

Betsy says HI!!!!

Announcements

The next LABQUEST meeting will be Wednesday, April 9 at 12:30 at the White Oak Medical Center **(Note Change of Location).**

Science Report Highlights

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

- [CDC Measles Update](#)
- [FDA Action On Flavored Vapes](#)
- [New FDA Commissioner](#)
- [China-Origin Clams Refused Entry](#)
- [How Much Sun Is Needed To Make Enough Vitamin D3?](#)
- [Energy Storage In California Caves](#)
- [Build A Better Cathode – increase driving range](#)
- [Baltimore City Wastewater Problem](#)

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](#).

- [CDC Measles Update](#) - CDC will update information on cases and outbreaks at [this link](#) every Friday. Links to health authorities in Texas, New Mexico, Ohio and Kansas are also included. See the story of a measles infected person arriving in DC 3/19 on AMTRAK, [here](#). CDC advice on prevention, [here](#). Cases are accelerating now in Kansas, radiating East from the Southwest corner of the state where some Counties have vaccination rates as low as 41%. The Kansas outbreak has been [genetically linked to the outbreak in Texas](#).
- [CDC Advice On Screening For Colon Cancer](#) - [here](#).
- [FDA Action On Flavored Vapes](#) - The US Supreme Court has [unanimously upheld](#) FDA's decision not to approve certain flavored vape products ... electronic nicotine delivery system products (e-cigarettes) with fruit, candy and dessert flavors. [No more](#) "Killer Kustard Blueberry", "Rainbow Road" or "Pineapple Express".
- [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 Treatment For Pancreatic Cancer - FDA has [approved](#) Cabometyx (cabozantinib) from [Exelixis](#) (Alameda CA) for this indication. Company summary of Phase 3 human trial results [here](#).
- Muscle-Invasive Bladder Cancer (MIBC) - FDA has [approved](#) Imfinzi ([durvalumab](#)) from Astra-Zeneca (Cambridge UK) for this indication. Last year, in the US alone, over 20,000 patients were treated for MIBC.
- Hemophilia A/B - FDA has [approved](#) Qfitlia (fitusiran) from [Sanofi](#) (Paris France) for this indication.
- Hyperphagia (Incessant Feeling Of Hunger) - is also called [Prader-Willi syndrome](#), a genetic neuro-development disorder that affects about 350,000 people worldwide. FDA has [approved](#) VYKAT XR from Soleno Therapeutics (Redwood City CA) for this indication.
- Urinary Tract Infection (UTI) - FDA has approved [Blujepa](#) (gepotidacin) from [Glaxo Smith Kline](#) (London UK) for this indication ... the [first new class of oral antibiotic approved for UTIs in 30 years](#). About 50% of women will have a UTI at some point in their life, and about 30% may have recurring infections. Resistance to the standard antibiotic has become an issue for UTI treatment. Men also have UTIs. Blujepa's development was partially supported by grants - US Center for the Biomedical Advanced Research and Development Authority (BARDA), and the Defense Threat Reduction Agency. Thanks Uncle Sam.
- Home Test For Chlamydia, Gonorrhea And Trichomoniasis - FDA has granted [marketing authorization](#) to [Visby Medical](#) (San Jose) for the Visby Medical Women's Sexual Health Test. The test is intended for women, is available without a prescription, and can be self-administered entirely at home (results < 30 minutes). CDC: more than 2.2 million cases of chlamydia and gonorrhea were diagnosed and reported in the US in 2023.
- Endoscope Channel Cleaner - FDA has authorized marketing of the CORIS System, using the CORIS QUANTUM Cleaning Agent for this purpose. The system runs the cleaning agent through all the endoscope's internal channels, which are then rinsed and purged with air. [Nanosonics](#) (Macquarie Australia) [Background](#)
- New Treatment For A Rare Kidney Disease - FDA has [approved](#) Fabhalta (iptacopan), an oral [capsule taken twice daily](#), for the treatment of 'complement 3 glomerulopathy' (C3G) to reduce proteinuria. C3G is a rare disease that causes inflammation and damage to the kidney glomeruli. [Novartis](#) (Basel Switzerland)
- New Prostate Surgery Technique Reduces Risk Of Erectile Dysfunction - [Details](#). UK medical researchers have recently published a study showing that use of a new surgical technique, [NeuroSAFE](#), can result in almost twice as many men preserving their erectile function compared to those undergoing standard surgery.

Other Health Science News -

- New FDA Commissioner - Dr. Martin Makary, MD, MPH. FDA press release, [here](#). Other details, [here](#).

- Digital Thermometers And Pulse Oximeters - are available at a reasonable price at your local pharmacy, and can be a great help in determining whether you are sick. You can have your temperature, your pulse rate, and your blood oxygen content in a few minutes at home (no needles required), and be in a position to give that information to your doctor *before* going in. See FDA's 'Pulse Oximeter Basics' advisory [here](#).
- Reach 70 Without Chronic Disease? - A recently published [study](#) of 105,000 people in midlife showed that [less than 10% of the population manage it](#), but the odds can be greatly improved by eating *more* fruit, vegetables, whole grains, unsaturated fat, nuts, legumes ... and *less* processed meat, sugars and trans fat.
- Type 2 Diabetes And Cancer - [UK researchers have found](#) that for women with Type 2 diabetes the risk of pancreatic cancer is twice as high as for the general population, and the risk of liver cancer is five times as high. For men there's a 74% increase in risk for pancreatic cancer, and the risk of liver cancer quadruples.
- Cat Food Recall Due To Bird Flu Potential - See the details on the FDA website, [here](#).
- Tony's Chocolonely Chocolate Bar Recall - See the company's recall announcement on FDA's website, [here](#). The company said that the recall was due to the possibility that "... the product may contain small stones".
- Coca-Cola Voluntary Recall Notice On FDA Website - [here](#).
- China-Origin Clams Refused Entry - [FDA has added 8 companies](#) to the list of those whose processed clam products will be refused entry without further testing - [PFAS contamination](#).
- 11 Reasons Why Dental Care Is Important - You will find some of them unexpected, [here](#). Video [here](#).
- A Pill To Cure Ebola? - Researchers at the University of Texas Medical Branch, in a recently published [study](#) of the effectiveness of an oral antiviral called obeldesivir, report a nearly 100% survival rate for **monkeys** infected with the most deadly strain of Ebola (fatality rate of 90%). Obeldesivir is an oral version of the antiviral remdesivir, developed to treat covid-19, and might also be effective against Marburg. Human testing next.
- Cataract Surgery Explained - and when it might be needed, [here](#).
- Amyotrophic Lateral Sclerosis (ALS) - also sometimes called Lou Gerig's Disease, in an incurable, neurological, degenerative disease that progressively paralyzes its victims, eventually resulting in death. [About 10% of its incidence is attributed to genetics](#), but the rest has been a scientific mystery thought to be related to environmental or lifestyle issues. Researchers have recently identified highly localized *outbreaks* of ALS that might provide some clues. See a description of such an investigation in an isolated village in the Swiss alps, [here](#). ALS is *not* thought to be contagious.
- How Much Sun Is Needed To Make Enough Vitamin D3? - The range in the continental US is 3 minutes to 3 hours. Narrow that by pinning down the following variables: time of day, time of year, latitude, percent skin exposed, age over 70?, skin pigmentation (lighter/darker). [Details](#). Wear a hat in direct sun, always protect your eyes and face, and walk on the shady side of the street. More than the minimum exposure increases risk of skin cancer. Those with a family history of skin cancer should consult their doctor about supplements. If you have an iPhone, open the Weather app and check the UV Index. It's latitude and date/time-of-day specific. [Chad C.]
- 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](#).

Practical Nutrition -

- The Health Benefits Of Resistant Starches - and how you can easily turn two of your favorite starchy, carbohydrate-heavy, calorie loaded foods (rice and [potatoes](#)) from gut-bombs into a healthier alternative - especially important for those working on controlling their A1c. Read the nutrition science background [here](#). See the specifics for generating more resistant starch from the conventional starch content of rice and potatoes - in # 2 and # 6 at this [link](#). **Tune-up for rice:** cook it the way you usually do, with the usual herbs. If you use any oil, use only avocado oil - not butter, not coconut oil, not any of the grain oils. Also consider making up a batch of rice to use for several days. The longer it chills, the more starch that converts to *resistant* starch, the better for your gut Use the coldest part of your fridge's fresh storage area (<34°F). See the Cleveland Clinic's advice on which foods are *naturally* rich in resistant starches, [here](#). Summary: beans, legumes, and *whole* grains such as barley, brown rice and oats.
- 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 -

- Coca-Cola Plans Major New Energy Facility - [Details](#). The [Coca-Cola Al Ahlia Beverages Company](#) will build a 1.8-megawatt solar plant to power its facilities at Al Ain in the United Arab Emirates (UAE). The new plant will eliminate 1,700 tons of carbon pollution annually.
- Eagle Cam, Big Bear Valley CA - see the two new eagle chicks - [here](#).
- Florida Becomes Solar SuperPower - by zooming [past California in 2024 to plug more utility grade solar power into its grid](#), 3 GW. That's second only to Texas! Florida also ranked number two behind California for the most rooftop panels installed annually 2019-2024. Why? Floridians want cheaper power and more grid resilience during powerful storms. Very sensible. [Kamal S., Peggy and John B., Bette Anne S., Marlene T.]
- Solar Powered Opera - See a [photo](#) of the new, ultramodern opera house in Pristina, Kosovo. [Bjarke Ingels Group](#) (Copenhagen Denmark, [BIG](#)) has draped the building in a curvilinear roof that references the [Xhubleta](#), a bell-shaped traditional skirt worn by Kosovan women. Inside: 1,200 seat concert hall, 1,000 seat theater hall, 300 seat recital hall, theater room, education and conference center. Outside: Photovoltaic roof tiles to generate power for the building, central skylight for natural lobby lighting, and wrap-around glazing. **Wow!!** [Sonja B.]
- Floating Solar Farm Visible From Space - See three time-sequenced images of the Omkareshwar Floating Solar Park in Madhya Pradesh India taken by the OLI-2 instrument on Landsat 9, [here](#). Power capacity 216 MW, commissioned in 2024. India already has two other floating solar parks. Onward! [Raga A.]
- Energy Storage In Abandoned Salt Mine - Nengchu-1 project construction started in 2022 and is now operating at full capacity. It stores 1,500 MWh of energy by compressing air into a massive abandoned salt mine near Yingcheng City, Hubei, China. When power is needed, the

compressed air is released through a turbine - net energy storage efficiency of 70%. 159,000 tons of coal will be saved annually, and CO2 emissions reduced by 411,000 tons. Photo and details [here](#).

- [Energy Storage In California Caves](#) - The US Department of Energy (DOE) has awarded loan guarantees of up to \$1.76 billion to [Hydrostor](#) (Toronto Canada) for the Willow Rock Energy Storage Center, Eastern Kern County CA - power 500 megawatts, long-duration energy storage 4,000 MWh. When power is plentiful, the facility will pump compressed air into the caves. During power demand, the air runs back through turbines. Bonus: the heat from the process is captured and reused. Storage is very much needed to improve CA grid resilience.
- [Ground Source Heat Pumps](#) - See how that works, and how cheaply, at a [home in Framingham Massachusetts](#).
- [Solar Power And Storage For Puerto Rico](#) - The US Department of Energy (DOE) has announced a [\\$1.2 billion investment](#) for this purpose. Welcome, and way overdue, considering the repeated PR grid outages during storms. Good move DOE.
- [Louisiana Interested In Off-Shore Wind Energy](#) - Within state waters (<3 miles off-shore) federal lease permits would not be required. The [discussion](#) is centered on achieving power prices competitive with fossil fuel, and diversifying power sources, rather than environmental benefit. The legislature has established a 25,000-acre area for wind energy leases in state coastal waters. Practical.
- [Tidal Energy Farm](#) - has been funded by the EU for [installation off the coast of Normandy France](#) ... due to be operational by 2028. The [NH1](#) tidal project by [Normandie Hydroliennes](#) will use four Proteus AR3000 horizontal axis turbines, each with a rotor diameter of 79 ft and a capacity of 3 MW. The 12 MW total capacity will generate 34 GWh of energy annually, power for 15,000 homes. The 125 foot depth will avoid navigation hazard issues.
- [Build A Better Cathode](#) - and EV battery manufacturers may come-up with batteries that extend EV ranges closer to the 600 mile goal to match gas burners. After a recent breakthrough, researchers in South Korea have shown good preliminary results with [nickel-cobalt-manganese cathodes](#). Stay tuned.
- [EU Natural Gas Demand At 11 Year Low](#) - with imports of LNG down 16% from 2023 to 2024. LNG regasification facilities are presently operating at 42% of capacity, with some hardly used at all as renewable energy continues to displace demand. Progress! There are some geopolitical issues.
- [Baltimore City Wastewater Problem](#) - Progress has been made in complying with the consent decree the city's two wastewater plants are presently operating under, at considerable expense, but more emphasis needs to be placed on training Baltimore's own employees to run its two plants - as opposed to continuing to use expensive contractors. [Details](#).

Other Science News -

- [NASA's Newest Space Telescope Reaches Low Earth Orbit \(LEO\)](#) - [SPHEREx](#) (Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer) is designed to explore the origins of the universe by create three-dimensional maps of the entire celestial sky in 102 colors of infrared light (not just the optical spectrum viewed by most other telescopes). It will also be able to detect frozen water in clouds of gas and dust. [Details](#)
- [Sunset On The Moon](#) - courtesy of NASA, from the Firefly Aerospace moon lander Blue Ghost, [here](#).
- [Goodyear Blimp](#) - reaches its 100 year anniversary this year. History, and several videos, [here](#).
- [20 Uses For WD-40](#) - some will be unexpected, [here](#). [Harvey B.]

- 9 Ways To Use Rubbing Alcohol For Cleaning - some will be unexpected, [here](#). [Sam and Diane J.]
- New Extended Range Version Of Ukraine's Neptune Cruise Missile - The R-360 cruise missile (Neptune) was developed by Luch Design Bureau in Kyiv, and has been in use by Ukraine since 2020 ... original payload of 331 pounds, range of 186 miles - later 772 lbs and 249 miles. The [new extended range Neptune](#) now entering service has a range of 620 miles, and can be produced at a rate of 40-50 per month. Short development speed!
- Ukrainian GPU-62 Glide Bombs - One inertially guided, precision glide bomb, put right through the bunker door, can ruin you whole day, [here](#). Check out this video, with the Ukrainian version of rap music, [here](#). [sound on]
- How To Double The Thrust Of Your Scramjet At Mach 6 - Details and a video, [here](#). Apparently the secret, discovered by Chinese engineers, is to [add Magnesium powder to the afterburner](#) - the trick being how to dispense it evenly at hypersonic speeds.

Nice Thing -

Lord of the Rings - JRR Tolkien [full screen]

- The Two Towers - Saruman's Speech - [here](#). [a new power is rising]
- The Two Towers - The Tales That Really Mattered - [here](#). [everyone]