high movement of large game ... elk, mule deer, black bears, mountain lions. Project description, [here](#). Photo and details, [here](#). Highway officials project that one wildlife crash per day will be avoided during fall and spring wildlife movement seasons.
- Wildlife Trafficking Bust In Peru - Peru and the US collaborated to prevent the illegal transportation, from Lima's port of Callao to China, of [10,000 shark fins](#) (9.3 tons). Good partnership. [Sarah F.]
- 5 New England States Align To Promote Heat Pumps - The states of Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island have formed an alliance called [The New England Heat Pump Accelerator](#), with the goal of placing more heat pumps in homes through financial incentives, educational outreach, and workforce development. Natural gas and propane are still in wide use in the region. Heating oil is also still widely used, with more than half of Maine's homes heated by oil. Good step forward. Considerable progress has already been made. [Harvey B., Barbara R.]
- Quebec Hydroelectric Power Will Soon Flow To New England - power for up to 1 million homes. Regional electric utility company Avangrid, developer of the New England Clean Energy Connect project, has announced that the [new line will be switched on shortly](#). A decade in the making, the new line will provide 1,200 MW of baseload power, 1,090 MW of which is headed to Massachusetts
- The Port Of Cleveland - has begun a [\\$94 million project to electrify its main terminal](#). The Port will add two MW of rooftop solar, new battery storage systems, and charging stations for

electric cranes and forklifts ... replacing diesel power machinery. Other Great Lakes ports are thinking of following their example.

- [UK Is Funding The Switch To EVs](#) - by injecting an [additional \\$2 billion](#) for the purpose under the proposed new budget. The existing Electric Car Grant program has already helped more than 35,000 drivers make the switch to an EV by cutting upfront costs up to \$5,000. The new budget is also expected to include \$270 million for new EV charge points across the UK.
- [Renewable Electrical Energy Generation In The EU](#) - reached [49.3% in 3Q25](#), led by Denmark at 95.9%, Austria at 93.3% and Estonia at 85.6%. Well done to all.
- [Ozone Hole Continues To Shrink](#) - The US National Oceanic and Atmospheric Administration (NOAA) and NASA have confirmed that the 2025 Antarctic [ozone hole was the fifth smallest since 1992, and of short duration](#). This marks the continuing success of the [Montreal Protocol](#) in reducing the release of ozone-depleting CFC compounds. Success!
- [Montgomery County Maryland Bans Plastic Bags](#) - with certain exceptions. Well done! Videos, [here](#) and [here](#).

Other Science News -

- [Surf's Up In Munich](#) - or it was, until the city engineers finished dredging the two-kilometer Eisbach canal. They got a little too enthusiastic, and removed the hump of sediment that had been creating the 5 foot standing wave ([nicknamed the E1](#)) allowing [Bavarian surfers](#) to *hang 10* on Munich's Eisbachwelle River. Now the engineers are running AI models trying to recreate the hydraulic feature that made it work. [River surfing](#). Way to go, dudes. [Video](#). [Hugo, Sonja B.]
- [New UK Ship-based Antidrone Defense](#) - See a description of the DragonFire system, to be mounted on Royal Navy Type-45 destroyers by 2027, [here](#). The defense company MDBK UK will provide the first high-powered laser system entering service from a European country - [5 years ahead](#) of schedule! The shots arrive on target at the speed-of-light (Mach 871,000), and require no ammunition. [Video](#). MBDA is a multinational defense company based in Paris, France.
- [Russian Rocket Woopsie](#) - Somebody forgot to retract the 20 ton service platform (located below the launch table) before the most recent launch to the International Space Station. The launch itself was successful, but the service platform fell into the flame trench, and must be replaced before additional launches of Soyuz rockets from Site 31 at Baikonur in Kazakhstan - problematic for several reasons. [Details](#)
- [Mysterious 4,000 Year Old Ancient Minoan Structure Discovered On Hilltop in Crete](#) - just where the Greek government was planning to install the radar tower for the new international airport, to better serve tourists (18 million expected annually) arriving to see mysterious ancient minoan structures. Photo of the [wheel-like structure](#), and other details, [here](#). Excavations in the area have found >35 other ancient sites.
- [Ancient Solid Rock Tunnels](#) - Hundreds ([publication](#)) have been found under the hills of Southern Brazil and Northern Argentina. They [weren't made by humans](#), or by a geologic process. Some are more than 6 feet in diameter and several hundred feet long. The leading scientific theory, since claw marks are still apparent, is that they were dug by extinct megafauna ([giant sloths](#)).

[Nice Thing](#) - [full screen, skip ad]

[Lascia Ch'io Pianga \(Le Me Weep\)](#) - Georg Friedrich Händel, a saraband from Act 2 of his 1711 London opera Rinaldo, [here](#).

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.