

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:

- Weight Reduction Drug Now Available in Pill Form - Novo Nordisk
- Major New Pharmaceutical Manufacturing Facility -Eli Lilly in PA.
- mRNA Flu Vaccine
- Obstructive Sleep Apnea (OSA) -human trials using a pill
- Male Pattern Hair Loss – human trials using topical-application medication
- AI-Assisted Analysis Of EKG/ECG Data
- South Carolina Way Bigger Than Texas - 933 cases of measles (2/10/26) versus 762.
- Advances In Studies Of Aging
- Worn-Away Tire Tread
- Solar news-

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 -

- [Weight Reduction Drug Now Available In Pill Form](#) - [Novo Nordisk](#) (Bagsværd, Denmark) has [announced](#) that the pill form of its medication Wegovy for this indication is now widely available in the US, subsequent to FDA approval. [Packaged food makers and fast-food restaurants](#) are expected to overhaul more of their products in response to the widening use of this class of drugs, now that injections are not required. Other companies also have pill versions of weight reduction drugs on the path to approval.
- [Major New Pharmaceutical Manufacturing Facility](#) - [Eli Lilly](#) (Indianapolis PA) has [announced](#) plans to build a \$3.5 billion injectable medicine and device manufacturing facility (Lilly Lehigh Valley) in [Fogelsville Pennsylvania](#). One of its products will be Lilly's new weight control medication [retatrutide](#) ... a [Phase 3 study](#) was completed recently). Some of the trial volunteers who also had knee osteoarthritis [reported](#) a reduction in knee pain (1 in 8).
- [Amyotrophic Lateral Sclerosis \(ALS\)](#) - [Brain Chemistry Labs](#) (Jackson Hole Wyoming) is making encouraging progress ([97%accuracy](#)) on developing a blood test to facilitate early diagnosis of [ALS](#). [Details](#). New therapeutic ideas, [here](#)

- mRNA Flu Vaccine - [Moderna](#) (Cambridge MA) has [announced](#) filing for marketing authorization in the US, the EU, Canada, and Australia for its flu vaccine candidate mRNA-1010, moving beyond outdated methods to apply mRNA technology ... more agile at adapting to rapidly mutating viruses like flu and Covid. Powerful tool! Update 2/11/26: US review is held up by FDA for undefined reasons.
- Obstructive Sleep Apnea (OSA) - [Apnimed](#) (Cambridge MA) is [reporting](#) two encouraging Phase 3 human trial results from their oral administration (pill) medication AP-109 for this indication. FDA submission may be soon
- Metastatic Colorectal Cancer - FDA has granted [Fast Track Designation](#) to [Oncolytics Biotech](#) (San Diego CA) candidate medication pelareorep, in combination with bevacizumab (Avastin®) and leucovorin, fluorouracil, and irinotecan (FOLFIRI), for the treatment of patients with this indication. [Details](#). Globally, there are about 2 million new colorectal cancer cases each year.
- Male Pattern Hair Loss - [Cosmo Pharmaceuticals](#) (Dublin Ireland) has [announced](#) the result from two Phase 3 human studies of its topical-application medication Clascoterone for this indication. One showed a 539% improvement relative to placebo, the other a 168% relative improvement. Side effects were said to be minimal. Parallel regulatory submissions for the US and the EU are planned for mid-2026, after completing the mandatory safety study period. [Background](#).
- Canine Congestive Heart Failure - [Boehringer Ingelheim](#) (Duluth Georgia) has [announced](#) FDA approval of the chewable tablet or oral solution medication VETMEDIN (pimobendan) for *delay* of onset of this indication in dogs.
- AI-Assisted Analysis Of EKG/ECG Data - [Tempus](#) (Chicago IL, video) has [announced](#) FDA clearance of its ECG-Low EF (ejection fraction) software to assist physicians in identifying low left ventricular ejection fraction conditions based on clinically acquired electrocardiograms (ECG or EKG).

Other Health Science News -

- South Carolina Way Bigger Than Texas - 933 cases of measles ([2/10/26](#)) versus 762. Background and a map, [here](#) No end in sight. [Fran McC.]
- Pediatrician-Recommended Childhood Vaccines - The American Academy of Pediatrics, backed by [12 other medical groups](#), has recently [published](#) *its own* very detailed list of vaccines recommended for children/adolescents. [More](#).
- Weight Reduction Drugs And Alzheimer's Disease (AD) - [Novo Nordisk](#) (Bagsværd, Denmark) has [announced](#) that its medication semaglutide did **not** show effectiveness during Phase 3 trials in slowing the onset of AD. The [Ely Lilly](#) (Indianapolis IN) weight control medication [tirzepatide](#) also showed promise, but decisive clinical results for AD are not yet available.
- Stroke And Concussion - Some types of cells self-repair quickly, but brain cell repair is slow and limited, making recovery from stroke and concussion slow and difficult. Researchers at the [Sanford Burnham Prebys Medical Discovery Institute](#) (La Jolla CA), in collaboration with the [Duke-NUS Medical School](#), (Singapore), are working on a stem cell based therapy, presently being tested in mice, to give that repair process a boost. [Details](#) and a [publication](#).
- Advances In Studies Of Aging -
 - Cellular Senescence - is the loss of a cell's ability to divide and grow. Senescence is [aging](#), and leads to cell death caused by an excess of free radicals and too few anti-oxidants. Researchers at Cornell University have [discovered](#) that by using *extracellular vesicles* (derived from stem cells) to inhibit oxidative stress, they can slow the cellular

aging process ... and **successfully slow aging in living mice**. The next target is to repeat the process in human cells.

- Cellular And Tissue Rejuvenation - Researchers at the University of California San Francisco, using a technique called 'transcriptional reprogramming', have successfully **rejuvenated livers** in aged mice, reducing fibrosis and steatosis (fat), and improving glucose tolerance. Next is expanding their target list for rejuvenation of other organs. [Publication](#).
- Aging Reversed In Blood Forming Stem Cells - Researchers at the Icahn School of Medicine at Mount Sinai have discovered how to reverse aging in blood-forming stem cells *in mice* by correcting defects in the stem cell's lysosomes. [Details](#) and a [publication](#). Promising step.
- Why Does Colon Cancer Risk Increase With Age? - Recently [published](#) research finally provides not just the usual *associative* fact, but an actual *causative* linkage ... [epigenetic](#) changes. See a lay explanation [here](#). Now that we know what's actually going on at the molecular level, **let's interfere!** The researchers presented ideas for that too.
- Male Biological Clock - A UK fertility expert says that [men over 40 are "about half as fertile"](#) as those in their mid-20s. But of course it's more complicated than that, [here](#). Medical advice should be a part of the planning.
- 6 Well-Known Fast Food Items With High Plastic Chemical Content - [here](#).
- Multiple Food **Preservatives** Linked To Increased Risk Of Either Type 2 **Diabetes** Or **Cancer** - [Details](#).
 - 6 were associated with Cancer - [Publication 1](#) - potassium sorbate, sulfites including potassium metabisulfite, sodium nitrite and potassium nitrate, acetates, acetic acid, and sodium erythorbate. January 2026.
 - 12 were associated with Type 2 diabetes - [Publication 2](#) - potassium sorbate, sulfites, potassium metabisulfite, sodium nitrite, potassium nitrate, acetates, acetic acid, sodium erythorbate, potassium sorbate, potassium metabisulfite, sodium nitrite, acetic/citric/phosphoric acids, sodium acetates, calcium propionate, sodium ascorbate, alpha-tocopherol, sodium erythorbate, and rosemary extract. January 2026.

Practical Nutrition -

- Walnuts Or Almonds - Both are healthy. Favor walnuts for help with cholesterol, almonds for blood pressure, [details](#).
- Pecans Or Peanuts - :Pecans have more healthy ([monounsaturated and polyunsaturated](#)) fats, and are better for controlling cholesterol and heart health. Peanuts have more protein, and a variety of other important nutrients. See a nutrient rundown from a registered dietitian, [here](#).
- Oranges Or Grapefruits - According to a registered dietitian, oranges have more fiber and Vitamin C, [details](#). To get the full benefit of either, eat the whole fruit, including the pulp, not just the juice. Even the rind, if you can manage it.
- Acerola (Barbados Cherry) - is under study by researchers at the University of Florida (UF) as a replacement for Florida's fading orange crop (insects, climate change). Photos and details, [here](#). They are a rich source of carotenoids, anthocyanins, phenolic compounds with antioxidant and anti-inflammatory properties, and have up to *100 times more vitamin C than an orange - more than any other fruit*. UF researchers are now conducting three major field trials - at the UF/IFAS Plant Science Research and Education Center in Citra, at a farm in Pierson, and at the UF/IFAS Tropical Research and Education Center (TREC) in Homestead. A star is born!

- Grapes Or Bananas - [Both have good antioxidants](#), of different types, so mixing it up will get broad exposure to *all* of them. For those who are deficient in Potassium, bananas have twice as much as grapes. [Check your blood work](#). Note: Eat bananas separately in time by about 2 hours from foods like berries that you want to receive antioxidants from. Don't use them in berry/fruit smoothies for the same reason. Also, to maximize antioxidant benefit, choose *and eat* bananas while they are still a bit firm, and at least slightly greenish at the stem.
- How Do Registered Dietitians Assess Beef Tallow - Pros: small amounts of fat soluble vitamins (A, D, E, K) and unsaturated fats (fatty fish or egg yolks are better), high smoke temperature for high heat cooking (avocado oil is as good), rich flavor. Cons: Very high (50% of calories) in saturated fat (raises LDL cholesterol and risk of heart disease), not for those with high cholesterol or heart disease. [Summary: No, use avocado oil for high temperatures](#).
- Apples Reinvented - The new 'Opal', a cross-breed between Topaz and Golden Delicious, is even tastier than a Honeycrisp. The season is between November and June, but they are still hard to find. Stay tuned. [Photo/details](#).
- 5 Fruits For Winter - A registered dietitian recommends eating more of these 5 fruits in Winter ... rich in vitamin C, fiber and Potassium, [here](#). Tune-up: one Sumo orange provides **160%** of the daily value of vitamin C.
- 8 Reasons Why Pineapple Is Healthy - Details, a nutritional rundown, and a video with cool banjo music, [here](#).
- Sumos Are Back In Season - The [Sumo Citrus](#) is a cross between a mandarin, a satsuma, and an orange. One is 163% of the Daily Value for Vitamin C. Tasty, easy to peel, and sweet. [Details](#).
- Avocado Ripening Methods - The most elegant method is also low tech. Place the unripe avocados in a brown paper bag with a ripe banana. The trapped ethylene gas gives good results in days, [details](#).
- Fresh Or Canned Salmon - Both are nutritious. They provide two (EPA, DHA) of the three all important Omega-3 fatty acids, and vitamins B12 and D. See a comparative nutrition run-down from a registered dietitian, [here](#). Fresh salmon has much more EPA/DHA, but is more expensive and less available. The one you eat is the best one.
- Roasted Chickpeas (Garbanzo Beans) - are more nutritious than canned or boiled, according to a registered dietitian. [Here](#) are the 4 reasons she gave, and some tasty recipes. Fiber, protein, vitamins ... and more *bioavailable* minerals because roasting reduces [phytic acid](#).
- Fermented Food - introduces live beneficial microbes that can improve digestion, reduce bloating, support immune function, help regulate inflammation, and more. Details and examples [here](#) The label must say 'live culture'.
- Beans And Blood Pressure - Beans have fiber, protein, vitamins, and minerals that support heart health, stabilize blood sugar, and improve both gut health and blood pressure ... according to a registered dietitian, [here](#). Note the table showing a nutritional run-down of 5 kinds of beans.
- No More Slimy Mushrooms - Put them in a brown paper bag, folded over once at the top, and then place in the fridge, *not* in the crisper drawer (humidity promotes mold). Other ways that *don't* work as well, [here](#). Mushrooms are nutritious.
- Amazon To Close 'Amazon Fresh' Stores - [Details](#). Some locations may reopen with other functions.

Environmental Science News -

- Coal Mining Pollution, Fracking Waste - Pennsylvania rivers have it all, some of it radioactive (Radium). Now the clean-up begins. See how the Westmoreland Sanitary

Landfill continues to affect a tributary of the Monongahela River south of Pittsburgh. [Details](#), photos and a dramatic video showing contaminated runoff from the landfill site.

- [Last Hard Coal, Deep Cast Mine In Czech Republic \(Czechia\) Closes](#) - The half-mile deep [ČSM mine in Stonova](#), Czechia (Ostrava region near the Polish border) has closed after 250 years of operation - deep mining was no longer cost effective. Surface mining for brown coal ([Lignite](#)) is expected to continue for several more years in Western Czechia. [Details](#). Coal is dirty, lignite is filthy and toxic.
- [Worn-Away Tire Tread](#) - A passenger car tire [loses 6-9 pounds of tread](#) during its lifetime, 40% natural and 60% synthetic (plastic based on petrochemicals) - toxic particulates that cause [cardiovascular disease](#), [antibiotic resistance](#), cancer and birth defects. [Publication](#).
- [Perchlorate](#) - is used with rockets, fireworks, explosives, and can occur naturally. As a contaminant in drinking water it affects the function of the thyroid, and is a special risk for the development of young children, lowering IQ scores and increasing behavioral problems. EPA is now under [court order to set drinking water regulations](#) for it.
- Hydrogen Advances -
 - [World's Largest Green Hydrogen Plant](#) - The [Neom](#) Green Hydrogen Company plant is [nearing completion](#) in Saudi Arabia, and is expected to commence operations this year. Electrolyzer, 4 GW wind and solar farm, electrical grid, 116 square mile site, \$8.4 billion, will produce 600 tons of Hydrogen daily.
 - [Michigan Wants Geologic Hydrogen](#) - and a [January 2025 map](#) released by the US Geological Survey showed that the rock strata under Michigan should have plenty. The Governor has now signed a directive to clear away the red tape and facilitate exploration, with a view to using Hydrogen for steel making, or for fuel cells to power ships and other heavy transportation equipment. [Hydrogen burned in air produces water](#). Thank you Governor Whitmer!
- [Battery Manufacture In Kansas](#) - Taiwanese energy company [Apogee Power](#) will build its [first US battery manufacturing facility](#) in Liberal Kansas ... 20,000 ft² facility, grid scale batteries based on LFP (Lithium Iron Phosphate) technology, operational in mid-2026.
- [Ford To Make Grid-Scale Storage Batteries In Kentucky](#) - The company has announced a \$2 billion investment to convert its vehicle assembly plant in Glendale, Kentucky for this purpose ... [operational in 18 months](#).
- [New Transmission Line Across Southern Kansas](#) - [Eversource](#) (Kansas City MO) is proposing to build a \$500 million, 133 mile, 345 kV electrical transmission line [across 4 southern Kansas counties into Oklahoma](#). The company's announced intent is to improve reliability, strengthen the grid, enable bi-directional power flow (especially from wind farms), and meet future energy demands. Details and a map, [here](#). Increasingly powerful storms in the area have been creating power [outages](#).
- [Small Modular Nuclear Reactors](#) - The US Department of Energy has [announced](#) an \$800 million grant program to bring two advanced light-water small modular reactors ([SMRs](#)) online early in the 2030s in Tennessee and Michigan.
- [Solar](#) -
 - [Solar Paired With Nuclear In Missouri](#) - Electrical utility [Ameren](#) (St Louis MO) is [proposing](#) to construct a 250 MW (power for 44,000 homes) solar farm, the [Reform Renewable Energy Center](#), on 1,200 acres of land it already owns around its operating nuclear power plant, the Callaway Energy Center, in [Callaway County MO](#). The new facility is targeted to be operational in 2028, with a construction start this May. [Map](#)
 - [Solar Overtakes Coal In Texas](#) - with more utility-scale solar than any other state. Details, and a very clear chart showing the trend accelerating, [here](#).

- South Georgia Gets Solar - [Linea Energy](#) (San Francisco CA) began construction a year ago on its 80 MW, 500 acre, [Pineview Solar Park](#) in [Wilcox County GA](#) ... power for 15,000 homes. The company has a 15 year power purchase agreement (PPA) with the [Municipal Electric Authority of Georgia Power](#) (MEAG) .. their first solar power.
- Egypt Gets Solar, And Utility Scale Battery Capacity - Egypt is targeting [\\$1.8 billion for solar projects](#), with a plan to generate 42% of their electrical power from renewable sources by 2030. The first project will be the construction by renewable energy developer [Scatec](#) (OsloNorway) of a solar and battery storage plant in [Upper Egypt's Minya Governorate](#) ... generating capacity of 1.7 GW, battery capacity of 4 GWh. [Details](#).
- Wind+Solar Rule In The EU - In 2025 the EU received 13% of its electrical power from solar, 30% from wind+solar, 29% from fossil fuels. Details, and a chart showing the upward trend in renewables, [here](#).

Other Science News -

- Robots Move In On Alexandria - [Serve Robotics](#) (San Francisco CA), partnering with [Uber](#) (San Francisco CA), is now delivering food in VA. Details and a video of a cute (stage 4 autonomous) robot delivering a spicy tuna roll, [here](#).
- Satellite Linked AI Tools For Finding Minerals - Australian company [Fleet Space Technologies](#) (Adelaide Australia) uses battery powered ground sensors called 'geodes' to record vibrations in bedrock due to wind, waves, and human activity. This information is uplinked through a swarm of small satellites to the company's [ExoSphere](#) platform, where their AI maps substrata containing desired mineral deposits. Locating Lithium deposits in Canada, [here](#).
- Saab Accelerates Submarine Construction - In order to meet delivery targets for the 3 new A26 Blekinge-class submarines ordered by Poland, and to meet the needs of Sweden's own navy, [Saab](#) (Linköping, Sweden) has decided to [parallelize construction](#) at several sites for simultaneous work. Work on modernizing the mid-life Gotland class of subs will also run at the same time. The A26 is optimized for work in the Baltic Sea, and is also designed to support [special operations](#).
- The Lynx Comes To Ukraine First - Defense company [Rheinmetall](#) (Düsseldorf Germany) will [deliver the first batch](#) of 5 [Lynx KF41](#) infantry fighting vehicles to Ukraine soon (can operate autonomously). The company partnered with Raytheon Technologies, Textron Systems, L3Harris Technologies, Allison Transmission, and Anduril Industries for design and development of the Lynx, which is also being offered into the US Army's '*Optionally* Manned Fighting Vehicle' (OMFV) program as a replacement/update for the Bradley Fighting Vehicle. Ukraine is the ultimate field test.

Nice Thing - [full screen, closed captions on]

Durin's Day - Tolkien Reading Day, March 21, 2025 - video of a fan reading a passage about the dwarf leader Durin, [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.