

Betsy says HI!!!!

Announcements

The next LABQUEST meeting will be this Wednesday, July 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:

- 10 Items Not To Leave In A Hot Car
- New Device May Improve Blood Clot Removal (Thrombectomy) Procedures
- Blood Test For Early Detection Of Cancer
- Chemical Widely Used In Plastics Linked To Heart Disease
- Drinking Sugar Riskier Than Eating Sugar
- Bell Pepper Color
- University at Buffalo Researchers Discover Method For Removing PFAS From Drinking Water
- New Construction Material To Replace Wood -

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). Adults over 50 should have the [Pneumococcal Vaccine](#).

- [10 Items Not To Leave In A Hot Car](#) - [here](#). Especially aerosol cans, can go boom! [Sonja B.]
- [Cleveland Clinic's Advice On Heat Stroke](#) - symptoms to recognize, causes, how to avoid it, what to do about it, [here](#). Hydrate, hydrate, hydrate - with pure water. Above about 95°F, fans can be a negative. See also advice from Southern New Hampshire Health, [here](#). [Barbara and Julian]
- [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 -

- New Device May Improve Blood Clot Removal (Thrombectomy) Procedures - Researchers at Stanford University (CA) have developed a mechanical device called the '[milli-spinner](#)' that could be a substantial improvement in treating strokes - by removing otherwise difficult blood clots without leaving behind so many of the usual clot fragments. Background [here](#). [Publication](#).
- Treatment Resistant LDL Cholesterol and Lipoprotein (a) - Researchers at the [Monash University Victoria Heart Institute](#) (Australia) have released [promising preliminary results](#) from their Phase 3 human trial of the [NewAmsterdam Pharma](#) (Naarden Netherlands) daily oral medication Obicetrapib for *treatment resistant* patients with these indications - 32.6% reduction in LDL cholesterol and a 33.5% reduction in lipoprotein(a) in 4 weeks. Lipoprotein (a) is particularly difficult to treat. The research will need to be extended to show the extent of *actual* reductions in heart attacks and strokes before being ready for FDA review - deserves full funding. [Publication](#).
- Blood Test For Early Detection Of Cancer - [Researchers](#) at Johns Hopkins University have discovered that [cancers shed detectable genetic material into the bloodstream](#) as early as three years before the corresponding cancers would have been diagnosed. Pending further work on how to turn a blood test into a treatment plan, that's three years for early intervention! The continuation of this work should be fully funded. [Publication](#).
- Blood Cancers: Multiple Myeloma, Certain Types Of Leukemia, Lymphoma - FDA has [announced](#) that Risk Evaluation and Mitigation Strategies (REMS) for 6 CAR T cell immunotherapy products will no longer be required. Abecma (idecabtagene vicleucel), Breyanzi (lisocabtagene maraleucel), Carvykti (ciltacabtagene autoleucel), Kymriah (tisagenlecleucel), Tecartus (brexucabtagene autoleucel), Yescarta (axicabtagene ciloleucel). Postmarket safety studies will continue.
- How To Reverse Aging/Loss In Muscle Tissue - Stanford University researchers have successfully done this in mice. Details [here](#). [Publication](#). Time to fund human trials.
- Living Dental Implants - Researchers at Tufts University (Boston MA) have bioengineered a [stem-cell guided implant](#) that has successfully integrated with the nerves at the implant location, and regrown a missing tooth (in rats). Very promising [research](#), should be fully funded.

Other Health Science News -

- US MDs Are Finding Opportunities In Canada - [details](#).
- Clue To A Cause Of Chronic Pain - A researcher at the University of Liverpool (UK) has discovered that one cause may be an autoimmune reaction, verified in mouse experiments. Data gathered by a researcher at the Karolinska Institute in Sweden suggests ([publication](#)) that some types of chronic pain may be the body's immune system attacking the glial cells that wrap around and support nerves in the spinal cord. Good first clues - stay tuned. Presently at the lab experiment stage.
- Sauna Or Steam Room? - [After exercise](#), fifteen minutes of sweating in either may have benefits for lowering blood pressure and controlling cholesterol ... as explained by an exercise physiologist, [here](#). There are more scientific studies for the sauna. [Publication 1](#), [Publication 2](#).
- Chemical Widely Used In Plastics Linked To Heart Disease - A [2018 study](#) linked the chemical family of Phthalates used in plastics to 13.5% of cardiovascular deaths. Current studies are focusing on Phthalates in shampoos, lotions, food packaging and medical supplies. The results aren't likely to be good news. [Reference](#). Stay tuned.
- Type 2 Diabetes, Coronary Artery Disease And Stroke - are higher in Gulf and Atlantic US coastal counties because of exposure to micro and nano-plastic particles, according to a carefully demographically adjusted [study](#) that the American Heart Association [published](#) in June.

Minimizing, and properly disposing of, used plastic is a health concern, not just a scenic issue. [Details](#)

- [FireFighters And Health Care Workers Have Above Average Body Burdens Of PFAS](#) - according to researchers at the [University of Arizona](#). No one knows quite why, but the sources of these occupational exposures should be identified and eliminated. [Publication](#). Some sources *have* been identified - the most contaminated town in the world, in Sweden, story [here](#).
- [French Town Bans Tap Water](#) - The French commune of Buschwiller in Saint-Louis, near the Swiss city of Basel, and the Swiss/German border, has discovered that their water table has long been contaminated with [PFAS](#) from firefighting practice at the nearby airport. Subsequent blood tests have shown concerning levels. Details and a map, [here](#). This issue is coming to the rest of Europe, with the EU enforcing new regulations starting in January. [Sonja B., Harvey B.]
- [7 Nutrients Needed More With Aging](#) - according to registered dietitians, [here](#). Whole natural foods are best. If supplements are needed, they should be taken only with a doctor's advice.
- [Dementia Risk Correlated To Your Zip Code](#) - See the American Association for Retired People (AARP) [report](#) (map) on this finding by researchers using the US Veterans Administration database. See also a list of the known risk factors, [here](#). Summary: highest dementia rates in KY, TN, AL, MS - lowest in DE, **DC**, **MD**, PA, **VA**, WV, NJ. The DMV is looking good!
- [The Most Important Life-Style Choice Correlated To Dementia](#) - A [study](#) from the [University College of London](#) concluded that smoking is strongly correlated to dementia risk. This provides scientific support for continuing programs focused on smoking cessation. One in 5 worldwide are smokers
- [Alcohol Linked To Pancreatic Cancer](#) - [Alcohol is a known carcinogen](#), but its linkage to pancreatic cancer hadn't been investigated. A new study released by the International Agency for Research on Cancer has now established the connection, [here](#).
- [Drinking Sugar Riskier Than Eating Sugar](#) - A [study](#) done by researchers at Brigham Young University found that *drinking* sugar in the form of soft drinks, energy drinks and sports drinks was associated with a 25 per cent higher risk of type 2 diabetes than *eating* the equivalent amount.
- [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 for your doctor. [Details](#).
- [Do Your Stools Float?](#) - Most usually sink, or float 90% submerged like icebergs. Floating stools aren't necessarily a problem, especially if you are one of those rare persons who actually get enough fiber in your diet - tends to generate gas. See the run-down [here](#) to decide if floating stools, and the other symptoms listed, should be reported to your doctor.

Practical Nutrition -

- [Texas Now Requires Warning Labels On Foods](#) - that contain any of a list of 44 ingredients, [details](#). The list includes: "... artificial color, food additive or other chemical ingredient banned by Canada, the European Union or the United Kingdom." If *Texas* thinks these ingredients need warning labels, you might want to begin reading the back of packages for them yourself. Legal text and list, [here](#).
- [Bell Pepper Color](#) - is an [indication of ripeness](#) at harvest, not of a different cultivar. Those harvested earliest are green, then go from green to yellow to orange to red as they are allowed more time to ripen on the vine. Red peppers are the most nutritious, rich with antioxidants. Go red.

- Chia Seeds - Do chia seeds help with constipation. A registered dietitian says yes, because they are rich in soluble fiber. Details [here](#). They can also help reduce [LDL cholesterol](#).
- You Don't Know Watermelon - but registered dietitians will fill you in on the many benefits of this tasty traditional fruit of high Summer, [here](#). Healthy
- Apple Cider Vinegar - Registered dietitians say it's [modestly healthy](#), but not as beneficial as other fermented foods that are *still* live culture when consumed - kefir or yogurt. Acid reflux sensitivity alert: like most vinegars, it's quite acetic.
- Sourdough Or Whole Wheat Bread? - According to registered dietitians, the choice depends on your health priorities. If your goal is easier digestion and blood sugar control, then [sourdough](#). The fermentation has already done some of the digesting for you. If fiber, a sense of satiety, and nutrients like Magnesium and Potassium top your list, then [whole wheat](#) is best. [Details](#) [Betty M-L]
- Nuts And Seeds For Heart Health - See a list of nine, as reviewed by a registered dietitian, and how each supports a healthy heart, [here](#). Best: unsalted, un-sugar-coated, raw versions.
- 5 Foods To Reduce Risk Of Stroke - reviewed by a registered dietitian, and how they help, [here](#).
- 12 Foods For Energy - Recommended by registered dietitians, [here](#).
- Best Time To Drink Green Tea - to increase the absorption of its wealth of antioxidants, according to a registered dietitian, [here](#). Summary: on an empty stomach, between meals, with something high in vitamin C such as citrus, berries, pomegranate. Not before bed, because of its caffeine content.
- 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. 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.
- 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 -

- New Undersea Electrical Grid Connection Between Italy And Greece - [GRITA 2](#) will be a \$2.2 billion, 1,000 MW, 190 mile subsea cable running as deep as 3,300 feet ... added to the existing GRITA 1 transmission capacity of 500 MW. Both grids will become more reliable. Well done.
- University at Buffalo Researchers Discover Method For Removing PFAS From Drinking Water - and from wastewater, [details](#). Next ... scaling the idea up [Publication](#). [Ari H.]
- Uranium Refining In Utah? - The Utah National Guard and Utah Energy (Subsidiary of General Matter, San Francisco CA) are discussing manufacturing uranium refining *equipment* at the Guard's [Camp Williams](#) site in the Wasatch mountains outside Salt Lake City. The project could evolve into a refinery as well. The general goal is to produce the HALEU (high-assay low-enriched uranium) fuel needed for small modular reactors (SMR). Most HALEU is presently produced in Russia. Bad!

- Simple/Safe Nuclear Reactors - The nuclear regulator of Finland has given concept approval to [Steady Energy's](#) (Espoo Finland) design for an SMR. If the plant loses external power, it just shuts down safely. The company [already has contracts for 15](#) of its LDR-50 reactors in Finland. [Details](#)
- New Construction Material To Replace Wood - Advanced Composite with Recycled Elements (ACRE) is being [manufactured](#) (zero waste) by [Modern Mill](#) (Fernwood Mississippi) from upcycled rice hulls. ACRE emits zero volatile organic compounds ([VOCs](#)), phenol, formaldehyde, or forever chemicals (PFABs), has the warmth and workability of wood, and resists water, weather and pests.
- They've Killed 20 Tons Of Pythons - But [Burmese pythons](#) are still taking over the Florida Everglades. The job - find the [females](#) *before* they can hatch hundreds of eggs. Now the snake hunters have found a secret weapon - *male* Burmese pythons! Tag the males with a radio (neck?) collar, and track them to the nuptial den. After all, if the males didn't know how to find the females, there wouldn't be a python population problem. [Bette Anne S, John/Peggy B, Marlene T, Kamal S]
- Europe Is Reinventing Sleeper Trains - with [greatly improved privacy](#) and comfort features, designed to replace carbon intensive short-haul flights. A Berlin-based start-up, [Nox Mobility](#), expects their overnight trains to start operating in 2027. [Sonja B.]
- Weighing The World's Forests - The European Space Agency wanted to know how much carbon is stored in the world's 1.5 trillion trees, so in April they successfully launched a 1.2 ton survey satellite (Vega-C rocket) from Kourou French Guiana. The satellite's giant umbrella-like scanning antenna will use P-band radar (very long wavelength) to enable the study of inaccessible areas like the rainforests of the Amazon, Congo and Indonesia. The satellite was designed in the UK, and built there by Airbus - engineering assistance from L3Harris Technologies. Good show. [Jason W.]

Other Science News -

- New US Space Company - [Voyager Technologies](#) (Denver CO) [went public](#) in June. NASA is presently its biggest customer. Commercial space tech is growing at a healthy pace. Competition! Voyager is one of the companies focused on building the new *commercial* space station, [Starlab](#).
- Source Of Cosmic Rays - that shower the Earth's upper atmosphere with ultrahigh energy particles may have been [discovered](#) by astronomers at the [H.E.S.S.](#) (High Energy Stereoscopic System) observatory in Namibia. [Here](#). The source could be one of the [pulsars](#) in our own galactic neighborhood - highly magnetized, [rotating](#) neutron stars left over after a [supernova](#) explosion.
- BigFoot Maximus - archeologists on a dig at the 2,000 year old Roman fort Magna, in the North of England on Hadrian's Wall, have discovered the remains of a Roman soldier's sandal. It was a **size 14** - must have been a tall fellow! Photo and details, [here](#). [Cliff G., Bill McC.]
- Important Hurricane Forecasting Tool Lost - The National Oceanic and Atmospheric Administration (NOAA) will not have the usual sail-drones to more precisely predict the extent and intensity of this season's hurricanes. The [reasons given aren't impressive](#), but the hurricanes will be.

Nice Thing -

Gymnopédie No. 1 - Composed by Erik Satie in 1888, performed in 2022 with rain for relaxing, [here](#).