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MARCO's "AETHER" *Pronounced "Ether"*

Healthcare & Radio in One Medium
Official Publication of the Medical Amateur Radio Council

132th Edition, 2000-2021

A non-profit Corporation, founded in 1966, privately supported for the public good and dedicated to the advancement of Medicine through Amateur Radio.

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(55th year), Edition # 132 Since Year 2000, December 2021 14607 Brewster Dr., Largo, FL. 33774

WHAT IS "GENDER DYSPHORIA".

IN 2007 AMERICA HAD ONE PEDIATRIC GENDER CLINIC; TODAY THERE ARE HUNDREDS. TESTOSTERONE IS READILY AVAILABLE TO ADOLESCENTS FROM PLACES LIKE PLANNED PARENTHOOD AND KAISER

In order to understand how we got to this point, it is useful to begin by considering **gender dysphoria**—the feeling of severe discomfort in a person's biological sex. Gender dysphoria is certainly real. It is also exceedingly rare. It afflicts about 0.01% of the population, most of whom are male. *(Also reported as 1.4 million, 0.6%) in the U.S.A..)*

For nearly 100 years of diagnostic history, gender dysphoria typically began in early childhood, between the ages of two and four, and usually involved a boy who insisted that he was not a boy but a girl. Children afflicted are insistent, consistent, and persistent in the feeling that they are in the wrong body. It is by all accounts excruciating

Historically, this has been the classic presentation of gender dysphoria. When these children were left alone—when no one interviewed medically or encouraged what we today called "social transition"—**over 70% o them naturally outgrew their gender dysphoria.** Most of those who outgrew it became homosexually inclined.. They did not believe they were women but they felt most comfortable presenting themselves as females.

Today, however, we don't leave these children alone. Instead, the moment children seem not to be perfectly feminine or perfectly masculine, we label them as "***trans-kids***." We take them to therapists or doctors, nearly all of whom practice so-called affirmative care—meaning they think it is their job to affirm the diagnosis of gender dysphoria and help the children medically transition.

The typical first step in treatment administered to these kids is puberty blockers, which shut down the part of the pituitary gland that directs the release of hormones catalyzing puberty. The most common of these drugs is **Lupron** whose original purpose was the chemical castration of sex offenders. To this day, the FDA has never approved this drug for halting healthy puberty. (*Other drugs used include spironolactone, progestins, GnRH agonists, finasteride and estrogens.)*

One has to wonder why a parent or a doctor would take measures to stop a child's puberty, given that even a child with genuine gender dysphoria would most likely outgrow that condition if left alone. Some argue that it is traumatizing to let children go through the puberty of the sex to which they do not wish to belong. But in many cases, puberty seems to have helped children overcome gender dysphoria. There, however, is no satisfying answer given that scientists have no way of predicting which children will outgrow the dysphoria on their own and which won't.

Proponents of "affirmative care' also argue that allowing puberty to occur is dangerous, because suicide rates for trans-identified youth and trans adults are very high—around 49%. Therefore, they say, we need

Continued on Page Two

LATE BREAKING NEWS

The next edition of AETHER will be via internet only in Feb. 2022. The next edition of the printed edition of AETHER will be in April..

If you need free CME Category , contact *baycarecme.org* for Category 1, courtesy to MARCO via Dr. Brown. For Cat 2, tune in to MARCO Grand Rounds, Sundays, 11 am Eastern on 14.342 MHz *(certificate for submission to the State Boards is issued in April printed edition) or check with Chip Keister N5RTF (504 812 8717) f or details on contacting the Sunday lectures on your computer.*

Sodium glucose cotansporter 2(SGLT2 inhibitors) are a new class of oral glucose-lowering drugs used in the treatment of type 2 diabetes. Recent clinical trials of SGLT2 inhibitors have reported beneficial cardiovascular outcomes in patients with heart failure along with a reduced risk of hospitalization due to heart failure regardless of diabetes status. However, providers lack knowledge of new agents and emerging trials for glucose management with proven reduction in CV risk and how to use them for the treatment of type 2 diabetes.

Paul Lukas, N6DMV, Torrance, CA is reported to have broken his hip but is doing well,(*was on the air in mid-November)*

Arnold Kalan, WB6OJB, Pacific Palisades, CA is back from Africa and commented that animal viewing was the best he had ever seen in his many trips to the African continent.

WRITE TO US!
We welcome your comments. Email to Aether@marco-ltd.org Letters may be edited for brevity & clarity. Unedited member articles & graphics are not the opinions of MARCO-ltd.

MARCO NET SCHEDULE

DAY	EASTERN	FREQ.
Any Day	On the Hour	14.342
Sunday	10:30 a.m. Eastern	14.140
Sunday	11 a.m. Eastern	14.342
Wednesday	8:30 p.m. Eastern	7.22

NET CONTROLS
Hailing Frequency
CW Net, Chip, N5RTF
Warren, KD4GUA
Jerry, N4TSC, WB9EDP

MARCO'S CW NET IS NOW CALLED THE *"Bob Morgan Memorial Net"*
Sundays, 10:30 am, 14.140 MHz

MARCO Grand Rounds is held Sunday at 11 a.m. Eastern Time; 10 a.m. Central; 9 a.m. Mountain, and 8 a.m. Pacific Coast time on 14.342. You qualify for one hour Category II CME credit with your check-in.

to start treating children with gender dysphoria as soon and as dramatically as possible.

Yet there are no good long-term studies indicating that puberty blocker secure suicidality or even improve mental health. Nor are there studies that show puberty blockers are safe or reversible when used in this manner.

What we do know is that puberty blockers prevent the development of secondary sex characteristics, sexual maturation, and bone density. Indeed because of the inhibition of bone density and other risks, doctors don't like to keep children on puberty blockers for more than two years.

We also know that in almost every case when a child's healthy puberty is medically arrested, placing the child out of step with his or her peers, that child proceeds to cross-sex hormone. And when puberty blockers and cross-sex hormones are administered to a girl, she becomes infertile. She may also have permanent sexual dysfunction given that her sex organs never reached adult maturity.

Given this the claims made by so many doctors and gender activists today that these medical transition measures for children are safe and reversible—that they are a "pause button," without serious downsides—are not only dishonest but destructive.

As mentioned, for the nearly 100 year history of scientific studies of gender dysphoria, it has been diagnosed almost exclusively in young children and mostly in boys. But over the last decade, large numbers of teenage girls have begun to claim they had gender dysphoria.

Prior to 2012,, there was no scientific literature on gender dysphoria arising in teenage girls. Across the West, teen girls are now the leading demographic claiming to have gender dysphoria.

There is a long history of social contagion with this demographic—anorexia and bulimia are also spread this way. And we know that teen girls today are in the midst of the worst mental health crisis on record, with the highest rates of anxiety, self-harm, and clinical depression.

Girls today attest that up to 30% of the girls in their 7th grade identify as trans. These teen girls are in a great deal of pain. Almost all of them have dealt with an eating disorder.

Keira Bell is a young woman in the U.K. very troubled in adolescence, who was rushed to transition in her teen years and came to regret it . She underwent double mastectomy and spent years on testosterone, only to realize that her problem had never been gender dysphoria. She sued the U.K's gender clinic, and last December, after the High Court of Justice examined her case and the claims of similar situated plaintiffs, she won.

The Court was horrified that a young girl had been allowed to consent to begin a process of eliminating her future fertility and sexual functioning at an age, 15, when she could not possibly have gauged that loss. Hailed as a "landmark case' by *The Times of London, The Economist, & the Guardian,* Bells ' victory was widely viewed as a serious condemnation of the effort to fast-track teen girls to gender transition.

One of the appalling things the Court noted was that the national gender clinic had been unable to show any psychological improvement in the adolescents it had treated with transitioning hormones. Many young women who underwent medical transition have later regretted it, and have attempt to reverse course.

No discussion of gender ideology can ignore the ongoing movement to eradiate girls' and women's sports and protective spaces. Many or most of the people pushing this are not transgender themselves , but activists and energized and seem to be winning.

This movement promotes dangerous bills like the Equality Act, which would make it illegal ever to distinguish between biological men and women—and thus to exclude biological males from a girls' sports team or a women's protective space, whether it be a restroom, locker room or prison. We have these laws now in California and in the State of Washington—and as you might imagine, one result is that hundreds of biological male prisoners, many of them violent felons, have applied to transfer to women's units.

For activists pushing this, it is not enough to create unisex bathrooms, a separate category for trans-identified athletes, or separate safe zones in prisons for trans-identified biological men. No, they are hoping to abolish all women's-only spaces and they want to abolish them now.

Public and private funding of research is almost entirely restricted to researchers who promote gender transition and downplay the risks. In reality we simply don't have the data to know whether puberty blockers are fully physically reversible when applied to halt healthy puberty—and they are not psychologically reversible.

Transgender adults are some of the soberest and kindest people. Many of them seem to have been helped by transition, and they are leading admirable and productive lives. They have no desire to harm women or to push transition on children.

An understanding of freedom includes a belief that society should allow adults to make consequential decision about their lives, which includes choosing to undergo sex reassignment surgery.

One is often asked why it is that the gender ideology activists are doing what they are doing. What possible justification could there be, for instance, for telling small boys that they might be girls and small girls that they might be boys. one hears repeatedly from these young women that while they were transitioning they were angry and politically radical. They often cut off relations with their families, having been coached to do so online by gender activists. Related to this, you'll notice a disproportionate number of gender-confused people among Antifa in cities like Portland.

In other words, chaos is the point and these troubled girls become prey for those who seek to recruit rioters. Just as the destructive objective of some is to divide Americans racially, that of gender ideology is to disrupt the formation of stable families, the building blocks of American life.

So what do we do about it? How do we push back? First and foremost, we must oppose the indoctrination of children in gender ideology. There is no good reason for it, and it can do real harm. We can absolutely insist that all children treat each other kindly without indoctrinating an entire generation in gender confusion.

Second, we must overcome our squeamishness and speak the truth in public. Wherever we find ourselves, we must refuse to recite lies. And we must always clearly distinguish between transgender Americans, generally wonderful people, and the ideological transgender movement, which seeks to warp children and weaken families.

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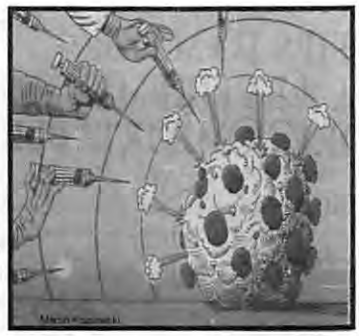
The above are excerpts from Abigail Shrier's, A.B., J.D. fine lecture she delivered on April 27, 2012 in Franklin, Tennessee., at a Hillsdale College National Leadership Seminar. She is also the author of *"The Transgender Craze Seducing Our Daughters."*

SO-LONG COVID !



Covid-19 will soon become endemic: An epidemic causes widespread disease in a region. A pandemic affects multiple countries or continents. A disease becomes endemic when it is manageable—*not causing an undue burden on hospitals or their healthcare resources but is unlikely to be eliminated because of the pathogen's inherent properties.*

Australia, China and New Zealand have "pursued zero Covid" policies that aim at elimination to zero (*complete elimination).* That goal is unrealistic. **Small pox** is the only human disease that has ever been eradicated. The small pox virus has had four properties that made it eradicable: the lack of an animal reservoir, clear and distinctive signs and symptoms, a short period of infectiousness, and both lifelong natural immunity after survival and a highly effective vaccine.

SARS-CoV-2, by contrast, is unlikely to be eradicated. It has animal reservoirs, a high level of transmissibility (especially of the Delta variant), and overlapping symptoms with other respiratory disease. It has, as well , a prolonged period of infectiousness, caused by its propensity to spread from asymptomatic or presymptomatic carriers.

That's why reducing the disease from epidemic to endemic is the best case-**one that will allow a full return to normal**.

Measles, a highly transmissible respiratory virus, created high levels of immunity among adults who were exposed as children. But until a vaccine was developed in 1963, some nonimmune adults died every year. Pertussis (whooping cough) is caused by a highly contagious bacterium (with syndromes that overlap some respiratory viruses), but it is controlled by vaccination of children, antibiotics and other treatments.

Officials tried a wide array of measures to control SARS-CoV-2: masks, social distancing, lockdowns, travel restrictions, ventilation, testing, contact tracing. These had varying levels of success but ultimately proved insufficient to control the virus in a sustained way. That will require widespread immunity. Fortunately, safe and effective vaccines were developed of SARS-CoV2 in record time. **These vaccines are the key to turning Covid-19 into an endemic but controlled communicable disease.**

Control means the reduction of serious disease, not of asymptomatic or mild cases. Antibodies generated by the vaccines will naturally wane, but the vaccines trigger the creation of B cells that get regulated to our memory banks, and these memory B cells produce high levels of neutralizing antibodies if they see the virus again. Memory B cells are long-lasting. A 2008 Nature study found that survivors of the 1918 flu pandemic were able to produce antibodies when exposed to the same influenza strain nine decades later.

What would endemic Covin-19 look like? If we can tamp down the virus's circulation and reduce its ability to cause severe disease through widespread vaccination, the world will be able to return to normal.

The burden of disease a country is willing to accept will depend on its priorities: Denmark dropped all restrictions at a 74% vaccination rate and low cases on Sept. 10 and Norway dropped them on Sept. 25 at a 67% vaccination rate. We will need to accept that the non-eradicable disease is endemic.

Although SARS-CoV-2 has proved unpredictable, **no virus in history has ever continued to evolve to higher pathogenicity.** No vaccine-preventable or immunity inducing infection has ever rated on as a pandemic indefinitely. (So long Covid, welcome normalcy.)

(The above are excerpts from Dr. Monica Gandhi's fine article which appeared in the Oct. 1, 2021 edition of the Wall St. Journal.)

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FORMULAS TO REMEMBER

To determine the number of calories needed to maintain weigh: = *Present weight X 15.* **To lose weight use the formula:** *Calories needed to maintain weight minus calories eaten divided by 4000 = pounds lost daily.*

Half-Wave length dipole antenna: *Length in feet = 468/Frequency in MegaHtz. Example: How long should an 80 meter dipole be? Answer: 468/3.725 (freq.)= 125.6 ft.*

Quarter-wave length dipole: Length in feet = 468/Frequency in MegaHtz divided by 2. *Example: How long should an 80 meter quarter wave dipole be? A. 468/3.75 (freq)/2 = 62 feet.*

CAN AN AMERICAN BE FORCED TO BE VACCINATED?

We are reaching the limits of the voluntary approach to vaccinations. As we have seen in the past the vaccination rate is insufficient to prevent a new wave of infections from the Delta variant, especially in areas where the rate is especially low. A new "pandemic of the unvaccinated" threatens to reverse much of the progress made so far.

Are we limited to policies that rely on voluntary compliance? As a legal and constitutional matter, the answer's clear: NO. The issue of whether states can make vaccinations mandatory was settle more than a century ago in *Jacobson v. Massachusetts (1905),* when a citizen challenged a required smallpox inoculation. When the case reached the Supreme Court, Justice John Marshall Harlan, wrote for a seven-justice majority upholding the state's constitutional power to act as it did.

Harlan summarized the defendant's objections in terms that remain familiar today: "The defendant insists that his liberty is invaded when the State subjects him to fine or prison for neglecting or refusing to submit to vaccination; that a compulsory vaccination law is unreasonable, arbitrary and oppressive, and, therefore, hostile to the inherent right of every freeman to care for his own body and health in such way as to him seems best, and that the execution of such a law against one who objects to vaccination, no matter for what reason, is nothing short of an assault upon his person."

Harlan went on to dismantle this position. While acknowledging that a state or local community might act in such an arbitrary or excessive manner that the courts would be compelled to step in, he insisted that the liberty secured by the Constitution of the United States to every person within its jurisdiction does not, import an absolute right in each person to be, at all times and in all circumstances, wholly freed from restraint." Real "liberty for all could not exist under the operation of a principle which recognizes the right of each individual person to use his own, whether in respect of his person or his property, regardless of the injury that may be done to others. **Justic Harlan's decision is still the law of the land.**

(Information for this article came from William Galston's article in a July edition of the Wall Street Journal.

From: Tom Reilly, Louisiana...I read with interest the article *mystery microwave attacks—a new disease?* Having spent four years in the Navy working with radar I know that the search radar can have a peak power well over a megawatt with an average power of approximately 10,000 W. For fun with our gunfire control radars we sometimes tracked seagulls which stayed in the beam for about five minute then landed on the water. I recognize that high levels of microwave can affect the brain. Despite what was said I cannot accept that if Russia and China are using weapons of this type that they are especially difficult to trace. I can buy microwave detectors from Amazon for $30 as can the federal government and I am sure the detector would virtually scream if hit by 10 KW. I cannot imagine any form of high level energy could not be detected by a simple device.

More from Tom... Tom has been absent from the Sunday Grand Rounds and explains why: "*The previous hurricane took out all my trees (and antennas).* His new address is: Tom Reilly, M.D., 6120 Creswell Ave., Shreveport, LA.,71106.

From: **Arthur Kahn, M.D., W6NJY, Beverly Hills, CA...**Art submits his article on *Lightning Burns* which appeared in *The Western Journal of Medicine:* He reports the average number of deaths in the U.S. due to lightning accidents is estimated to be between 100 and 600. He continues: "A ten year-old boy was playing beneath a tree during a rain storm. A bolt of lighting directly struck the tree and the scatter struck the child. Rescuers, almost immediately at the scene, found him unconscious, apneic and with his jacket on fire. The fire was extinguished, immediate mouth to mouth respiratory resuscitation was begun and the boy was transported by the paramedic rescue squad to a nearby hospital's E.R. where he vomited then aspirated and was intubated. Upon arrival at the burn center he was found to be responsive to pain and moving his extremities. Burn wounds were present over 31% of his body surface. His ECG showed ST elevation in V2 and V3 and this resolved within a few hours. Over the course of 12 days the patient's neurological state rapidly improved. Early seizures were controlled. EEG showed an excess of symmetrical slowing. An echoencephalogram was normal. His level of consciousness vacillated between coma and semicoma and on the 12th day he was completely awake and out of coma.

Summarizing: respiratory or cardiopulmonary arrest is the most immediate life-threatening complication & it should be treated first.

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HEMOCHROMATOSIS VS. HEMOSIDEROSIS

Dave Justis, KNOSm June 20, 2021 Grand Rounds.

Iron excess deposited in tissues as HEMOSIDERIN. Iron deposition resulting in tissue damage is termed **HEMOCHROMATOSIS**. Focal or generalized iron deposition without associated tissue damage is

Hemosiderosis can result from intermittent bleeding within an organ. This is usually the lung. (*Pulmonary emboli, pulmonary hypertension, pulmonary fibrosis, severe mitral stenosis.)* . **Renal hemosiderosis** can result from extensive intravascular hemolysis

PRIMARY HEMOCHROMATOSIS an inherited disorder with excessive iron accumulation causing tissue damage. Diagnosis with serum iron, Rx with phlebotomy.

Serum iron is up, greater than 300 mg/dl. Serum transferrin saturation is up, greater than 50% and often 90%. Serum Ferritin is over 300 mg/dl and gene assay nails the diagnosis.

Symptoms are uncommon before middle age. Rare in women before menopause., get fatigue, liver disease.

NEWSENSE...Tantalizing News!

Originated by Columnist Walter Winchell

EDITOR'S NOTE: Walter Winchell began broadcasting in 1933 to an audience of 25 million people. The Winchell style was unmistakable. He talked rapidly at 197 words per minute..the voice was high-pitched and not pleasant to the ear; but it was distinctive. The staccato quality made every item compelling. He claimed he talked so fast because if he talked more slowly people would find out what he was saying...he began his radio program with a series of dots and dashes operating the key himself. Telegraphers throughout the country complained that what Winchell tapped out made no sense. He realized he hadn't the faintest knowledge of Morse code but he refused to have an experienced telegrapher provide the sound effects for him. He wrote like a man honking in a traffic jam.

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A shocker! The July 2021 American Family Physician under "*Top 20 Research Studies of 2020,"* reports, ***Aspirin is no longer recommended for primary prevention of cardio-vascular diseases.*** *The European Society of Cardiology, American College of Cardiology and American Heart Assoc. agree and no longer recommend aspirin for primary prevention of cardiovascular disease.* The balance of benefits and harms is equally weighted, so we should no longer recommend it. However, it is still recommended for those ***who already have*** cardio-vascular disease.

The CIA Director has chosen a veteran agent aimed at finding the cause of unexplained health incidents suffered by U.S. spies and diplomats round the world known as the *Havana Syndrome.* A scientific panel said some form of directed energy emissions were the most likely culprit for the symptoms, which include dizziness, severe headaches, nausea an cognitive difficulties. It was first reported in 2016 by diplomats at the U.S. Embassy in Havana.

Anti-Depressants are not the only treatment for depression...why not start with the patient's Vit. D level. Low Vit. D levels correlate to depressed feelings. It should be a level over at least 60. Areas of less sunlight have lowered Vit. D levels and more depression. Then look at the Lithium level...if less than .3 that patient can suffer from depression and/or anxiety. Placing the patient on elemental lithium orotate, NOT the drug lithium may help. The body needs the elemental lithium (orotate) to make dopamine, which is the brain's neurotransmitter involved in sleep, happiness, all of the good feelings.

If an alien located 655 million light years away from us, looked at Earth though a really powerful telescope today, he would see Dinosaurs!

When you remember a past event, you are actually remembering the last time you remembered it, not the event itself.

WHAT IS A TRILLION? How long must one count in seconds in order to reach 1 million? **A. 17 days.;** for 1 billion? **A. 31 years;** for 1 trillion? **A.** 31,688 years!

George Siros, famed Hungarian-American-Socialist writes in the Aug. 14 edition of the Wall Street Journal: *"Relations between China and the U.S. are rapidly deteriorating and may lead to war. At the heart of this conflict is the reality that the two nations represent systems of governance that are diametrically opposed. The U.S. stands for a democratic, open society in which the role of the government is to protect the freedom of the individual. China's government believes they have a superior form of organization which is carrying on a totalitarian closed society in which the individual is subordinated to the one-party state. It is superior, in this view, because it is more disciplined, stronger and therefore bound to prevail in a contest."* George Siros? **Mr. Siros** is a *One World* man...perhaps that is why he feels the above way because of the Chinese competition(?)

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HISTORY OF THE MEDICAL AMATEUR RADIO COUNCIL In the fall of 1965, at the Astor Hotel in New York City, Dr. William Sprague WA0CRN, held a meeting of physicians and dentists interested in exploring the formation of a medically oriented amateur radio operator organization. A group of 95 members was organized. The organization was formalized at a meeting in N.Y. On April 16, 1966. MARCO was chartered as a Corporation in the State of New York.

SYNTHETIC BIOWEAPONS ("SBW") ARE HERE.

The COVID-19 pandemic has revealed a critical weaknesses in the human domain of warfare at just the moment technology has emerged that gives bad actors new powers to exploit those weaknesses.

Developments in synthetic biology will create next-generation bioweapons, "human-domain fires" that will change the strategic environment and create a threat planners must consider now, before it is actually created.

In March 2020 press release praising the effectiveness of its preventative medicine, the Navy proudly declared: *NO cases of COVID-19 have been diagnosed aboard any U.S. 7th Fleet Navy vessel,"* One week later, cases were spreading so rapidly, the USS Theodore Roosevelt effectively became a "mission-kill." It can be debated whether the U.S. would have stayed in a fight if COVID-19 had broken out during wartime. A more lethal, deliberately devised, weaponized agent could actually eviscerate an entire fleet!

Polymerase chain reaction (PCR) from one organism to be isolated, copied, and inserted into another is the first form a of widely used genetic modification. A newer technique, **c**lustered **r**egularly **in**terspaced **s**hort **p**alindromic **r**epeat (CRISPR-Cas9), was first harnessed for genetic editing in 2013. Compared with PCR, CRISPR-Cas9 is cheaper, faster and more accurate—a development likened to replacing vacuum tubes with transistors in the early day of computing.

One 2019 winner of the International Genetically Engineered Machine competition was a team of high school students who engineered E.coli bacteria to spin spider silk. With CRISPR, to do the editing you simply have to know what genes control spider silk production and possible places to put them on the bacterial genome! Of those dangers, next-generation bioweapons are the most serious. Unlike traditional bioweapons, which most states have abandoned as unreliable, **synthetic bioweapons (SBWs)** are weaponized biological threats modified through synthetic biology for novel effects, mechanisms or processes. Unshackled from natural biology, SBWs possess characteristics engineered to target populations through socially transmitted rather than kinetic means. Although each of the military services and the entire U.S. population could be at risk from SBWs, the nature future of the Sea Services' operations—far from home but necessarily dependent on local goods and services in forward-deployed locations—place them at risk..

Biological warfare favors the attacker. One possible use of synthetic bioweapons would be to neutralize a ship preemptively, before any active conflict, incapacitating a crew instead of killing it. A tailored incubation period or high pre-symptomatic transmission can be a matter of planning rather than luck. Programmed obsolescence, by which a disease dies after a set number of generations or fails to transmit in a non-target environmental conditions, can protect only the attacker.

"Binary weapons" are paired infections separated to evade detection that can later be combine for desired effect. Complementary, harmless viruses released in San Diego and Guam could synthesize, in a host exposed to both, to generate debilitating illness. Such covert **SBW fires** could take a whole strike group off the board shortly before the enemy could launch an invasion, for example.

One threat that was once the stuff of science fiction may soon become real. Some foresee the possibility of "specific ethnic genetic attacks" on whole racial or ethnic groups, although there remain political and scientific obstacles at present. A unique persons with unique genes is easier to target than population-level differences. SBWs with high levels of asymptomatic transmission could pass from host-to-host through the human domain, until reaching a vulnerable target or targets possessing the right genes. (Procuring a president or admiral's DNA is easy through genealogical companies such as 23andme.) Such trains of thought culminate in new weapons perfectly suited for *"warfare beyond rules." A possible such comparison is the "Cuban Syndrome " whereas the victim is exposed to hidden microwaves, thus cooking his now non-functioning brain.*

WHEN YOUR MIND MAKES YOU SICK

"The Sleeping Beauties" a book by Dr. Suzanne O'Sullivan. (Pantheon, 328 pages, $28.

Dr. O'Sullivan begins her book with the titular "*Sleeping beauties"* of Sweden, young refugee children who have been falling asleep and cannot be woken. "Between 2015 and 2016, 169 children in disparate towns in Sweden had gone to bed and not got up again. Doctors called it "*resignation syndrome.*" It starts as a kind of fatigue; the children speak little, then not at all. Then they fall into an endless sleep, their frightened parents might take them to the hospital, but their brain scans inevitably come back normal. They are not in comas. They appear to have normal waking and sleeping cycles. But some of them have been asleep for years.

The public tends to dismiss disorders that fall outside the understood disease categories, maligning the sufferers as weak, or worse: attention-seeking pretenders. In the absence of apparent disease, patients are often told that their symptoms are in-or out of-the mind, a diagnosis frequently distilled to mean "mental fragility, or even madness." In the case of the refugee children, some observers believed they were faking, or that they were liars, or that the parents were drugging them. None of these aspersions were true. A child may feign sleep, but not for years. Some needed feeding tubes so as to avid starving.

Dr. O'Sullivan describes these as "functional neurological disorders." Once referred to as hysteria and today more commonly called psychosomatic, such conditions raise questions for which medicine still has no answer Whatever you call them, Dr. O'Sullivan writes, they are a "a result of physiological mechanisms that go away to produce genuine physical symptoms and disability."

In Krasnogorsk, Russia, she meets Lyubov, an elderly woman who was once Patient Zero for a sleeping sickness that afflicted Krasnogorsk. A uranium mining town., Krasnogorsk had been a valuable asset to the Soviet government and as a result, was well supplied. In the 1970s, its residents were all privileged and young. "They started families at the same time and watched their children grow up in relative opulence, They had everything they wanted."

Lyubov serves Dr. O'Sullivan a mournful tale—after the fall of the Soviet union, Krasnogorsk was abandoned and left to crumble. Many homes lost heat and running water. Most of the residents relocated. As one of the few who refused to leave, Lyubov eventually fell into a sleeping sickness. Her first bout lasted four days. Oher patients followed, some 130 people in a population of 300. None of them ever had concrete signs of disease. It as not an illness driven by deprivation—but by deep sorrow and grief.

Lyubov was not pretending, and neither were the Swedish refugee children. Lyubov's sadness and suffering her anxiety and fear, combined to change how her brain-and body-functioned. Similarly, in each of the Swedish cases, the children and their parents faced deportation to dangerous homelands. As helpless witnesses, the children began to withdraw.

What Dr. O'Sullivan tells us is the power of the brain to disorder the body. "It is time we stopped resurrecting the centuries-old tropes of witch trials and Freudian hysteria," she writes, and instead recognize the myopic focus on biology.

Dr. O'Sullivan's most radical suggestion is that cases of so-called mystery illness should not be considered medical at all. They are not imaginary, but medicine may not be the best means of treating them. In all cases she covers, from broken-heart syndrome to sleeping sickness to inexplicable seizures and people being possessed by "devils," the best means of recovery come from the patient's community. "When societies lose a shared spirituality and a sense of community and family," she writes, they also lose their support systems. Treating symptoms with pharmaceuticals, instead of addressing the root cause, would "ultimately rob the community of their voice."

At the heart of this problem is the question, deceptively simple, but so difficult to answer: What do we mean by illness? (*psycho-somatic?)* Should medicine—biologically minded, diagnosis privileging Western medicine—alone be allowed to decide?

(The above excepts appeared in the Sept. 18-19 edition of the Wall St. Journal along with a photo of two sisters, one asleep for 2.5 years and the other six months. Have any of our readers attempted to treat similar cases?)

LIGHT, LIGHTNING & LIGHTNING INJURIES

By Michalline Przekop, KC9ARP

The sun produces a continues spectrum of electromagnetic radiation. EM radiation spans an enormous range of wavelengths and frequencies known as the electromagnetic spectrum. On one end of the spectrum, we have the radio waves, microwaves, infra red (heat), visible (light), the ultraviolet and the most energetic—the x-rays, gamma and cosmic rays (ionizing forms). We will be focusing on the ultraviolet portion of the spectrum.

Ultraviolet radiation (UVR) and has four components: Vacuum UVR readily absorbed in air and does not penetrate the Earth's atmosphere. **UVC** is almost entirely absorbed in the stratosphere 15-50 km above the Earth's surface by oxygen and ozone. **UVB** is biologically active and responsible for tanning, and non-melanoma skin cancer formation. Beneficial effects of **UVB** include vitamin D production from cutaneous precursors. 10% of UVB reaches the Earth's surface, whereas UVA accounts for the other 90% depending on the time of day and season. UVA induces an inflammatory response and thickens the stratum corner, the outermost layer of the skin—can increase 6-fold.

UVA is subdivided into "near" UVA or UVA II and "far" UVA. UVA penetrates the skin more deeply than UVB and contributes to tanning, burning, photo aging, carcinogenesis. It is the principal trigger for photo drug reactions. UVA is transmitted through window glass (allowing indoor exposure to UVA but not UVB).

Ultraviolet radiation (UVR) is affected by latitude, altitude, season, time of day, surface reflection, atmospheric pollution and ozone levels. Most of the UVR reaches Earth midday, 80% between 9 AM and 3 PM. UVB peaks midday when the sun is at its zenith.

Skin exposure is cumulative and will never go away. Chemical sunscreens were discovered in 1926.

LIGHTNING:

Lightning is dangerous for three reasons: electrical effects, heat production and concussive force. In addition, lightning may indirectly injure people, animals and property via forest fires, house fires, explosions or by falling objects such as trees onto occupied homes or autos. There are five ways lightning strikes it victims: direct hit, side flash, ground contact, conduction and upward streamers.

For over a century, lighting was the second most common cause of storm– related deaths in the U.S. and although it now falls third behind flash floods and tornadoes, the actual number of lightning casualties may be higher because up to 50% of incidents may go unreported.

Worldwide 50,000 thunderstorms occur per day. Where there is thunder, there is lightning. Thunder comes from lightning and all thunderstorms have lightning. Lightning strikes the earth 100 times each second and 8 million times per day. The power of lightning is awesome—an estimated 10,000-200,00 amperes of current and 20 million to 1 billion volts. A current of 100,000 can shift blocks of stone weighing 5 tons and rocks weighing 50 lbs. may be thrown 20 yards or more. A strike is 5X hotter than the sun—and can heat the air it passes through to a minimum of 50,000 degrees Fahrenheit. When lightning strikes a tree, it vaporizes any water in it and can make it explode.

In the U.S., cloud to ground lightning strikes occur approx. 30 million time each year and are most common in Florida, the Atlantic coast, and along the SE coast of the Gulf of Mexico, Florida is the lightning capital of the U.S. with more people dying each year from lightning than in any other state. The region's moisture and heat in the atmosphere make it less stable and sea breezes create numerous thunderstorms per day.

Two basic types: Cloud-to-Cloud and Cloud-to-Ground. **Cloud to ground is the most frequent and accounts for human injuries. Sheet lightning** (*travels w/in a cloud/gives appearance of white sheet).* **Ribbon** *(channel blown perpendicular to the line of sight by the wind)* and **bead lightning** (*main flash beaks into beads),* most rare is **ball lightning** (*mix of fire and electricity in a fireball usually appearing suddenly (*even in the indoors during thunderstorms). It can move, change direction then disappears soundlessly, with a pop or a larger explosive sound.

While lightning science describes and explains it, there are no rules governing its behavior, it is capricious and random and any induvial strike may defy common public assumptions.

Lightning may not be apparent to an individual and it can strike 10-50 miles or more away from the rain of a thunderstorm. **Primary risk factor is the failure to acknowledge that lightning poses a threat.** Few realized that one of the most dangerous times for a fatal strike is before a storm (*lightning can precede the front when it is still sunny; the faster the storms is traveling, the more violent it is and the more likely that a fatal strike will occur AND at the end of a storm.)*

People are struck by lightning while participating in outdoor sports and leisure activities, fishing, boating, baseball and golf. Daily routine-driven lighting deaths happen while people are walking to or from their vehicles, into or out of their homes, and while people do yard work, or mowing the lawn and indoors while taking baths or showers, washing dishes or using electrical equipment. Less in urban areas more prone in rural areas.

It starts with short bursts of static energy in a cloud, the lightning retreats back to its original channel and branches at the end of the original channel to make a second generation of channels, continuing with retreats and new generations until it is expended in intracloud (*cloud to cloud)* lightning or work it way downward as a CG flash.

Any object near the intense electrical field of a thundercloud will have **an opposite charge** induced in it, television tower, tree, person, blade of grass. Multiple upward leaders of current rise from these objects.

Also, many don't realize that lightning can travel through plumbing and shock anyone who comes in contact with the water. Do not take a shower, wash dishes or do laundry during a thunder or lightning storms.

And, while everyone is a potential victim, the number of males struck and killed by lighting greatly outweighs females. It has been shown in studies that men are more likely to be in dangerous situations for longer periods of time with an unwillingness to be inconvenienced by the weather.

There is no safe place outside when thunderstorms are in the area. If you hear thunder, you are likely within striking distance of the storm. ***"When thunder roars, go indoors."***

What you should and should not do in a thunderstorm. If you get stuck outside in a lightning storm without shelter, keep your feet together to minimize the chance of electrical current traveling through the ground and into your body, which could cause damage to your internal organs.

If you get stuck in a storm during a park or golf outing, a wooden pavilion is not a safe place to protect you from lightning unless the structure is specifically designed to withstand lightning and most are not.

Avoid trees (*which could fall)* and assume a crouching position but DO NOT lie down.

Safest bet: Stay in your car during a storm. A person inside a fully enclosed metal vehicle must not be touching metallic objects to the outside of the car. During severe storms, pull off to the side of the road, turn on emergency flasher, turn off the engine, and put your hands in your lap while you wait out the storm. DO NOT touch door and window handles, radio dials, microphones, gearshifts, steering wheels and other inside-to-outside metal objects.

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Porphyria cutaneous tarda occurs in patients susceptible to sunlight due to a hereditary defect in a liver enzyme referred to as UROD. It can be either genetic (*in 1/3 of cases)* or acquired *(from due to Hepatitis B & C, HIV, excessive alcohol, iron & estrogen ingestion).* **Diagnosis** is made by biopsy of sun-damaged skin, abnormal ferritin blood level, abnormal reaction to sunlight, and positive Hepatitis B and/or C disease. **Treatment** consists of venesection—removing a pint of blood every two weeks until the serum iron levels are normal, stopping sunlight, alcohol and estrogen ingestion. (*The "devil" has been accused of having this disease with his red skin.)*

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BRUSHING UP....Static electricity was the first kind of electricity to be discovered. The conservation of change states that electric charge is neither created nor destroyed. The total amount of electric charge in the universe remains constant. Electromagnetism is the relationship between electricity and magnetism. Electric currents can produce magnetic fields and magnetic fields can produce electric currents.

The word "physics comes from the Greek word "physika" meaning "natural things," or the study of nature. Some of the migrating German and Mongolian peoples were the Gauls, Viagoths, Franks, Huns and Vandals. We get our word "vandal" from the last group

A man was hailed into speeder's court. *"What is your excuse for driving 60 miles an hour!"* asked the magistrate. ***"I couldn't have been driving sixty miles an hour,"*** said the man. ***"I hadn't been out an hour yet."***

A U.S. destroyer stops four Mexicans in a row boat rowing towards California. The Captain gets on the horn and shouts, *"Ahoy, small craft, where are you headed?* **One of the Mexican stands up and replies, "We are invading the U.S. to reclaim the territory taken by the USA during the 1880s." The crew of the destroyer doubles-over in laughter. When the Captain is finally able to catch his breath, he gets back on the horn and aks,** *"Just the four of you?"* **The same Mexican stands up and shouts, "No, we're the last four, the rest are already there?"**

Waiting time... Whenever my aunt went to the doctor, she would complain to me about the long delays. One day, when my aunt's name was finally called, she was asked to step on the scale. *"I need to get your weight,"* said the nurse. Without batting an eye, my aunt replied, "*one hour and forty-five minutes.*"

****

A huge C-124 Globemaster taxiing out for take-off encounters an F-4 Fighter on an intersecting runway. The F-4 pilot keys the mike and inquires, "*C-124 what are your intentions?* The Globemaster pilot as he's opening the front cargo doors and ramp replies in his boldest voice, **I'm going to eat you!"**

MIX UP...After having been served in a Las Vegas cocktail lounge, a real southern gentleman beckoned the waitress and said quietly, *"Miss, y'all sure are a lovely lady; can ah persuade y'all to give me a piece of ayce?"* **. That's the most direct proposition I've ever had?" gasped the girl. Then she looked around, smiled and added,** *" Sure, why not?"* **You're nice lookin' too and it's pretty slow right now, so why don't we just slip away up to my room?" When the pair returned an hour later, the man sat down and the waitress asked, ""Will there be anything else sir?" "Why yes," replied the southern gentleman.** *"Ah show do'preciate what y'all just did for me: it was real sweet and right neighborly, but where ah come from in Alabama, we like our bourbon real cold, so ah still need to trouble y'all for a piece uh ayce for mah drink."*

"Grandpa, if you give me 1 dollar, I'll tell you who sleeps with Grandma when you're not home..."

"Here, I'll give you 2 dollars, who is it?" "ME...!"

****

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MEDISHARE UPDATE

Arnold Kalan, WB6OJB

The charitable arm of MARCO is alive despite the pandemic . We are looking for donations, big or small, to fund our next project.

Projects we have offered assistance with in the past have been in organizations that are in need of a means of communications for medical clinics in third world countries. All donations are completely tax deductible and you will receive a note of thanks together with some wonderful MARCO seals that look very nice on QSL cards.

CAN HOSPITALS LEARN ABOUT SAFETY FROM AIRLINES?

No fatal U.S. airline crashes since 2009! This achievement comes from a sweeping safety reassessment—a virtual revolution in thinking—sparked by a small band of senior federal regulators, top industry executives, and pilots-union leaders after a series of high-profile fatal crashes in the min-1990s. **To combat common hazards, they teamed up to launch voluntary incident reporting programs with carriers sharing data and NO punishment for airlines or aviators when mistakes were uncovered.**

Over the same period, the country's healthcare system has tried to mimic some of these air safety principles, but it has made scant progress in eliminating deadly treatment errors. Mistakes in hospitals are estimated to cause at least 250,000 unnecessary patient deaths annually in the U.S. making it the fourth leading cause of medical fatalities after cancer, heart disease and Covid-19.

Determined to do better, healthcare leaders are now doubling down on aviation's lead. A coalition of experts has drafted a proposal to create a National Patient Safety Board (NPSB), patterned after the independent National Transpiration Safety Board (NTSB) that dissects the chain of events leading to aircraft accidents.

At the heart of the idea is prodding doctors and hospitals to share more digital data and wholeheartedly embrace self-reporting of their potentially deadly "near misses," the way that pilots already do without fear of punishment. Some advocates envision aggregating and studying incident data while protecting the identities of individual physicians .

More than 40 participants have formally joined or expressed interest in the coalition, including universities, insurance companies like Blue Cross Blue Shield, business groups like the National Retail Federation and activist organizations such as Mothers Against Medical Errors and the Leapfrog Group, a private watchdog organization that grades hospitals on safety.

The proposal remains at a formative stage. No final budget projections or legislative language has yet been drafted, and the concept has received scant public attention, though organizes have begin to look for support on Capital Hill. Announcement of the initiative is expected soon.

One element of air safety that has already made big inroads in medicine is reliance on checklists. The proposals wouldn't focus on investigating individual patient fatalities, the way the NTSB does with airline crashes. Instead, it would coordinate with the host of government organizations already tracking patient safety to pinpoint and counter budding dangers, including surgical complications, medical equipment shortcomings and adverse drug reactions.

Problems arising from human-machine interactions are anther topic requiring sophisticated analysis. Currently, healthcare tends to disregard the issue, which is akin to "*teaching people to drive better on icy roads, but not doing anything about the icy roads*."

Skeptics point out that even if the NPSB is created, there would be significant disincentives for doctors and hospitals to report their own errors. Malpractice suits and Federal funding cuts discourage providers from being open about missteps. "It's not good for business to get mistakes out there. Truly transparent data sharing would require a massive cultural change.

When medical errors are reported, it's usually "well after the fact, and information usually stays within the organization.

It's too soon to tell whether stepped-up lobbying will generate more traction on Capital Hill or persuade the present administration to endorse the concept Similar campaigns have stalled in the past due to opposition from doctors and hospital groups..

Proponents are convinced, however, that this time will be different. Challenges posed by the Covid-19 pandemic have opened the door to innovation in health-care, and the latest effort has found a receptive audience among some lawmaker and numerous providers. The Council of Medical Specialty Society, for instance, has engaged in discussions with leaders of the coalition

Robert Sumwalt, another former NTSB chairman supportive of the general concept and involved in the discussions says, "I am convinced, and others should be convinced, that the current state of medical errors is totally unacceptable."

(information for above was from Andy Pasztor's fine article in the Sept. 4-5th edition of the Wall Street Journal.)

MARCO NETS

Weekly MARCO Medical Grand Rounds Net: Sundays, 14.342 MHz, 1500 UTC (Summer), **1600 UTC** (Winter), net controller Warren KD4GUA.

Weekly DV Net: (Digital Voice), Saturdays at 1500 UTC. We have chosen to use the QuadNet Array, an IRC, or internet Chat Facility that acts like a universal translator between difference digital modes and allows hams who identify by call sign to connect with other users of digital radios world-wide through interconnected reflectors and talk-groups. See their website for more details, including how to connect within the https://www.openquad.net/webpage. Net Controller Jeff AA4FL

Special COVID-19 information Net: Thursdays, 7.222 MHz, 0300 U

MARCO CW NET (The Bob Morgan Memorial Net) Sundays, one-half hour before the Grand Rounds on the Air net at 0930 central time, ckurrently 1530 UTC on 14.140 MHz Net control is Chip N5RTF

Weekly Net Category II CME—on the HF Bands... Our Radio-Internet Coordinator Chip Keister, M.D., N5RTF, New Orleans, LA livestreams our net online. Check into our nets and earn CME ... for times when propagation is poor when you would benefit from audio from anther receiver if you are away from your radio, in a skip zone, or unplugged due to thunderstorms, join the MARCO CW net and Grand Rounds by live internet streaming audio . These are recorded to listen in later to the online archive.

To Listen:

1. Use a browser to go to the following web page which has a player app and links to the audio stream and archive: www.marcoaudio.net.
2. The second way is to manually enter *http:marcoaudio.ddns.net:8011/ stream into a standard music player or computer, phone, or portable device while the net is in progress.*

and

These grandchild *Happy Halloweeners* belong to our treasurer Chuck Lund N8CL....Warren, on the left, and twins Frances & Joseph.

BEST AND WORST MONTHS TO BUY STOCKS

****

The **best** month to **buy** stocks is.....**DECEMBER!** Followed by July, January and April.

The **worst** month to **buy stocks** is.....**SEPTEMBER!** Followed by February, May and October.

The average change each month since 1900 follows:

January up 1%, DOW up 63%
February...down .1%, DOW up 50%
March...up .7%, DOW up 61%
April...up 1.1%, DOW up 55%
May...zero, DOW up 51%
June...up .3%, DOW up 50%
July...up 1.2%, DOW up 62%.
August...up 1%, DOW up 65%
September...down 1.1%, DOW up 42%
October...up .1%DOW up 56%
November...up .9%, DOW up 61%
December...up 1,5%, DOW up 72%

CUT OUT AND SAVE

MULTIPLE SCLEROSIS

As presented on Marco Grand Rounds of the Air, March 21, 2021

Multiple sclerosis (MS) is a potentially disabling disease of the brain and spinal cord. In MS, the immune system attacks the protective sheath (myelin) that covers nerve fibers and causes communication problems between the brain and the rest of the body. Eventually, the disease can cause permanent damage or deterioration of the nerves.

Signs and symptoms of MS vary widely and depend on the amount of nerve damage and which nerves are affected. Some with severe MS may lose the ability to walk while others may experience long periods of remission without any new symptoms.

There is no cure for MS. However, treatments can help speed recovery from attacks, modify the course of the disease and mange symptoms.

Symptoms...may differ greatly froma person to person and over the course of the disease depending on the location of affected nerve fibers. Symptoms often affect movement such as: Numbness or weakness in one or more limbs that typically occurs on one side of the body at a time, or the legs and trunk. Electric-shock sensations that occur with certain neck movements, especially bending the neck forward *((Lhermitte sign).*

Vision problems are also common, including partial or complete loss of vision, usually in one eye at a time, often with pain during eye movement. Prolonged double vision or blurred vision.

MS symptoms that may occur are...slurred speech, fatigue, dizziness, tingling or pain in parts of the body, problems with sexual, bowel and bladder function.

Most people with MS have a relapsing-remitting disease course. They experience periods of new symptoms or relapses that develop over days or weeks and usually improve partially or completely. These relapses ae followed by quiet periods of disease remission that can last months or even years.

Small increase in body temperature can temporarily worsen signs and symptoms of MS, but these aren't considered true disease relapses.

At least 50% of those with relapsing-remitting MS eventually develop a steady progression of symptoms, with or without periods of remission, with 10 to 20 years from disease onset. This is known as **secondary progressive MS**. The worsening of symptoms usually includes problems with mobility and gait. The rate of disease progression varies greatly among people with secondary-progressive MS.

Some people with MS experience a gradual onset and steady progression of signs and symptoms without any relapses, known **as primary-progressive MS.**

Causes of MS is unknown. It's considered an autoimmune disease in which the body's immune system attacks its own tissues,. In the case of MS this immune system malfunction destroys the fatty substance that coats and protects nerve fibers in the brain and spinal cord (myelin).

Myelin can be compared to the insulation coating on electrical wires. When the protective myelin is damaged and the nerve fiber is exposed, the messages that travel along that nerve fiber may be slowed or blocked.

It isn't clear why MS develops in some people and not others. A combination of genetics and environmental factors appears to be responsible.

Risk factors: AGE. MS can occur at any age, but onset usually occurs around 20 and 40 . However, younger and older people can be affected. **Sex.** Women are more than 2 to 3X as likely as men are to have the relapsing-remitting MS. **Family History.** If one of your parents or sibling has had MS, you are at higher risk of developing the disease. **Certain infections.** A variety of viruses have been linked to MS, including Epstein-Barr, the virus that causes infectious mononucleosis. **Race.** White people, particularly those of Northern European background, are at highest risks of developing MS. People of Asian, African or Native American descent have the lowest risk. **Climate.** MS is far more common in counties with temperate climates, including Canada, the northern U.S., New Zealand, southeastern Australia and Europe. **Vitamin D.** Having low levels of vitamin D and low exposure to sunlight is associated with a greater risk of MS. **Certain autoimmune diseases...**You have a slightly higher risk of developing MS if you have other autoimmune disorders such as thyroid disease, pernicious anemia, psoriasis, type 1 diabetes or inflammatory bowel disease. **Smoking.** Smokers who experience an initial event of symptoms that may signal MS are more likely than nonsmokers to develop a second event that confirms relapsing-remitting MS.

Complications: Paralysis, typically in the legs. Problems with bladder, bowel or sexual function. Mental changes, such as forgetfulness or mood swings and depression.

DIAGNOSIS: There are no specific tests for MS. Instead, a diagnosis of multiple sclerosis often rules on ruling out other conditions that might produce similar signs and symptoms. **Blood tests** for specific biomarkers associated with MS. **Spinal tap** fluid may show antibodies that are associated with MS. **MRI** which can reveal areas of MS on your brain and spinal cord. A contrast material may be used. **Evoked potential tests,** which record the electrical signals produced by your nervous system in response to stimuli. An evoked potential test may use visual stimuli or electrical stimuli. In these tests you watch a moving visual pattern, or short electrical impulses are applied to nerves in your legs or arms. Electrodes measure how quickly the information travels down your nerve pathways.

In most people with relapsing-remitting MS, the diagnosis is fairly straightforward and based on a pattern of symptoms consistent with the disease and confirmed by brain imaging scans, such as MRI.

Diagnosis MS can be more difficult in people with unusual symptoms or progressive disease. In these cases, further testing with spinal fluid analysis. Evoked potentials and additional imaging may be needed.

TREATMENT: Corticosteroids, such as oral prednisone and intravenous methylprednisolone are prescribed to reduce nerve inflammation. Side effects may include insomnia, increased blood pressure, increased blood glucose levels, mood swings and fluid retention. **Plasma exchange (plasmapheresis).** The plasma is removed and separated from the blood cells. The blood cells are then mixed with a protein solution (albumin) and put back into your body. Plasma exchange may be used if your symptoms are new, severe and haven't responded to steroids.

Treatments to modify progression. For Primary-progressive MS, ocrelizumab (Ocrevus) is the only approved disease-modifying therapy. Those who receive this treatment are slightly less likely to progress than those who are untreated. For relapsing-remitting MS, several disease-modifying therapies are available.

Much of the immune response associated with MS occurs in the early stages. Aggressive treatment with these meds as early as possible can lower the relapse rate, slow the formation of new lesions, and potentially reduce risk of brain atrophy and disability accumulation.

For relapsing-remitting MS, several disease-modifying therapies ae available.

HOW THE IMMUNE SYSTEM KILLS CANCER CELLS !

Chimeric antigen receptor (CAR) T-cell therapy is a type of immunotherapy that modifies a person with cancer's immune system so it is more effective at finding and destroying cancer cells. A person's immune system is very complex and involves many different types of cells throughout the body. One of these is called a lymphocyte which normally fights infection. There are several types of lymphocytes, one of which is called a T-cell. T-cells are normally responsible for killing cancerous cells and cells infected by a virus, which is why they are used in CAR T-cell therapy. **Cancer cells are known to hide from the normal immune system, but through CAR T-cells, scientists are able to make T-cells better equipped to find and kill some cancer cells—in other words man is enhancing his own T-cells.**

CAR T-cell therapy makes T cells focus their attention toward a substance the body thinks is harmful called an **antigen**, which is found on the surface of specific cancer cells. In the manufacturing of CAR T cells, a protein is added to the T cell's surface to help them achieve this focus. This protein is called a **chimeric antigen receptor, or CAR**. This CAR protein is actually made up of 3 other proteins: 1 protein that recognizes antigens on the cancer and 2 proteins that signal the T cell to activate when that first protein attaches to an antigen on the cancer. When a T cell has a CAR added to it, it is called a CAR T cell. CAR T cells work by floating around the body and looking for cells that carry the antigen programmed into the CAR protein, like certain cancer cells.

When a CAR T cell comes in contact with an antigen on a cancer cell it *activates*. Activated CAR T cells multiply and signal to other parts of the immune system to come to the site of the cancer. These signaling proteins are called **cytokines.** All of these cytokines and activated T cells then cause significant inflammation focused at the cancer which causes the cancer cell to die. If all of the cancer cells die, the cancer can become in remission, which means the cancer has disappeared either temporarily or permanently.

First a person with cancer must be referred to a specialized center for this type of therapy. Then their T cells need to be collected. Often this means the collection of a person's T cells needs to be done during a pause in chemo treatment.

Once a certain amount of time passes without treatment, the T cells are collected through a process called **apheresis**. During apheresis, the person's blood is circulated through a machine that filters out T cells and gives the rest of the blood back to the person. These cells are then sent to a manufacturer to be created into CAR T cells , which typically takes about 3 to 6 weeks. During manufacturing, the person's normal T cells are activated, multiplied, and infected with a virus which results in genetic modification that adds the CAR to the T cell. The CAR T cells are then frozen and shipped back to the person with cancer's doctor. While waiting for manufacturing to be complete, the person's regular cancer treatment can resume.

What you are reading is
Difficult to comprehend but very worthwhile.....

Before the doctor infuses the CAR T cells into the person with cancer, a short course of chemotherapy called lympodepletion is given over 2 to 3 days so the normal immune system does not think the CAR T-cells are abnormal and reject them. Then, the CAR T cells are taken out of the freezer, thawed, and infused through the blood, much like a blood transfusion. **This is when the CAR T- cells start their activity**. They circulate around the body finding cancer cells, activating, multiplying, using cytokines to call in backup, and killing the cancer.

Too much activation of the immune system, which is **called cytokine release syndrome (CRS)** can be very harmful. CRS is typically seen within a few days to 2 weeks after CAR T-cell infusion and stops within days to weeks. Some only experience a high-grade fever, some have low blood pressure and low oxygen levels and others need an intensive care unit. However, doctors have become much better at controlling CRS, so being admitted to the ICU after CAR T-cell therapy is not as common.

(Continued on Page 10)

PRESIDENT'S COLUMN:

Bruce Small, M.D. KM2L

Greetings Marconians! *(typing that phrase makes me wonder whether we should adopt Marconi as an emeritus member. I suspect that he would not object).*

Q. A ham friend (WB6OJB) asked me about his new pacemaker-defibrillator inserted. They told him he should not be around a transmitter. He wants to know if it would be safe to operate 100 watts on his rig or does he have to give up ham radio. I don't know any ham with a pacemaker so I'm asking around. Does anyone know of a ham with a pacemaker and does he/she have to take any precautions?

A. (Bruce KM2L) It is recommended that you carry and use your cell phone on the side opposite the pacemaker implant . The recommended distance from the antenna connected to a 100 watt ham radio (or other) transmitter is 6 feet or greater. For a KW transmitter it is 30 feet or more.

It is a widely held belief that cardiac pacemakers may be adversely affected in their function by exposure to electromagnetic fields. Amateurs with pacemakers may ask whether their operating might endanger themselves or visitors to their shacks who have a pacemaker. Because of this and similar concerns regarding other sources of electrometric fields, pacemaker manufacturers apply design methods that for the most part shield the pacemaker circuitry from even relatively high EM field strengths.

One study examined the function of a modern (dual chamber) pacemaker in and around an amateur radio station. The pacemaker generator has circuits that receive and process electrical signals produced by the heart and also generates electrical signals that stimulate (pace) the heart. In one series of experiments the pacemaker was connected to a heart stimulator. The system was placed on top of the cabinet of a 1 kW HF linear amplifier during SSB and CW operation. In addition the system was placed in close proximity to several 1 to5 W 2-meter hand-held transceivers. The test pacemaker connected to the heart stimulator was also placed on the ground 9 meters below and 5 meters in front of a three-element Yagi HF antenna. No interference with pacemaker function was observed in this experimental system.

CAR-T THERAPY (Continued from page 9)

A drug called **tociluzumab**, which turns off an important cytokine called **IL-6**, has improved care for CRS. However CRS is still a risk of CAR T-cell therapy

Sometimes during CAR T-cell therapy, the cytokines can also affect the brain, causing a symptom called **immune effector cell-associated neurotoxicity syndrome (ICANS)**. This has a range of symptoms including mild to severe confusion, shaking, or more rarely, seizures. It can also create memory loss. ICANS is almost always associated with CRS and typically occurs later than CRS., usually within 1 to 4 weeks after CAR T-cell infusion. These are basically caused by the body trying to get rid of 2-7 lbs. of dead cancer cells and is basically a symptom that the procedure is actually working.

After about 2 to 4 weeks following a CAR T-cell infusion, the person with cancer is typically 'out of the woods" for more severe complications. However they must still stay near the treatment center for close observation for a period of time as required. After about 3 months, the doctor will check to see if the CAR T cells worked.

It's important to note that CAR T cells kill all cells against which they are directed, including normal cells. This usually results in a weak immune system for several months following treatment. This may lead to rare types of infections usually seen in people with severe immunodeficiency. A person receiving CAR T-cell therapy must be particularly cautious in this stage of recovery and report a fever or other symptoms to their doctor.

Approvals around CAR T-cell therapy are rapidly changing. The types of cancer that are currently treated using CAR T-cell therapy are: **diffuse large B-cell lymphoma, follicular lymphoma, mantle cell lymphoma, multiple myeloma, and b-cell acute lymphoblastic leukemia.**

Given the serious side effects around CRS and ICANS, all of these approval by the FDA are for people whose cancer has returned after receiving at least 1 previous type of therapy.

(This above is relatively new and should require reading twice.)

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Dutch St. Marten

MARCO members are planning a vacation-style DXPeditionDXCation, the week after the Dayton/Xenia, HamVention May 24-31, 2022 to the Caribbean. This trip is designed for Marco members and their spouses (or friends). Plans are currently underway and we are trying to gauge member interest.

For the week of May 24-31, 2022, trip participants will fly into Dutch St. Maarten. There, we will have a beautiful villa and equip it for ham radio operating. The French Saint Martin (north) side of the island is only a short drive away and could provide a second DXCC entity to light up. Depending on participant interest, rental of a French side villa or hotel on either side of the island could be arranged. CQ WPX CW is the weekend of May 27th and we will enter a multi-op entry if you would like to participate.

****

CME RANKINGS AS OF NOV. 22, 2021
BOB CURRIER GRAND ROUNDS OF THE AIR
14.342 MHz, 11 AM Eastern; One hour Cat/ II CME

Call	HRS	Name	QTH
KD4GUA	39	Warren	Largo, Fl.
KC9CS	39	Bill	Seminole, FL
N4TSC	38	Jerry	Boca Raton, FL
K6JW	36	Jeff	Palos Verges, CA
KM2L	35	Bruce	Clarence, N.Y.
KK1Y	35	Art	Seminole, FL.
KNOS	35	Dave	Virginia
WB1FFI	32	Barry	Syracuse, N.Y.
KD5BQK	32	Bernie	El Paso, Texas
N2OJD	32	Mark	Sydney, Ohio
N5AN	32	Bud	Lafayette, LA
N6DMV	32	Paul	Torrance, CA.
NU4DO	32	Norm	Largo, FL.
W1RDJ	32	Doug	Cape Cod. Mass.
KD5BQK	31	Linda	El Paso, Texas
N3IM	29	Keith	Millhouse, PA
WA3QWA	28	Marc	Chesapeake, VA
WB9EDP	28	Harry	Batavia, IL
N8CL	28	Chuck	Buffalo, N.Y.
KE5SZA	27	John	Marietta, OK.
W5EXA	26	Mark	Cape Cod, Mass
KC9ARP	25	Michaline	Batavia, IL
WB6OJB	25	Arnold	Pac.Pal. CA.
KE8GA	25	George	North Carolina
KEOPIE	24	Trina	Boulder, CO.
N4MKT	24	Larry	The Villages, FL.
N9GJ	23	Greg	Wisconsin
N5RTF	23	Chip	New Orleans, LA.
W4DAN	21	Danny	Cleveland, TN.
W6NJY	21	Art	Beverly Hills, CA.
KD4IZ	18	Jack	Maryland
N3OMD	17	Tom	Buffalo, N.Y.
W8LJZ	17	Jim	Detroit, MI
KD4MD	17	Carol	USA
N9RIV	16	Bill	Danvile, IL.
W4EMB	14	Asef	North Carolina
W6GZ	12	Bill	Hysteria, CA.
K3IRY	11	Roy	Bedford, Mass.
WW9F	10	Jeff	Chicago, IL.
AA1N	10	Gonzo	Maryland
NM2K	9	Dianne	New York
AA4FL	7	Jay	Hawthorne, FL.
KS4CSQ	5	Ralph	Alabama
N9GOC	5	Pat	Wisconsin
AA4BX	3	Mary	South Carolina

AN INIGMA INSIDE A MYSTERY— "IRRITABLE BOWEL SYNDROME"

As presented on MARCO Grand Rounds

Irritable bowel syndrome (IBS), although common, is not completely understood and is often unrecognized and underdiagnosed. Patients may not accept the diagnosis, believing that IBS is a label that connotes a psychological disorder or implies that a cause for their distress has not yet been found. Doctors may hesitate to share the diagnosis for the same reasons or, believing IBS to be a diagnosis of exclusion, may be reluctant to make the diagnosis without exhaustive testing.

Most individuals with IBS have relatively mild or intermittent symptoms and can be treated with reassurance, education, dietary advice, and the occasional use of medications.

The current understanding of the Pathophysiology of IBS and its relationship to psychological concern. IBS is a *heterogeneous* group of conditions that is best understood in the context of the biopsychosocial model. Several different biological and cellular abnormalities may cause similar disturbances in gut-brain modulation, especially in susceptible individuals, resulting in pain and abnormal stool patterns. Other functional gastrointestinal discords and chronic pain syndromes, including fibromyalgia, fatigue, or chronic pelvic pain, often coexist with IBS. Many with IBS may also have co-existing anxiety or depressed mood, a history of adverse life events, or psychosocial stressors. Although stress may alter colonic motility and sensation, psychological factors may be the result of, rather than the cause of IBS symptoms.

Suggested approaches for effective doctor-patient interactions: The doctor should express empathy; acknowledge that the patients symptoms are real and should NOT assume *there is nothing wrong with you!* Ask about triggers, what the patient thinks is causing his symptoms—eating? Avoid using judgmental statements like *I am not sure I can help you since you have been to so many doctors already.* Although abnormal findings are rare, with the exception of abdominal tenderness, perform a physical exam and perform routine tests for assurance. Suggest the patient keep a daily diary of symptoms for one month and then arrange to have a meeting to discus the findings.

Diagnostic criteria: Recurrent abdominal pain, with onset more than 6 months earlier, occurring on average at least 1 day per week in the past 3 months and associated with 2 or more of the following; Relation to defecation. Change in frequency of stool, Change in the form or appearance of stool. Abnormal stool frequency more than 3 X per day or less than 3 times per week. Abnormal stool form (loose and watery or lumpy and hard), abnormal stool passage, passage of mucus, bloating, blood and abdominal distention,

Subtypes of IBS: IBS with predominant diarrhea, IBS with predominant constipation.

Evidence summary: Several triggers have been identified, such as immune activation following gastroenteritis, altered permeability of the bowel wall caused by certain foods, or alterations of gut microflora caused by medicines. Over time, sensory nerves from the gut to the brain and regulatory efferent nerves from the brain to the gut are activated, leading to heightened peripheral and central pain perception and altered bowel motility, transit and function.

Many with IBS and other *functional* G.I. disorders have coexisting psychological factors. These may predispose to IBS, precipitate IBS, or perpetuate symptoms.

Patients with IBS typically have chronic recurring abdominal pain associated with disordered bowel movements, as well as abdominal bloating or distention. They may exhibit urgency or excessive straining , a sense of incomplete evacuation, or mucus with stools. They typically do **NOT** have nocturnal stools. Symptoms may vary at different times

Among patients with functional GI discords, about 45% improve after several years, whereas 30% develop new symtpms and 25% have no change in symptoms.

What are the current recommendations for testing in those presumed to have IBS? Diarrhea or mixed symptoms: CBC, celiac serology, ***C-reactive protein***, & testing for giardiasis. Consider stool exam over one 48 hour period, consider colonoscopy and referring. Constipation or mixed symptoms: Rectal exam, TSH testing, calcium testing.

Management: Diarrhea predominant: Healthy eating, fiber, probiotics, Imodium, dietitian guidance. Constipation predominant: Exercise, fiber, Miralax, Dulcolax, senna. Pain predominant: Exercise, healthy eating, peppermint oil. Tricyclic antidepressants, SSRIs, cognitive behavior therapy.

IBS can be confusing or illogical to patients. Fears about cancer or missed diagnoses are common but often unspoken. Patients sometimes are concerned that altered bowel habits may cause irreparable harm or transform into more serious illness. Patients often perceive that doctors disregard or only superficially acknowledge their concerns.

Before testing, the physician should inquire about medications and substance the patient is using that may cause IBS-like symptoms. Use of metformin magnesium-containing antacids, artificial sweeteners and antibiotics and excess use of alcohol are common and may cause loose stools. Opioids, calcium cannel blockers, Benadryl and over the counter meds with anticholinergic effects may cause constipation.

What is the most appropriate initial treatment fo IBS. Reassurance and advice Interventions should focus on the most troublesome symptoms or their triggers on improving quality of life. In some trials, as many as 50% receiving only placebo reported adequate symptom relief. Eliminating certain foods has limited success because true food intolerance is rare. Gluten-free diets should be instituted only for clear indications. Soluble fiber (Metamucil) may help but insoluble fiber (Fibercon, Citrucel) may increase pain or bloating. Probiotics may have a favorable effect on the intestinal microbiome and improve bloating, flatulence, and pain, but the overall level of evidence is very low. Osmotic laxatives for constipation or antidiarrheal for diarrhea my improve stool frequency. Zofran can be used to decrease urgency .

Tricyclic antidepressants and selective serotonin reuptake inhibitors, which can be described as gut brain modulators, also help relieve pain.

Those not responding should be turned over to a specialist.

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MARCO ANNUAL MEETING

Hamvention 2022, Xenia, Ohio, May 19-22nd

Hotel: Wingate by Wyndham
3055 Presidential Drive, Fairborn, Ohio 45324
(917) 912 9350.

Thursday Night, May 22 arrival, meet and greet.
Friday morning business meeting at hotel. Afternoon HamVention.
Saturday all day, Hamvention. Saturday Nite: MARCO Banquet.
Sunday Hamvention, depart on DXpedition (optional)

Hotel Rates: $129 per night plus tax, reserve y 4/27/2022.

Year	CHECK-INS	AVERAGE PER SUNDAY
1998	694	14.46
1999	766 SUNDAY NETS	15.85
2000	1,035	20.29
2001	1153	22.60
2002	1383	26.15
2003	1489	28.63
2004	1534	29.50
2005	1517	29.17
2006	1531 (one extra Sunday)	28.89
2007	1591 (one extra Sunday)	30.02
2008	1524 (Only 46 nets) 33.14	
2009	1533 (46 nets)	33.32
2010	1591 (44 nets)	36.22
2011	1514 (44 nets)	34.41
2012	1602 (44 nets)	36.41
2013*	1400 (44 nets) (New Freq)	31.82 2014(Year of Terror-
ist) 1756 (47 nets	37.36	
2015	1722 (49 nets)	35.14
2016	1687 (46 nets)	36.67
2017	1536 (46 nets)	34.13
2018	1500 (43 nets)	34.88
2019	1786 (49 nets)	35.90
2020	2187 (45 nets)	48.60
2021	1893 (44 nets)	43.02 (44nets

NEW FACES* for MARCO & RENEWALS, as of NOV. 22, 2021

NEW MEMBERS*

RENEWALS

NOT AVAILABLE AT PRESS TIME

THE MARCO NEWS-LETTER (*AETHER)* is now alternately printed or via internet every other month. Look for it……..

In this form it gives more variety, is more economical and appears to please the most members.

NO RADIO, NO ANTENNA?
Keep in touch with MARCO on "*listserve*" E-Mail your request to join to BruceSmall73@gmail. Com If on the list simply contact marco-ltd@googlegroups.com

And/or

Tune in to Marco Grand Rounds on your computer: www.reliastream.com/cast/start/tkeister

MEDICAL AMATEUR RADIO COUNCIL, LTD.,
New Membership Application & Renewal form

Best method process application online
http://marco.ltd.org/join-marco-amateur-radio/

Once you fill out the online form it will be reviewed by the membership committee. Upon approval you will be invoiced by email with a link to pay online through PayPal. If you desire to pay by check mail the application to address below and we will invoice you.
Check your preference:

One year membership $25 (USD); prorated to year end.

Two year membership $45 (USD); prorated, (*the default billing for renewal).*

5 year membership $100 (USD); prorated.

*Name:*_____
Address:
_____
_____

*Call Sign*_____ *Type License:*_____
*Phone:*_____
*Internet Address:*_____
*Your Birthday*_____ **(Year optional.)**
*Member ARRL*__

Applications for membership should be sent to
Jay Garlitz, Secretary,
P.O. Box 1333
Hawthorne, Fl., 32640, U.S.A.

WHY NOT SEND A HAM FRIEND A MEMBERSHIP IN MARCO,

Web Site: http://www.marco-ltd.org

MARCO Grand Rounds is held every Sunday at 11 a.m. Eastern Time, 10 a.m. Central, 9 a.m. Mountain and 8 a.m., Pacific Coast time on 14.342. You qualify for one hour credit, Category II CME with your check-in.

MARCO NET SCHEDULE

DAY	EASTERN TIME	FREQ.	NET CONTROLS
Any Day	On the Hour	14.342	Hailing Frequency
Sunday	10:30 a.m.	14.140	N5RTF (CW-net)
Sunday	11 a.m.	14.342	KD4GUA
Wednesday	8:30 p.m.	7.22	N4TSC

MARCO'S **"AETHER"**

MEDICAL AMATEUR RADIO COUNCIL, LTD.,
P.O. Box 127, Indian Rocks Beach, FL., 33785
(Send dues to Sec. Jay Garlitz, 6308 Kings Gate Circle, Delray Beach, FL 33484)

132nd
Edition

December 2021

Your Renewal Date
Is January 1 of each year