

## **Betsy says HI!!!!**

### **Announcements**

**The next LABQUEST meeting will be Wednesday, October 9, at 12:30 in the GSA trailer.**

### **Science Report Highlights**

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

- NIH Seeks Volunteers For Diet Study
- Free Covid Tests By Mail
- New Preventive Treatment For Heartburn
- Alternative To Knee Replacement Surgery?
- FDA Human Foods Reorganization Now (10/1/24) In Effect
- Ultra-Processed Foods Are *Designed* To Be Addictive
- 27 Types Of Dental Floss Reviewed
- Controlling High Blood Pressure Without Medication
- Study Links Eating Eggs To Better Cognitive Performance
- Indian Lunar Lander Finds Evidence Of Ancient Magma Ocean

### **Science Report**

#### Self-Protective Measures -

You should get your medical advice from official sources, your doctor, or your pharmacist ... not from this Report or the internet. Per recommendations by FDA and CDC, everyone should maintain current vaccinations for the three respiratory viruses: Covid, flu and RSV (for RSV, adults [over 60](#) and children [younger than 8 months](#)) - unless your doctor advises against it based on your medical record. Adults over 50 should have had the [Shingrix vaccine for shingles](#) (two doses 2 to 6 months apart, good indefinitely).

- [NIH Seeks Volunteers For Diet Study](#) - NIH wants healthy adults (18-60) for a two-group diet study. One group will eat a traditional Western diet (low in fiber, high in saturated fat) for 4 weeks, and then switch for 4 weeks to a CLEAN-MED diet (Mediterranean-like, lots of vegetables, fruits, and whole grains with little sugar or red meat) for which food will be provided - *weekly* clinic visits for tests. The other group will eat the CLEAN-MED diet for up to 12 months, and visit the clinic *monthly* for tests. Food will be provided for the first 2 weeks. See a list of exclusionary conditions, a more complete description of the study, and contact information to volunteer, [here](#).
- [Free Covid Tests By Mail](#) - can now be ordered again, [here](#). [Thanks Barbara I.]
- [Cataract Surgery](#) - According to [NIH](#), by age 80 most people either have cataracts or have had cataract surgery. About 4 million such surgeries are performed in the US annually. What patients need to know, from two ophthalmologists, [here](#)
- [Healthy Aging](#) - begins earlier in life. CDC's advice on how to prepare, [here](#).
- [CDC Awards \\$176 Million To Support Public Health Infrastructure](#) - for the first year of a 5 year program: Developing a rural public health curriculum for public health professionals and

students; Strengthening the capacity of state, territorial, and local health departments to investigate, analyze, and share data on drug overdoses; Creating a tool and best practices to help community-serving organizations work with schools and parents on improving adolescent mental health. Overdue, and good priorities.

- [Tirzepatide No Longer In Shortage](#) - FDA has [determined](#) that tirzepatide, the active agent for Eli Lilly's diabetes medication (Mounjaro) and overweight medication (Zepbound) is no longer in shortage. The active agent for the corresponding medications from Novo Nordisk, Ozempic and Wegovy (based on semaglutide), remains in shortage. [Compounding pharmacies](#) are [not allowed to make copies](#) of medications *not* in shortage.
- [Jimmy Carter Reaches 100](#) - and becomes the first centenarian former US President in spite of a normally deadly brain cancer (melanoma), and an extensive family history of cancer. At the time of his diagnosis, a new immunotherapy medication had just been approved. Details [here](#). Carry on Jimmy!
- [NIH BMI Calculator](#) - Use the [NIH](#) National Heart, Lung and Blood Institute [calculator](#) to find your Body Mass Index (BMI). Above 25 - overweight. Above 30, check with your doctor, consider better nutrition, and exercise.
- [Basal Metabolic Rate \(BMR\)](#) - Your BMR is how many calories you burn just sitting in your chair. Use the [calculator](#) to get your BMR. Then consult the exercise table to see how many calories you can consume daily with your current exercise plan and still maintain your current weight.
- [Body Roundness Index \(BRI\)](#) - is a new medical screening tool for estimating *visceral* fat, [details](#). Use a calculator to get your BRI [here](#). Additional background from Harvard, [here](#). Results to your doc

### Vaccine and Therapeutic News -

- [Schizophrenia](#) - FDA has [approved](#) the first new treatment in decades, Cobenfy (xanomeline and trospium chloride) capsules for oral use, from [Bristol-Myers Squibb](#) (Princeton NJ). The new medication targets cholinergic receptors as opposed to dopamine receptors, which have long been the standard of care. [Bernie A.]
- [Nasal Spray Flu Vaccine](#) - FDA has [approved](#) the MedImmune (subsidiary of AstraZeneca) nasal spray flu vaccine [FluMist](#) for **self or care-giver administration**. More flexibility, especially for seniors and the needle shy.
- [New Preventive Treatment For Heartburn](#) - FDA has approved the [Phathom Pharmaceuticals](#) (Florham Park NJ) medication vonoprazan (Voquezna) as a daily treatment for heartburn associated with non-erosive gastroesophageal reflux disease (GERD), a condition that can be not only painful, but long-term dangerous. 45 million American adults have non-erosive GERD. [Publication](#). [Thanks Chad C.]
- [First Treatment For Type C Niemann-Pick Disease \(NPC\)](#) - NPC is a rare genetic disease leading to progressive neurological symptoms and organ dysfunction. Those affected by NPC only live about 13 years. FDA has [approved](#) the [Zevra Therapeutics](#) (Celebration FL) medication [Miplyffa](#) (arimoclomol), for use in combination with miglustat, as the first NPC treatment. Now there is some hope for at least slowing the progression of NPC. Update: FDA has now [approved a second treatment](#) for NPC, from a different company. Busy
- [Eczema](#) - FDA has [approved](#) the Eli Lilly (Indianapolis IN) medication EBGLYSS, a subcutaneous injection treatment for moderate to severe eczema (atopic dermatitis). [Details](#) Information now [released](#) from clinical trials [here](#). Summary: Eczema was

controlled for up to three years in over 80% of subjects - clear or almost clear skin. 90% did not need high-potency topical corticosteroids or systemic treatments. Win!

- Multiple Myeloma - FDA has [approved](#) the [Sanofi-Aventis](#) (Paris France) medication isatuximab-irfc (Sarclisa) with bortezomib, lenalidomide, and dexamethasone for treatment of this condition.
- New Radioactive Tracer Product For Cardiac PET Scans - FDA has [approved](#) the [GE HealthCare](#) (Chicago IL) Fluorine-18 radiotracer product 'Flyrcado' (flurpiridaz) for use in myocardial perfusion imaging (MPI). The half-life of Fluorine-18 is 109.8 minutes. Quick delivery to a hospital Positron Emission Tomography (PET) imaging suite is critical. Flyrcado is one of three FDA approved PET imaging agents offered by the company. The other two are: Cerianna™ (fluoroestradiol F 18), used to detect estrogen receptor positive lesions as an adjunct to biopsy in patients with metastatic and recurrent breast cancer ... and Vizamyl™ (flutemetamol F 18) for imaging the brain to estimate beta amyloid neuritic plaque density in patients being evaluated for Alzheimer's Disease.
- Cancer Vaccine Shows Promise In Phase 1 Clinical Trial - The Moderna solid cancer tumor vaccine mRNA-4359 is a recombinant vaccine designed to alert the immune system to the presence of cancer cells in certain solid tumors. Vaccines are usually thought of as preventive, but are actually the family of medications that employ/free/activate the body's own immune system to do the work. See a good lay explanation, [here](#).
- Alternative To Knee Replacement Surgery? - More than 600,000 Americans get new knees made of metal every year, making this the most common inpatient surgery for people over 45 - usually because of cartilage failure (cartilage doesn't regenerate). Researchers at Duke have proposed a [method](#) for *replacing* knee cartilage that is now in Phase 1 clinical trials in South America. They intend to seek permission to begin US trials soon.

#### Other Health Science News -

- FDA Human Foods Reorganization Now (10/1/24) In Effect - See the Commissioner's announcement [here](#).
- Ultra-Processed Foods Are *Designed* To Be Addictive - View a 2-minute, plain English video briefly explaining how to detect them, and describing their *very* negative impact on health, [here](#). Summary: increased risk of cardiovascular disease, high blood pressure, diabetes ... and it goes downhill from there.
- Setting Up Your Apple AirPods Pro 2 As A Hearing Aid - with the newly FDA approved software. How-to video [here](#). Your iPhone's iOS should be updated to at least Version 17.7 before you start. Apple news release [here](#).
- 27 Types Of Dental Floss Reviewed - with the advice of a dentist, [here](#).
- Non-Alcoholic Fatty Liver Disease (NAFLD) - 24% of US adults are estimated to have NAFLD, many of them undiagnosed until serious complications begin - [details](#) from Mayo Clinic. Symptoms to report to your doctor are: otherwise unexplained fatigue, generally not feeling well (malaise), pain or discomfort in the upper right stomach, itchy skin, abdominal swelling (ascites), shortness of breath, swelling of the legs, spider-like blood vessels just beneath the skin's surface, red palms, yellowing of the skin and eyes (jaundice). NIH [guideline](#).
- First Ever Reversal Of Type 1 Diabetes - [successful in one patient in China](#), using [her own cells](#) that had been reverted to stem cells and then re-differentiated into islet cells (insulin producing cells). After one year she no longer needed insulin - [publication](#). NB: Not yet reviewed or

approved by FDA. A second Chinese study used the approach successfully for **Type 2 diabetes** - [publication](#). Both are preliminary, but stay tuned!! [Kamal S.]

- [Statins For Those Over 70](#) - A new UK [study](#) concludes that [statins are helpful](#) for lowering the risk of cardiovascular disease [for those over 70](#), regardless of whether they have a history of cardiovascular disease.
- [Controlling High Blood Pressure Without Medication](#) - or perhaps in addition to it. See Mayo Clinic advice, [here](#).
- [Peanut Allergy](#) - in children has increased 21% since 2010. Nearly 2.5% of U.S. children may now have an allergy to peanuts. Read the rather judgmental [story](#) on the role the American medical establishment played (honest mistake for lack of well designed scientific studies) in first getting it wrong, and then eventually getting it right (welcome science-based recovery). Causes, symptoms, treatment, and immunotherapy for de-risking and prevention - as given by the American College of Asthma, Allergy and Immunology, [here](#). Current recommendations from the American Academy of Pediatrics, [here](#). **Allergic reactions to peanuts (child or adult) can be very serious, and even fatal.** Samuel Clemens speaking as [Mark Twain said](#): "It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so."
- [Are Your Stools Healthy?](#) - Check the Bristol Stool Chart [here](#). Ideally you should be a Type 3 or 4. This simple check, that you can routinely do yourself in a few seconds, may help catch a problem early, and could provide important information to pass on to your doctor. [Details](#).

### Practical Nutrition -

- [Fiber Fiber Fiber](#) - Why fiber is so important, what it does for you, what foods have it - from a registered dietician [here](#). Sources of fiber: oatmeal with a side of berries, multigrain avocado toast, many whole grain/seed cereals (no added sugar or sweeteners), whole grains, vegetables and fruits, brown rice, quinoa, whole-grain pasta, whole grain/seed crispbread crackers, whole grain pita bread, legumes, soy foods, peas, lentils, beans. Only [7% of US adults are getting enough fiber](#). [Publication](#)
- [Chia Seeds Or Flax Seeds](#) - [Both are good](#), according to a registered health coach, so your choice depends on your personal nutritional goals. See the above link for a nutritional chart with both listed side-by-side. Note: both have antioxidant properties good for reducing inflammation. Grinding them briefly in a spice grinder before adding them to a dish you are cooking helps make their nutrients more fully digestible. More background, [here](#).
- [Nuts Are Healthy](#) - but the best kind of nut depends on a person's particular health goals. Those details from registered dietitians, [here](#). Tuneup: Walnuts are rich in otherwise hard to get, but very important, *antioxidants* and *anti-inflammatories*. More details on walnuts, [here](#).
- [Best Nut for Better Blood Sugar](#) - [pecans](#), according to a registered dietician. Also good: macadamia nuts, almonds, brazil nuts - if you don't mess them up with sugar or salt. Raw is most nutritious.
- [Brown Rice Or White Rice](#) - [Brown rice is a whole grain](#), and contains all parts of the grain: fibrous bran (antioxidants), nutritious germ, carb-heavy endosperm. White rice is the same rice with the bran and germ removed, leaving essentially no nutrients - just the empty carbs (calories) of the endosperm. So it cooks faster, and is fluffier. **Nutritionally it might as well be so many wood chips.**
- [Uses And Misuses Of Fresh Squeezed Lemon Juice](#) - Lemon juice is a rich source of vitamin C, which is *very* temperature sensitive. Vitamin C can be degraded at temperatures as low as 85° F, so lemon juice is best squeezed onto a dish *after* it's cooked, immediately before serving, *and* as wedges on the side for diners to add a squeeze. Vitamin C is important! [Details](#).

- Tempeh - is from soybeans, like tofu only fermented to make an even more digestible and richer source of protein. Fried tempeh, cut in strips, is like bacon without the meat. See several methods for preparation, [here](#). Look for it in the refrigerated case at the grocery, either ground or already cut into strips.
- Greek Chicken - The health key is the use of boneless/skinless thighs, and choosing to use low Sodium salt and olive/avocado oil. The flavor key is the marinade, and not skimping on the marination time and dry-off before cooking. Recipe and nutritional run-down by a registered dietician [here](#). Tune-up: use a very hot oven and a grill rack, rather than frying, and do a turn-over midway. Leftovers store well in the fridge, so feel free to amp it up.
- Is It Safe To Eat Salmon Skin? - A registered dietician says yes, and goes on to explain how to make it more palatable, [here](#).
- Health Benefits Of Lima Beans - A registered dietician explains 4 benefits, with a breakdown of nutritional details, [here](#). Summary: rich in both fiber and protein, Magnesium and Potassium.
- Study Links Eating Eggs To Better Cognitive Performance - The UCLA led [study](#) of volunteers over 55 years of age concluded that eggs can [play a part in delaying cognitive decline](#), particularly for women. They also provide a rich source of protein and other nutrients, with no dietary harm, at 1 to 2 per day. Don't add *unhealthy* things.
- Healthiest Oils For Frying - The high temperatures involved in frying destroy nutrients, so other cooking methods are healthier, but if you *must* fry [use only one of these three](#): Refined avocado oil, refined olive oil (use unrefined for non-frying purposes), refined peanut oil. Frying involves heating food up to the 325°F to 400°F range, so frying oils should have smoke temperatures *above* that range. Refined avocado oil smokes at about 550°F, so it's great for frying but is expensive. *Refined* olive oil smokes at 470°F and is second best (unrefined smokes at 410°F). *Refined* peanut oil smokes at 450°F. Since it's cheapest, it's a good choice for deep frying.
- Misleading Words For Sugar - High-fructose corn syrup, sucrose, barley malt, dextrose, maltose and rice syrup are all [forms of sugar](#). Certain blood alcohols sometimes used as sweeteners, such as Erythritol and Xylitol, are made by the body and occur naturally in certain foods - but in very small amounts. They have recently been [linked to heart disease and stroke by Cleveland Clinic researchers](#), and should be avoided as food additives.
- Is Your Favorite Food Ultra-Processed? - and if so, what's a good substitute View the Northeastern University [TrueFood Dashboard](#).
- Most Nutritious Vegetables and Fruits Rank-Ordered by CDC - See the list [here](#). Chinese cabbage = bok choy.

### Environmental Science News -

- Previously Unknown Two Mile High Mountain Discovered - 900 miles off the coast of Chile, part of the [Nazca Ridge](#), an underwater mountain range in the Southeast Pacific. As many as 20 new species of life also turned up during the recent [Schmidt Ocean Institute](#) (Palo Alto CA) high resolution mapping expedition, assisted by the remotely operated deep submersible '[SuBastian](#)' [good video].
- The River Is Free! - For the first time in over 100 years salmon can make their way from the Pacific, up the Klamath River through northern California, to their ancient spawning grounds near the California Oregon border The [largest dam removal project \(\\$500 million\) in US history](#) is done. Be well, little cousins! [Harvey B.]
- The Rarest Fish in America - discovered in a secret creek in [Southern California](#), photo and details [here](#).

- [Teens Rebuild Mangrove Forest In Sarasota Bay, Florida](#) - Members of the Fort Myers High School environmental action group 'Green Shore Club' took on the task of planting 5,000 mangrove seedlings. [Story](#)
- [World's Largest Battery To Be Built In Maine](#) - [Form Energy](#) (Somerville MA) will repurpose a former paper mill site near Lincoln Maine to construct an [Iron-Air, utility scale battery project](#) with a 8,500 MWh storage capacity, 85 MW power over 100 hours. [Operations are targeted for 2028.](#)
- [Virginia Passes Law Promoting Small Modular Reactors](#) - The new law will accelerate their development, testing, and deployment - [details.](#)
- [Foldable Rooftop EV Charger](#) - fits on any car that can mount a roof rack, lightweight, and adds 30 miles of range on a sunny day - while shielding the car from the heat of the sun. Photo and details, [here.](#) [Julian G.]
- [Stock 2023 Toyota Prius LE Gets 93 MPG](#) - in a 3,200 mile coast to coast drive, making the Guinness Book of Records. See a [photo of the car and driver,](#) and his advice on getting mileage well above the official 57 MPG rating. He probably also made good use of the Toyota-standard [regenerative braking](#) mode. Do you use yours?
- [All Electric Luxury Hydrofoil Cruiser](#) - 6 passengers, 25 feet long, 50 MPH, 80 mile range, quiet, level 1/2 and DC fast charge, self-stabilizing avionics, autonomous mode. Battery/electric boats are coming. [Mack W.]
- [Bollinger Motors Commercial EV Box Truck](#) - The [company](#) (Oak Park MI) is going into production in Livonia MI with its [B4 EV box truck,](#) has earned [IRS approval](#) for federal tax credits under the US 2022 Inflation Reduction Act, and has just picked up 20 TEC dealers on the West coast. Bollinger is a [Mullen Automotive](#) (Brea CA) owned brand. More EV commercial trucks, salt of the earth, are on the way.
- [Port of San Diego Receives 440-Ton Port Cranes](#) - A big upgrade from the 100 ton diesel cranes, and zero emissions. The two new cranes are all-electric Gottwald Generation 6 mobile harbor cranes from [Konecranes](#) (Hyvinkää Finland)
- [Washington METRO Trains Will Drive Themselves Again](#) - After 15 years of safety inspections, upgrades, repairs and retraining, automatic train operations (ATO) will resume, starting with the Red Line in December and phased in throughout the system in 2025 - better energy efficiency, cheaper, smoother quieter rides, [improved timeliness](#) - enjoy. Update: METRO would also like to return to the original, certified design speeds of [65-75 mph on certain segments](#) - currently capped at 59 mph for lack of ATO.
- [Nine More Offshore UK Wind Farms](#) - The UK government has approved leases for nine new offshore projects, with a total design capacity of 9.6 GW. [Details](#)
- [Carroll County Maryland Objects To Solar Farm](#) - and will testify before the Maryland Public Service Commission (PSC) in [opposition to a solar farm proposal from Spring Valley Solar.](#) The company proposes to build a 225 MW solar farm on 14 acres of an 80-acre property in Sykesville. The PSC has the final word.

### Other Science News -

- [Indian Lunar Lander Finds Evidence Of Ancient Magma Ocean](#) - The Indian lunar mission Chandrayaan-3's lander Vikram, and its rover Pragyaan, used an alpha particle X-ray spectrometer and other instruments to confirm the find. [Details](#)
- [Video Of Close Fly-By Of The Planet Mercury](#) - by BeppiColumbo exploratory craft, [here.](#) Dramatic!

- Model Of SpaceX Starship Super Heavy Rocket Passed NASA Wind Tunnel Test - The 1.2% scale model was [tested up to a velocity of Mach 1.4](#) at the NASA Ames Research Center in California.
- Fratzonic Chambered Exhaust - [Here's](#) how it works to make an EV sound like a big-throated 60's muscle car.
- Robot Roaming Sidewalks In DC's Trendy Navy Yard Neighborhood - See a video of the cute little red robot in action, [Kiwibot](#) (Berkeley CA), and an explanation by the DC Department of Transportation, [here](#).

Nice Thing - [full screen, skip ad]

Hamilton - 1969 at the White House, introduced by the President - [here](#).