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(55th year), Edition # 128 Since Year 2000, April 2021

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VITAMIN D—HELPFUL OR HARMFUL?

92% OF PEOPLE IN THE U.S. CONSUME LESS THAN RECOMMENDED AMOUNTS OF VITAMIN D DAILY RESULTING IN SOFT BONES AND OSTEOPOROSIS.

Vitamin D, also referred to as "calciferol" is a fat-soluble vitamin that is necessary for building and manufacturing healthy bones. That's because calcium the primary component of bone can only be absorbed by your body when Vitamin D is present. Your body makes Vitamin D when direct sunlight (UVB) converts a chemical in your skin into an active form of the vitamin (calciferol.)

Vitamin D isn't found in many foods but you can get it in fortified milk, fortified cereal and fatty fish such as Salmon, mackerel and sardines.

Vitamin D obtained by sun exposure, foods, and supplements is biologically inert and must undergo two hydroxylations in the body for activation. The first hydroxylation which occurs in the liver converts vitamin D to 25-hydroxymitamin D (25(OH)D), also known as "calcidiol." The second hydroxylation occurs primarily in the kidney and forms the physiologically active 1.25-dihydroxymitamin D (1.25(OH)2D) also known as Calcitriol forms of physiological active XX known as calcitriol.

The amount of Vitamin D your skin makes depends on many factors, including the time of day, season, latitude, and your skin pigmentation. Depending on where you live and lifestyle, vitamin D production might decrease or be completely absent during the winter months. Sunscreen, while important, can also decrease Vitamin D production.

In foods and dietary supplements, Vitamin D has two major forms, D2 (ergocalciferol) and D3 (cholecalciferol), that differ chemically only in their side chain structure. Both forms are well absorbed in the small intestine.

Many older adults don't get regular exposure to sunlight and have trouble absorbing vitamin D, so taking a mutlti-vitamin with vitamin D will likely improve bone health. The recommended daily amount is 400 I.U. (*International Units*) in children up to age 12 months, 600 I.U., to 1-70 years and 80 I.U. for those over 70.

Serum concentration of 25 ("OH") D is currently the main indicator of Vitamin D status. It reflects vitamin D produced endogenously and that obtained from food and supplement. In serum, 25(OH) D has a fairly long circulation half life of 15 days. Serum concentration of 25 (OH) D are reported in both nanomoles per liter and nano grams per milliliter. In contrast to 25 (OH) D, circulating 1.25(OH) 2D is generally is not a good indicator of vitamin D status because it has a short half life measured in hours and serum levels are tightly regulated by parathyroid hormone, calcium, and phosphate levels.

The main symptoms of vitamin D toxicity results from hypercalcaemia, anorexia, nausea and vomiting often followed by polyuria, polydipsia, weakness, itching and eventually renal failure. Proteinuria, urinary



It has been suggested that about 5-30 minutes of sun exposure between 10 am and 4 pm daily or twice a week without sun screen, leads to sufficient Vitamin D synthesis. Moderate use at tanning beds that emit 2%-6% UVB radiation is also effective.

LATE BREAKING NEWS

2021 marks the 55th Anniversary of MARCO. The first meeting of Marco was held at the Chalfonte-Haddon Hall Hotel in Atlantic City, NJ on June 22, 1967 with Dr. Charles Gray WA1FMY, presiding. All the founding fathers are now Silent Keys, but their legacy lingers on.

Active members in 2000 included: Eugene & Judy Hoenig, Ian Kellman, Keith Adams, Jeff Wolf, Chuck Lind, Jim Patterson, Warren Brown, Bruce Small, Chip Keister, Arnold Kalan, Mary Favaro, Al Breland, Paul Lukas, Roger, Higley, Danny Centers, Bill Otten, Greg Johnson, Richard Doncaster, Doug Sanders, Rick Zabrodski, Louis Lyle, Ira Wexler, Carl Wertz , Harry Przekop, Bernie & Linda Krasowski, Bill Hargadon, Bob Conder Jr....(*miss any?*) (*More on page 10.*)

Membership at that time numbered 145—today's listing includes about 235 members. Physicians, dentists, para-medics, nurses and yes, even patients are included in the roster. It has always been the feeling that quality not quantity is the secret to success.

We have met some unforgettable characters in our history...we have tolerated each other miraculously and managed to *keep the ship moving* as the late Robin Staebler suggested.

Ham radio has verified that we are social beings with just another wonderful shoulder to lean on—how often have we realized that when the XYL was on the warpath one could revert to QRZ??

MARCO NET SCHEDULE

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.

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

FREQ.	NET CONTROLS
14.342	Hailing Frequency
14.140	CW Net, Chip, N5RTF
14.342	Warren, KD4GUA
7.22	Harry, WB9EDP

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

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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.

casts, azotemia and metastatic calcifications particularly in the kidneys can develop. Treatment consists of discontinuing Vit. D, restricting dietary calcium (which inhibits bone resorption) restoring intravascular volume deficits and if toxicity is severe, giving steroids or bisphosphonates. Doses of Vitamin D in excess of 100,000 units daily over several months can produce toxicity.

Evidence: Research on Vitamin D use for specific conditions shows: **Cancer...**Research suggests that Vitamin D especially when taken with calcium, might help prevent certain cancers. **Cognitive health....MIGHT help.** **Inherited disorders....**May help in familial hypophosphatemia. **Multiple sclerosis....**reduces the risk of MS. **Osteomalacia...**Vitamin D supplements are used to treat adults with severe vitamin D deficiency, resulting in loss of bone mineral content, bone pain, muscle weakness and soft bones. **Psoriasis...**Applying vitamin D or a topical preparation that contains a vitamin D compound called **calcipotriene** to the skin can treat plaque type psoriasis in some people. **Rickets...**This rare condition develops in children with vitamin D deficiency. Supplementing with vitamin D can prevent and treat the problem.

Without vitamin D your bones can become soft, thin, and brittle. Insufficient vitamin D is also connected to osteoporosis and some types of cancer. If you don't get enough vitamin D through sunlight or dietary sources, you might need vitamin D. supplements.

Taken in appropriate doses, vitamin D is generally considered safe. However, taking too much vitamin D can be harmful and results in nausea, vomiting, poor appetite constipation, weakness, confusion, disorientation, heart rhythm problems & kidney damage as mentioned.

Interactions...Aluminum—Taking Vitamin D and aluminum containing phosphate binders long term might cause harmful levels of aluminum in people with kidney failure. **Anticonvulsants**—the anticonvulsants phenobarbital and Dilantin increases the breakdown of vitamin D and reduces calcium absorption. **Lipitor**—taking Vitamin D might affect the way your body processes this cholesterol drug. **Dovonex**—Don't take Vitamin D with this psoriasis drug. The combination might increase the risk of too much calcium in the blood. **Lanoxin**—High doses of Vitamin D can cause hypercalcemia which increases the risk of fetal heart problems with digoxin. **Cardizem** (Diltiazem), **Tiazac**—Avoid taking high doses of Vitamin D with this blood pressure drug. High doses of Vitamin D can cause hypercalcemia which might reduce the drug's effectiveness. **Thiazide diuretics**—may lead to hypercalcemia. **Steroids**—taking steroid can reduce calcium absorption and impair your body's processing of Vitamin D.

Q. Does taking excess Vitamin D cause calcium deposition in one's arteries? A. Experts say NO! However, this is a debatable subject.

Q. Why are the elderly deficient in Vitamin D?

Q. A. Vitamin D deficiency is prevalent because of many being housebound, institutionalized, or hospitalized including undernourishment or have had a hip fracture.

Q. What is the treatment for Vitamin D deficiency? A. As long as Ca and P intake is adequate, adults with osteomalacia and children with uncomplicated rickets can be cured by giving Vitamin D 40 micrograms (1600 IU) po once daily. After a month the dose can be reduced gradually to the usual maintenance level of 400 IU once/daily. If tetany is present, Vitamin D. should be supplemented with I.V. Ca salts for up to 1 week. Heredity Type I Vitamin D dependent rickets responds to 1.25 (OH)2D 1 to 2 micrograms po once daily.

Q. What is normal Vitamin D levels A. 20-50 Nannograms of 25(OH) viamin D. Deficient levels are less than 12 but below 30 is inadequate.



Picture Halls, Pool Rooms and other places of amusement, and Lodge meetings, are to be closed until further notice.

All public gatherings consisting of ten or more are prohibited.

D. W. SUTHERLAND,
 Kelowna, B.C.,
 19th October, 1918.
Mayor.
DE' JE VU

MAJOR PANDEMICS IN HISTORY

Yellow Fever outbreak (1793)...5,000 deaths in Philadelphia out of a population of 28,500.

Typhoid Fever outbreak (1906-1907)...10,771 deaths, mostly in New York.

Spanish Flu pandemic (1918-1920)...675,000 deaths out of a U.S. population of 103 million. (50 million deaths worldwide.)

Diphtheria outbreak (1921-1925)...206,000 Americans stricken, 15,520 deaths.

Polio epidemic (1916-1955)...57,628 Americans stricken; 3,145 deaths.

Asian Flu pandemic (1957-1958)...116,000 American deaths out of a population of 171 million.

H3N2 pandemic (1968)...100,000 American deaths out of a population of 200 million.

H1N1 Swine flu pandemic (2009-2010)...Up to 18,306 American deaths out of a population of 306 million.

2018-2019 Influenza-A season...Up to 52,664 American deaths out of a population of 326 million.

2019-2020 Influenza-A season (Oct. 2019-March 2020)...55 million stricken out of a population of 328 million.)

COVID-19 pandemic (Dec. 2019-present)...29 million Americans stricken, 544,253 deaths through Feb. 28, 2021 & a population of 328.2 million.

WHAT IS A VIRUS ?

A virus is a small infectious agent (*the word "virus" in Latin means "poison"*) that replicates only inside the living cells of other organisms. They are considered by some to be a life form, because they carry genetic material, reproduce, and evolve through natural selection. However, they lack key characteristics (such as cell structure) that are generally considered necessary to count as life. Because they possess some but not all such qualities, viruses have been described as *"organisms at the edge of life."* Some consider them the building blocks of life but not life itself.

History...Louis Pasteur was unable to find a causative agent for rabies and speculated about a pathogen too small to be detected using a microscope. In 1884, the French biologist Charles Chamberland invented a filter with pores smaller than bacteria. Thus, he could pass a solution containing bacteria through the filter and completely remove them from the solution. In 1892, the Russian, Dmitri Ivanovsky used this filter to study what is now known as the tobacco mosaic virus. His experiments showed that crushed leaf extracts from infected tobacco plants remain infectious after filtration. In 1898, the Dutchman Marinus Beijerinck became convinced that the filtered solution contained a new form of infectious agent.

The first images of viruses were obtained upon the invention of electron microscope in 1931 by the Germans Ernst Ruska and Max Knoll.

Even today, we don't know if a virus is a living thing or just an active thing. (*Viva la difference!*)

UNDERSTANDING VIRUSES

The H1N1 flu caused the epidemics of 1918 and 2009. It was termed *"the swine virus."* Recently, a case of H1N1 virus infection was discovered on one of the alien children on our border with Mexico. Needless to say this one hits people.

The H9N2 influenza virus kills chickens primarily while the H5N1 virus kills birds. The H9N2 virus reported recently in China does not make birds sick but uses them as a reservoir transmitting them to chickens, turkeys, and then to man. Some studies suggest the new bird flu is jumping directly to people from poultry at live bird markets.

One reason Asians don't shake hands when meeting, just bow politely is because of the possibility of spreading bird flu to man. Washing the hands with soap and water for 20 seconds is becoming routine.

Native American populations were devastated by contagious diseases in particular, small pox, brought to the Americas by European colonists. It is estimated that 70% of Native Americans were killed by foreign diseases after the arrival of Columbus in 1492.

Viruses that cause cancer (*oncoviruses*) include human papilloma-virus, hepatitis B and C virus, Epstein-Barr virus, Kaposi's sarcoma-associated herpesvirus and human T-lymphotropic virus along with Merkel cell virus a rather rare form of skin malignancy.

Progress continues...The historic announcement by Novartis Pharmaceuticals announcing the use of gene therapy (CAR-T therapy, Kymriah) for cancer in 2017 continues to show progress.... "We're entering a new frontier in medical innovation with the ability to reprogram a patient's own cells to attack a deadly cancer," said FDA Commissioner Scott Gottlieb, M.D. "New technologies such as gene and cell therapies hold out the potential to transform medicine and create an inflection point in our ability to treat and even cure many intractable illnesses. At the FDA, we're committed to helping expedite the development and review of groundbreaking treatments that have the potential to be life-saving."

The therapy is approved for patients up to 25 years for ages with B-cell precursor ALL that is refractory or in second or later relapse. Each dose is a personalized treatment using the patients' T-cells. After being collected the T-cells are genetically modified to include a new gene that contains a specific protein that directs the T-cells to target and kill the leukemia cells that have a specific antigen on the surface. Once modified, the cells are infused back into the patient to kill the cancer cells.

The treatment has an overall remission rate of 83% within three-months of treatment. "Kymriah (tisagenlecleucel) is a first-of-its-kind treatment approach that fills an important unmet need for chil-

3

WHAT IS AN "EXOSOME?"

(Excerpts from Philip W. Askenase's fine article in Scientific American, Aug. 2020)

Exosomes were a sensational biological discovery eight years ago, another way cells communicate with each other carried in minute lipid sacs—among the smallest of biological particles and are called *nanovesicles*—they are produced and then secreted by all cell types in all animal species. Bacteria produce very similar *Nanovesicles* (not hormones!).

Exosomes are present in all body fluids and seem to be involved in nearly all biological processes. The main function is to enter cells, either nearby in the tissues or systemically after transiting through the blood stream, to deliver the genetic information that they carry.

In particular, exosomes transfer microRNAs (miRNAs) small ribonucleotide polymers of about 22 bases. The extracellular miRNAs carried by exosomes can lead to alterations of DNA in the nuclei of targeted acceptor cells.

The modifications to cellular DNA, in turn, alters the production of proteins and therefore, changes cell function. Exosomes are unanticipated universal nanoparticles that can mediate previously undiscovered biological processes and alter molecular and metabolic pathways of cells and whole organisms. These universal nanoparticles of life are likely to be of great medical importance. They might give researchers a better understanding of disease .

lead to new diagnostic tests and most importantly, provide a means to deliver new therapies.

Unfortunately, engineers have fixed on a different avenue: the development of artificial nanoparticles that imitate the functions of natural exosomes for drug and small RNA delivery. Compared with naturally occurring exosomes, which have evolved an optimal composition over billions of years, engineered nanoparticles have a number of downsides. Unlike exosomes—which can cross natural tissue barrier such as the blood—brain barrier, can have effects for four to five days after administration and can enter the bloodstream—artificial nanoparticles cannot cross such barriers and are rapidly eliminated by mechanisms that detect foreign entities. Natural exosomes in the blood avoid physiological clearance mechanisms, but engineered nanoparticles are taken up and destroyed.

Exosome membranes are composed of unusual proportions of lipids that give them a high surface viscosity and rigidity. This aids their survival in harsh conditions that normally kills cells. Such properties might be derived from the ancient origins of exosomes antecedent vesicles in noxious primordial seas near the beginning of biological evolution—even before the development of bacteria.

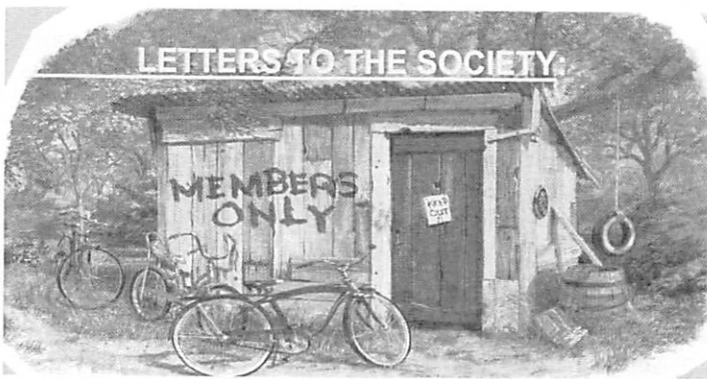
Exosomes' remarkable resistance to harsh conditions, such as the acidic and digestive-enzyme-rich environment of the stomach, means that they could be given orally as therapeutics.

Their stability and resilience are only part of what makes exosomes a natural choice for delivering genetic and anti-inflammatory molecule therapies, both locally and systemically. They also lend themselves to therapeutic use in other ways. It is likely that exosomes can be isolated from healthy individuals, and that a biologically active subpopulation can easily be enriched by a purification methods called antigen or antibody affinity chromatography to promote therapy. Exosomes can also, in some cases, be used across species, without concern for immunological or genetic incompatibility, because miRNAs are often universal. Exosomes from plants might even have some medical use. And because exosomes do not contain full-length DNA, they are unlikely to cause cancer.

Exosomes also have an advantage over artificial drug carriers when it comes to targeting. Exosomes could be used both to battle pathogens and to facilitate gene therapies for a variety of disorders.

Research indicates that exosomes might be effective therapies for diseases such as cancer, multiple sclerosis, rheumatoid arthritis, spinal-cord injury, myocardial infarction and lung fibrosis. Furthermore, investigations have begun into the use of exosome therapy for neurological conditions such as Alzheimer's disease, Parkinson's disease and even autism spectrum disorder. However, much more work is needed before RNA-carrying exosomes can fulfil their therapeutic potential. Now is the time for researchers to usher in a new era of therapeutic possibilities using RNA-delivering, natural exosome vesicles.





From Gail Piccirilli, Pittsford, NY...I am writing on behalf of my father Alexander Piccirilli NV2Y. First and foremost, he really enjoys your pamphlet and has subscribed until 1/2028 (one month before his 100th birthday). My father recently moved and he is no longer receiving your Marco's Aether publication. The last issue he received was #122, April 2020. Also, would it be possible to obtain any back issues as he has not received any from May-Nov. 2020? *A. Apparently Alex got caught in our turn-over to internet Aether every other issue. The one's he has missed have been sent by regular mail and our secretary has been requested to resend, if we have his internet address, so he can read those two issues he has apparently missed.*

Dennis Belles, WA7DRO writes to QST, "Many of the older armatures remember about the tail end of Sunspot Cycle 19, which occurred 55 years ago. In 1965, at the end of Cycle 19, with a decent beam antenna on a tower and a bit of power, every country in the world was easily within reach. Even as teenagers we heard stories about 1958 when Cycle 19 was at its peak. Talking to Japan on 10 meters using only 10 Watts AM and a 16-foot dipole antenna was like talking on an intercom. The maximum sun spot number observed during Cycle 19 was 285 in March 1958. Research predicts there's a new 11 year sunspot cycle, which could be one of the strongest on record. If this proves correct, Sunspot Cycle 25, would bring tears to the eyes of many Quarter Century Wireless members. For more information on Sunspot Cycle 24, visit www.sciencedaily.com/releases/2020/12/20/1207142308.htm"

Another letter to QST from Jeff Rossio N5EQ..."In December, there was news of the US government falling victim to serious and consequential computer hacking. Part of this was attributed to foreign adversaries of the US. This included disruptions of power grids, cell phone systems, the internet, as well as others. This in addition to the obvious threats to national security through possible control of, offensive and defensive systems run by the government. If the cell phone system is down and internet communication is disrupted, amateur radio can be utilized as a backup. I've been a ham for over 40 years and have often heard that ham radio is in danger of disappearing due to new technologies like cell phones and the internet. Now we may become the best hope to keep America running should a national breach occur. As hams, we should pay more attention to maintaining emergency networks, signing up new ARRL members and training existing members.

ANTIMATTER is a form of matter in which the properties of a particle are the opposite of those of its counterpart. The most common example of antimatter is the antiparticle or antielectron, better known as the positron. This particle has the same mass as an electron, but the opposite electrical charge—it is positive instead of negative. There are antimatter counterparts to every particle known today. **When matter and antimatter meet, they annihilate each other and their masses are converted to energy.** Antimatter has been artificially created using huge particle accelerators, but antimatter particles are very difficult to study because they exist for only about forty billionth of a second.

HOW DID "RADAR" get its name? It's just a combination of the initial letters of "RAadio Direction And Ranging"—an exact description of what it does.

WHERE DID "RADIO" GET ITS NAME? The word is derived from the Latin *radius*, meaning a "staff," or the spoke of a wheel, or a ray of light. Radio waves travel like rays of light going out in all directions like the spokes of a wheel.

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.



The stethoscope is being replaced by the Butterfly I.Q. Diagnostic Ultrasound...A portable device held in one hand that can give you clear sonograms of the heart, lungs, extremities, gall bladder, liver etc. Waiting list for orders, check it out.

Physician shortage on the horizon...A June 2020 report from the American Medical Colleges projects that the U.S. will face a shortage of between 54,100 and 139,000 physicians by 2033; if we can bring in some 50,000 Cuban doctors, it would be a nice start to address the shortage. Add to that the fact that the U.S. has a population that is 18% Hispanic, while only 5% of the doctors are Hispanic, and there is a clear case of encouraging Cuban doctors to defect to the U.S. (?)

How long should Docs & Nurses with COVID stay home? According to the CDC, a close contact is defined as being within 6 feet of someone who's tested positive for at least 15 minutes, starting 2 days prior to their onset. This resulting in quarantine for 10 days while others said 72 hours. According to the CDC, if you test + and you're asymptomatic, you can come back to work if it's been 10 days since your test.

What obesity is doing to our sex lives...Sarah Varney states in her book, "XL, Love: How the Obesity Crisis is Complicating America's Love Life" that obesity is knocking out our successful love life. It has always been known that both men and women prefer athletic looking partners, but now—obese girls are going through the menarche at 11.5 years instead of the normal 14.6 years due to a sex hormone binding globulin that checks out when obesity checks in and 92% of girls who are obese as teens will remain so as adults. The chances for a romantic relationship dropped to 7% for every 1-point increase in a teenage girls body mass index. 80% of overweight teenage boys will move into adulthood overweight. Dr. Edward Karpman, a urologist says in the book, "A man's penis is actually fixed to his abdominal wall, holding it in place. The more man's fattening belly grows outward the more it eats into their organ, leaving them with a nubbin that loses an inch for every 50 pounds overweight they are. Food for thought!

During WW I, animosity became so great against the Germans that hot dogs supplanted frankfurters, Salisbury steak replaced hamburgers and sauerkraut became "liberty cabbage. German shepherd dogs became *Alsations*—other Germanic words were banned.

How long can I live? According to the September 2014 edition of *Popular Science*, the oldest man can live is 122 years. This is the record set by a French smoker. How long can we go without sleep? A 17-year old went 11 days back in 1963. He was described as "irritable" but lucid. How much can we possibly weigh? The record is 1,400 lbs, while the tallest one can get is 8'11". In 1973, a 456 lb. Scotchman went without food for over a year and shrunk down to 180 lbs. Best to be overweight if you are going to try and beat this one.

Common problems that will raise your blood pressure...A full bladder will raise the pressure 10-15 mmHg: An unsupported back will raise it 5-10 mmHg; Crossed legs will raise it 2-8 mmHg; Unsupported feet will raise it 5-10 mm Hg. Blood pressure cuff over clothing will raise it 10-40 mmHg; unsupported arm will raise it 10 mmHg and a conversation or is talking, 10-15 mmHg. Patients should refrain from talking for at least three minutes.

WHY ARE PEOPLE LEFT OR RIGHT HANDED?

Why do people favor one hand over the other? The trait has baffled scientists across a half-century of scattershot research. While environmental factors appear to play a crucial role, many have long espoused a theory that a single dominant gene may be the reason so many are right-handed. But in new studies encompassing millions, scientists now are discovering that the answer may be in dozens of genetic variations shaping our preference in unexpected ways.

The question goes beyond which hand we favor when throwing a ball or picking up a pen. Broadly speaking, it touches on how language, face recognition and some sensory perceptions can vary in location and intensity across the brain's two hemispheres. Brain imaging studies suggest these neural signals are processed by one side of the brain or another in ways that seem to track with handedness.

Dogs and cats are even-handed, not favoring one paw over the other. Humans however, are about 90% right-handed. No one knows exactly why a significant minority is persistently left-handed and have been so for tens of thousands of years, based on the evidence of prehistoric cave art and handprints.

Researchers have found the proportion of births of left-handers is higher in the spring and early summer months in the Northern Hemisphere, while births of left-handers in the Southern Hemisphere appear to be highest from September to January. Sex differences could play a role as well. Slightly more men than women are left-handers. In China, a study showed that 3.5% of schoolchildren are left-handed but in Taiwan only .7%

Scientists in Greece have pulled together data encompassing more than 2.3 million people worldwide, and have estimated that 10.6% of people are left-handed—about 827 million in all.

Studying all the data presented, we still really don't know why only 10% of people are lefties and close to 90% righties....

(Excerpts above taken from Robt. Lee. Hotz's fine article which appeared in the Oct. 18 issue of the WSJ)

MARCO MINUTE: Static Electricity was the first kind of electricity to be discovered. The conservation of charge 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.**

How did the "X-ray" get that name? The ray was first called the "Roentgen ray" in honor of the scientist who discovered it. But he preferred to call it "X-Ray" because "X" is the algebraic symbol for the unknown and at that time he did not understand the nature of this ray.

MAGIC! Try this... Take your age and multiply it by 2; add 5; multiply by 50; subtract 365; add the loose change in your pocket under a dollar and add 115. *The first two figures in the answer are your age and the last two, the change in your pocket.*

HOT TIPS...If you think your skin shows signs of age, you ought to see your innards. (No, maybe not.) But the point is skin ages better than any other organ in the body. **Q.** Are there a million millionaires in this country? **A. Yes,** ever since 1986. **Lake Erie** differs from other Great Lakes in that its bottom is above sea level. **Birds too "ice up"** and lose altitude. **Average married men** live 6 years, 7 months longer than the average never-married man. **Three out of four people** in bathtubs lather their stomach first. **Every time there are Northern Lights** there are Southern Lights. **Twenty-two out of 25 people** put on the right shoe first! **Penguins** will walk right up to anything. They look fearless. They aren't—they are just nearsighted. **What was the first car to come out with seat belts?** **A. Nash Rambler in 1950.** **Computer studies** show June marriages have the highest divorce rate. **If N.Y. City** had the same ratio of residents per square mile as Alaska, there'd be 14 people in Manhattan.



For many women with breast cancer, breast-conserving surgery is a critical first step in treatment. The goal is to remove all cancer cells while minimizing the removal of healthy tissue.

Most breast cancers treat with lumpectomy instead of mastectomy. They usually take out extra tissue, as best they can. The problem is what you can't see.

Unfortunately, for one in four breast cancer patients, cancer cells are found at the margins of the removed tissue, suggesting cancer cells may remain in the cavity, which typically requires patients to undergo a second surgery to remove the remaining cancer.

Understandably, the patient isn't happy. Additional surgery not only has a psychological effect on the patient but it also delays treatment and increases costs for the patient as well as the hospital. Now there is a pivotal clinical trial for a new system that could change that.

The new "Lumicell Optical Imaging technology provides real-time results during surgery. Before surgery the patient is injected with a proprietary fluorescent solution that interacts with cancer cells. In the operating room, after the surgeon removes the visible cancerous tissue, the lights are turned off while the surgeon uses an optical scanner to shine a red light along the cavity margins to see if any cancer cells remain. A computer screen next to the surgeon gives an image that glows red where the fluorescence as interacted with cancer. One can quickly scan to see if there is a positive signal. Then, if present, you can go back and take another slice of tissue off the margin.

Lumicell Inc. completed a feasibility study of the technology and began the pivotal study in November 2019. In the pivotal study, the technology will be used on 170 patients at up to 20 large academic centers and community breast centers in the U.S. for intraoperative detection and removal of residual cancer in breast-conserving surgery.

Doctors are optimistic about the ability of the new imaging system.

WHAT ARE "SUBATOMIC PARTICLES?" Subatomic particles are particles that are smaller than atoms. Historically, subatomic particles were considered to be electrons, protons and neutrons. However, the definition of subatomic particles has now been expanded to include elementary particles, which are the particles so small that they do not appear to be made of more minute units. A number of proposals have been made to organize the particles by their spin, their mass, or their common properties. One system is now known as the "Standard Model." This system recognizes two basic types of fundamental particles: **Quarks & Leptons.** Other force carrying particles are called **Bosons. Photons, gluons, and weakons are bosons. Leptons include electrons, muons, taus, and 3 kinds of neutrinos.** Quarks never occur alone in nature. They always combine to form particles called **Hadrons.** All other subatomic particles consist of combinations of quarks and their antiparticles. A proton, for example, is thought to consist of two up quarks and their antiparticles.

The theoretical particles, considered to be the fundamental unit of matter is the quark. There are six kinds "flavors" (up, down, strange, charm, bottom and top) of quarks, and each "flavor" has 3 varieties or "colors" (red, blue and green). All 18 types have different electric charges, a basic characteristic of all elementary particles. Three quarks form a proton (having one unit of positive electric charge) or a neutron (Zero charge), and two quarks (a quark and an antiquark) form a meson. Like all known particles, a quark has its anti-matter opposite, known as an antiquark, having the same mass but opposite charge.

COMBAT TIME...Mike was complaining to this friend about the problems he was having with his stubborn wife. "Well, I'll tell you what I used to do with my wife," his friend replied. "Whenever she got out of hand, I'd take her pants down and spank her." Shaking his head, Mike replied, "That doesn't work, once I start doing that I'm not mad anymore."



THE BODY'S COMMUNICATION SYSTEM

The body's tissues routinely communicate with each other through RNA messages sent back and forth between cells. So, it seemed obvious to scientists that, by eavesdropping on these extracellular communications carried in blood, saliva, urine and other fluids, they should be able to intercept dispatches indicative of health and disease. But the inherent diversity of extracellular RNA (exRNA) molecules, and the packages that transport them (exosomes), poses a considerable challenge.

Heterogeneity of the RNA repertoire can make it difficult to discern clinically useful biomarkers amid the background molecular noise.

Take for example, methods for isolating extracellular vesicles (EVs)—envelopes of fatty molecules, typically about one-thousandth the size of a human cell, that protect their cargo from the RNA-degrading enzymes found in most biological fluids. In a study of some 1,700 experiments involving the vesicles researchers found more than 1,000 unique protocols for extracting them from bio fluids.

Although obstacles to widespread clinical adoption remain—not least, the ability to obtain pure populations of vesicles—some “liquid biopsy” tests that rely on exRNA signatures in biofluids have already hit the market providing actionable information for patients facing an uncertain cancer diagnosis. Similar diagnostic probes could follow for diseases of all kinds.

At a lab in Waltham, Massachusetts, technicians routinely process thousands of vials of urine each month. They pull out all the EVs from each sample, and then isolate the many RNAs they contain.

This is the home of Exosome Diagnostics, a subsidiary of Bio-Techne and the first company in the world to offer an EV-based diagnostic assay for clinical use. The test, known as ExoDx, is designed for older men whose blood levels of PSA are slightly elevated, to help them decide whether to get a biopsy of their prostate. It is difficult to know which individuals with PSA in the “grey zone” of 2-10 nanograms per ml have aggressive high-grade tumors that need to be removed, and whom can safely be left alone. Current estimates are that less than 1/4 of men with middling PSA results turn out to have aggressive cancer.

In two trials involving more than 1,000 men with intermediate PSA levels, the test proved highly predictive of who had a worrying cancer and so should consider a biopsy, and who had more benign disease and could wait for a watch-and-wait approach.

Many other molecular diagnostics firms are looking at exRNA as a way to spot warning signs of cancer or aid in risk stratification. For example, Cepheid in California and Pacific Edge in New Zealand offer urine tests that measure levels of 5 protein-encoding RNAs, to identify bladder cancer in its earliest stages or to monitor of post treatment recurrence. The strategy follows the logic of Exosome's urine test—collect a body fluid close to the source of the cancer and probe it for RNA shed by cancer. The same approach has been taken to test spinal fluid for RNAs associated with brain cancer and saliva for RNAs linked to mouth cancer.

Most teams have gone looking for these systemic exRNA footprints in blood. However one searcher has examined the spittle of some 2,500 people and identified a saliva signature comprising 9 RNAs—some human, some bacterial—that is highly predictive of who will develop stomach cancer.

A handful of exRNA-focused start-ups are branching out beyond cancer diagnostics and directing their efforts to diseases of the heart and brain. For instance, Dynamix is developing exRNA diagnostics to personalize treatment for people with CV disease. Neurodex is capturing neuron-derived exosomes from blood, and then scrutinizing the RNA and proteins inside them in the hope of spotting early indications of Alzheimer's disease. Unlike cancer the pathology of neurological disease is at the protein level—not in the DNA or RNA—and so the search community doesn't know much about the role of RNA in neurodegeneration.

And so the search goes on—to find early bio-markers to help identify hidden diseases....

(The above are excerpts of Elie Dolgin's fine article that appeared in the June 18, 2020 edition of "NATURE.")



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THE GOOD NEWS ON CANCER

The American Cancer Society reported that cancer mortality declined by a record 2.4% in 2018 and 31% since the 1991 peak. Credit better and earlier diagnostic and therapies and a decline in smoking.

About 40% of Americans will be diagnosed with cancer in their lifetime, and the risk increases with age. Cancer is the leading cause of death for middle-aged Americans and two to three times

more likely to kill someone in their 50s or 60s than even Covid-19. The incidence of some cancers like breast, liver and kidney is also increasing partly for demographic and life-style reasons.

The report notes breast cancer is growing by .5% annually amid increasing body weights and a declining fertility rate. Obesity increases the risk for breast cancer while pregnancies and breast-feeding lower it. Liver cancer is also on the rise due to obesity, excess alcohol consumption, smoking and hepatitis.

Yet overall cancer death rates are falling at an accelerating pace, from about a 1% decline annually in the 1990s to 1.5% in the 2000s and early 2010s to 2.3% from 2016 to 2018. Regular screenings that catch cell mutations and tumors early have helped increase the five-year survival rates for prostate (98%), melanoma (93%), and breast (90%) cancers and made them mostly curable.

Lung cancer (21%) is usually caught later due to poor diagnostics, but mortality has still declined by about 5% annually from 2014 to 2018. One reason is fewer people are smoking, and improved treatments like epidermal growth-factor receptor tyrosine-kinase inhibitor are able to target non-small cell lung cancer mutations.

The FDA also approved immunotherapies as second-line treatment in 2015. “Treatment breakthroughs are also responsible for rapid reductions in mortality from hematopoietic and lymphoid malignancies in both children and adults and, more recently, certain difficult to treat cancers such as metastatic melanoma,” the report adds.

CAR T-cell therapies that use genetically engineered white blood cells to attack lymphomas are also becoming more available. The FDA last year approved the breakthrough therapy Trodelvy, which reduced tumors in 33% of patients with metastatic triple negative breast cancer and who had not responded to two prior treatments.

Treatments for metastatic cancers typically yield incremental but important benefits. Progress has encouraged drug makers to increase spending on innovative oncology therapies. Before the pandemic, Biotech and Moderna were using mRNA technology to develop treatments for melanoma, lymphoma and metastatic solid tumors.

Also, the pandemic seems likely to take a toll on this cancer progress, at least for a while. Enrollment in many cancer drug trials has paused, and lockdowns have postponed diagnostic screenings. A JAMA study in August found that diagnoses for breast, colorectal, lung pancreatic, gastric and esophageal cancers declined by 46.4% in March and April. Aggressive cancers caught late may spread and become harder to treat.

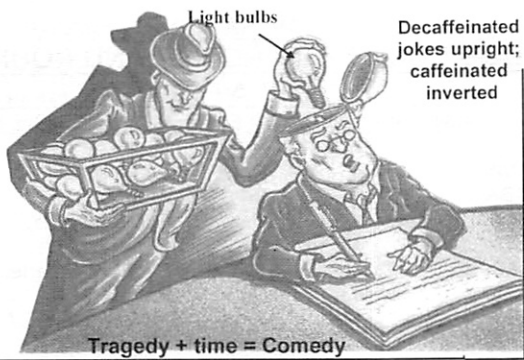
One other finding worth celebrating is that the disparity between black and white cancer mortality rates declined to 13% in 2018 from a peak of 33% in 1993. The report's woke authors nonetheless flog structural racism and criminal justice disparities. That's politics, but the report's evidence is science.

(This report was featured in the Jan. 15th edition of the Wall Street Journal.)

**WHEN YOU SAY “OHIO” TO A JAPANESE,
You are saying “Good Morning.”**

**Doctors & lawyers must go to school for years, often
with little sleep and with great sacrifice to their first
wives.**

LIGHTEN UP...



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HOW TO HANDLE A TELEMARKETER

The phone rang as I was sitting down to dinner and as I answered I was greeted with "Is this Karl so-in-so?" "Not sounding anything like my name, I asked who was calling. The telemarketer said he was with the "Rubber Band Powered Freezer Company" or something like that. Then I asked him if he knew Karl personally and why he was calling this number? I then said off to the side, "Get some pictures of the body at various angles and the blood smears." I then turned back to the phone and advised the caller he had entered a murder scene and must stay on the line because we had already traced his call and he would be receiving a summons to testify in this murder case. I questioned the caller at great length as to his name, address, phone and for whom he worked, and how he knew the dead guy and could he prove where he had been about one hour before he made this call? The telemarketer was getting very concerned and his answers were given in a shady voice. I then told him we had located his position and the police were entering the building to take him into custody. At that point I heard the phone fall and the scurrying of his running away. My wife asked me as I returned to our table why I had tears streaming down my face—I didn't tell her for about 15 minutes, as I continued to laugh! My meal was cold but it was the best meal in a long, long, long time. I had gotten even!

Half O.K. at 95...Mr. Johnson limped into the doctor's office and said, "Doc, my left knee is so bad I can hardly walk!" The doctor eyed him, paused and then said, "Mr. Johnson, just how old are you?" "95," Johnson announced proudly. The doctor eyed him again and said, "Sir, I'm sorry, you're almost 100 years old and you're complaining that your knee hurts, what did you expect?" The old man said, "Well, my other knee is 95 years old too, and it don't hurt!"

A WONDERFUL NIGHT...After a long exotic night the young fellow rolled over and pulled out a cigarette but was unable to find his lighter. He asked his girl friend if she had some matches. "There might be some in the top drawer." He opened the drawer of the bedside table and found a box of matches sitting neatly on top of a framed picture of another man. Naturally the fellow began to worry. "Is this your husband?" he inquired nervously. "No, silly," she replied snuggling up to him. "Oh, our boy-friend then?" He asked. "No, not at all!" she said, nibbling on his ear. "Well, who is he then?" demanded the bewildered guy. Calmly, the girl replied, "That's me before the operation."

NEVER UNDERESTIMATE THE POWER OF A WOMAN...There were 11 people holding onto a rope dangling from a helicopter—10 men and 1 woman. They all decided that one person should let go because if they don't the rope could break and everyone would die. They couldn't decide who should let go. Finally, the woman gave a touching speech saying she would give up her life to save the others because women were used to giving up things for their husbands and children, giving into men, and not receiving anything in return. When she finished speaking all the men started clapping.

A Russian cosmonaut has an emergency during his reentry and his spacecraft lands in the Australian bush. When he comes to, he finds himself in a bush medial clinic, bandaged from head to toe. Standing at his bedside is a tough tanned Aussie doctor. "Did I come here to die?" asked the cosmonaut. "No, mate," the doctor replies, "Ya came here yestadie."

Twenty One years ago in Marco, February 2000
Sixteen Years ago in Marco, April 2005
Eleven Years ago in Marco, April 2010

February 1, 2000

This edition of the MARCO Newsletter was dedicated to our former late President **Edward R. Briner, D.M.D.**, 73 W3TVG who became a Silent Key on Nov. 13, 1999. His wife Ruby wrote on his passing that he was "so organized he had a copy of his obituary on one of his eight computers before he died."

Keith Adams N3iM, **Polycarp KZ4P**, and **Ted Hatfield KQ4IC**, were acting as net controllers on the Tuesday and Thursday Marco nets whereas **Bob Currier** was handling the Grand Rounds net and **Bob Morgan VE3OQM** the Sunday night net.

April 1, 2005

Marco's **Paul Lukas, N6DMV**, told us about his experience living under the Nazis and the 1956 Hungarian uprising, in this issue of the Marco News Letter. Meanwhile, **Chip Keister N5RTF** sent a personal invitation to all Marco member to join with him in New Orleans on May 5-8th. "Come and meet the voices!"

Danny Centers W4DAN featured a column "Next Solar Cycle may be More Disappointing than the last!"

April 1, 2010

Mary Kaye Favaro AE4BX returned to Myrtle Beach, SC after serving a locum tenens in northeast Arizona where she was working with the Navajo Indians.

Louis J. Lyell, Marco member in Jackson, MS. notified Marco that **Dr Bob Currier's** daughter **Mary** has just been named Mississippi's new health officer for the next six years.

Fred Simowitz KOFS notified Marco that his son, age 41, has used CPAP successfully since he had extra large tonsils and refused to have surgery...good reports were received on CPAP from **Bill Otten KC9CS** in Largo, FL.

FACTS OF YOUR LIFE

Without you, someone may not be living. Every night someone thinks about you. When you think the world has turned its back on you, take a look, you most likely turned your back on the world. Always tell someone how you feel about them, you will feel better when they know. When someone tells you they like you—respond by, "Yes, I like me too." Faith in one self radiates a positive charisms which all should enjoy. Always look out for Number ONE but don't step in grease at the local garage.

UNWANTED PHONE CALLS—WHAT TO DO!

What you can do after answering. If you notice there is no one there, is to start hitting your # button on the phone 6 or 7 times as quickly as possible. This confuses the machine that dialed the call and it kicks your number out of their system.

Did you ever get those annoying phone calls with no one on the other end? This is a telemarketing technique where a machine makes phone calls and records the time of day when a person answers the phone. This determines the best time of day for a "real" sales person to call back.

Three little words that work. "Hold on please." Saying this while putting down your phone and walking off (instead of hanging up) would make each telemarketing call so much more time consuming that boiler room sales would grind to a halt. When you hear the phone "beep-beep-beep" tone, you know the time to go back and hang up your phone.

HOW MUCH TIME BEFORE TAKING THAT SECOND PILL?...Since virtually everything we eat is broken down and distributed by the liver one realizes that sometime the enzyme systems may be overwhelmed by a handful of different drugs at one time.

On questioning a pharmacist it was learned that at present there is no known time factor list for individual drugs to be separated from each other by specific time intervals. Common sense however, indicates that if one separates drugs by 30 minutes or more there probably will be a maximum therapeutic gain in that drugs absorption and distribution.

14.342, Sundays, 11 am Eastern, One Hour Cat. II CME
THE AIR. (Corrections to Marco)

CALL	HRS.	NAME	QTH
KC9CS	45	Bill	Seminole, FL.
N2JBA	45	Ed	Amenia, N.Y.
WB1FFI	45	Barry	Syracuse, N.Y.
N6DMV	43	Paul	Torrance, CA
WB6OJB	43	Arnold	Pacific Palisades, CA
NU4DO	43	Norm	Largo, FL
N5RTF	43	Chip	New Orleans, LA
KG4CSQ	42	Ralph	Alabama
N3iM	42	Keith	Milhouse, PA
W1RDJ	41	Doug	Cape Cod, Mass.
KD4GUA	41	Warren	Largo, FL.
KE5SZA	41	John	Marietta, OK
KD5BQK	40	Linda	El Paso, TX
KD5QHV	40	Bernie	El Paso, TX
WB9EDP	40	Harry	Batavia, IL
KM2L	39	Bruce	Clarence, NY
KK1Y	39	Art	Seminole, FL
N4TLC	38	Jerry	Boca Raton, FL
N5AN	38	Bud	Lafayette, LA
N2OJD	36	Mark	Sydney, Ohio
WA3QWA	35	Mark	Chesapeake, VA
KNOS	34	Dave	Virginia
NOARN	34	Carl	Denver, CO
W5EXA	33	Mark	Cape Cod, Mass.
K6JW	31	Jeff	Palos Verdes, CA
W6NJY	29	Art	Beverly Hills, CA
W8LJZ	29	Jim	Detroit, MI
KC9ARN	28	Michelin	Batavia, IL
N4MKT	27	Larry	The Villages, FL
K4RLC	26	Bob	Raleigh, NC
W9JMJ	25	Ted	Mass.
N8CL	25	Chuck	Albany, N.Y.
K6GZ	21	Bill	Hysteria, CA
W4DAN	18	Danny	Cleveland, TN
KB9CCE	17	Fred	3 Lakes, WI
KD4I	15	Jack	Maryland
KN2MB	13	Dave	Buffalo, NY
AA4FL	12	Jay	Hawthorne, FL
WA9HIR	12	Bill	Berwyn, IL
W8ING	12	Bob	Hazzard, KY
N3MBJ	12	Abbott	Pennsylvania
WA4MLM	12	Bruce	Louisville, KY
N9YZM	11	Mike	Crystal Lake, IL
KE0PIE	11	Trina	Pueblo, CO
W8CRK	10	Roger	Cinn. Ohio
K3IRY	9	Roy	Bedford, Mass.

YEAR	TOTAL CHECK-INS	AVERAGE PER SUNDAY
1998	694	14.46
1999	766	15.95
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 Terrorist)	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

Record number of stations checked-in was 68 on Dec. 20th 2020

WHAT YOU NEED TO KNOW WHEN CALLED UPON TO BE A "GOOD SAMARITAN"

(As discussed on MARCO Grand Rounds of the Air, Feb. 7th, 2021.)

Good Samaritan laws are laws/acts protecting from blame those who choose to aid others who are injured or ill. They are intended to reduce bystanders' hesitation to assist, for fear of being sued or prosecuted for unintentional injury or wrongful death. The name "Good Samaritan" refers to a parable told by Jesus in the New Testament (Luke 10:29-37).

Under the common law, Good Samaritan laws provide a defense against torts over the activity of attempted rescue. However, the duty to rescue where it exists may itself imply a shield from liability; for example, a citizen is obliged to provide first aid when necessary and is immune from prosecution if assistance given in good faith turns out to be harmful.

When the news broke that a woman died of complications from heart diseases on an American Airlines flight after receiving emergency treatment by airline staff and a pediatrician, it reminded physicians that their services may be needed when they least expect it and that these situations don't always have happy endings.

All 50 states have some type of law that seeks to encourage medical professionals to act as Good Samaritans by offering certain protections

Most Good Samaritan statutes rely on the concepts of *ordinary negligence* & *gross negligence*. "Ordinary" negligence means that the individual providing aid did not act as a reasonable health care provider would under similar circumstances. Contrast that with "Gross" negligence, which generally means not only that the individual did not conform to the accepted standard of care but also that his actions rose to the level of being willful, wanton or even malicious. Typically, Good Samaritan laws provide immunity from civil damages for personal injuries, even including deaths, that result from ordinary negligence. They do not protect against allegations of gross negligence.

For example, say you witness an individual in cardiac arrest in a restaurant. You perform CPR to the best of your ability, alternating compresses and rescue breathing at a ratio of 15:2, but the patient does not survive. Emergency medical services (EMS) personnel arrive and note that the new recommendations are to perform this procedure at a ratio of 30:2. However you have not had any reason to take the new basic life support course. Because you acted to the best of your professional abilities, you could expect to be protected by the Good Samaritan law. On the other hand, if you were performing CPR but suddenly stopped because you recognized the individual as a known drug dealer in your town, that would be considered willful and wanton negligence and you would not be protected by a Good Samaritan law.

The concept of "duty" is also central to Good Samaritan laws. To be afforded the protection of a Good Samaritan law, in most states, a physician must not have a pre-existing duty to provide care to the patient. A physician does have a pre-existing duty if the victim is a current patient, the physician is contractually obligated to provide care to the victim, or there is an on-call agreement that requires the physician to provide services. The following samples are intended to be instructive: **If you happen upon an accident scene**, you likely will be afforded Good Samaritan protection. If you use your black bag to provide aid to the victim, the fact that you had your black bag with you does not, in and of itself, mean you had a duty to respond and therefore should not compromise your immunity.

If a car accident occurs at the intersection in front of your clinic and your help is sought, you would likely have Good Samaritan immunity unless the victim was a patient of yours, in which case you may be held to a higher legal standard of care.

If you coach your child's Little League team and a player gets hit in the head with a ball, you may well have Good Samaritan protection because *your role with the team is as the coach*.

If you volunteer to staff a first aid station at a marathon being run in your community and a participant has a severe asthma attack, you may not have Good Samaritan immunity because of the duty implicit in your agreement to serve in this role. If, however, the runner signed a waiver of liability as a condition of participating in the race, you may have some additional protection.

If you agree to be present at your local high school's football games, without pay, at the request of the athletic department and a player is nonresponsive following a tackle, you may not have Good

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Samaritan immunity again, because of the duty implicit in your agreement with the athletic department.

If a member of your office staff collapses on the job, you would likely not have Good Samaritan immunity because of your duty to provide emergency services to individuals in need within that facility. A physician without a pre-existing duty can expect to be provided immunity from liability in the event that he or she does respond in good faith and gets sued because of a bad outcome. Note, however, that three states (*Louisiana, Minnesota & Vermont*) do have failure-to-act laws; In these states, if a physician is known to have walked away from a scene at which an individual required emergency medical treatment, then he or she can be in violation of the law.

Although most Good Samaritan laws apply only to care provided outside the hospital, Good Samaritan laws in California and Colorado explicitly protect physicians who provide care in a hospital. For example, if a physician in either of these states is rounding on hospitalized patients and responds to an urgent request by hospital staff to attend to another physician's patient who is in acute distress, he or she may be afforded Good Samaritan protection.

Is it permissible to accept a gift for your efforts as a Good Samaritan. The answer is generally "yes"—and some laws even specify that physicians are entitled to payments for providing care. In most states, however, the act of your sending a bill can complicate the issue of whether you had a pre-existing duty to provide care to the individual and therefore, whether you have Good Samaritan immunity. You must be able to show that you provided the care without expecting remuneration, even if you decide after the act to bill for your services, which can be difficult.

Do you have an ethical duty to respond? When the opportunity to be a Good Samaritan presents itself, ethical considerations weigh as heavily on many doctors as legal ones. The AMA's Code of Medical Ethics has this to say: *"A physician shall in the provision of appropriate patient care, except in emergencies be free to choose whom to serve, with whom to associate, and the environment in which to provide medical care....and physicians should "respond to the best of their ability in cases of emergency where first aid treatments is essential."*

When responding to the need for Good Samaritan care, physicians may wonder at what point they should hand-off the patient to other caregivers. Generally speaking you should not leave the scene until someone of at least comparable capability can take over. Physicians and EMS providers have to put egos aside and assess who can do the best job under the circumstances.

When you're in the air...The incidence of in-flight medicine events on airlines is unclear, given that there are no regulatory reporting requirements. In the U.S. physicians are under no legal obligation to provide assistance in the air, but a federal law passed in 1998, the Aviation



Medical Assistance Act, states "if the airline is not owned by a U.S. company, you have protection." Intercontinental flights are more complicated; the laws of the country in which the airline is based are in effect.

Like state statutes, the Aviation Medical Assistance Act provides Good Samaritans like you "if the carrier in good faith believes that you the passenger is a medically qualified individual." Airline employees meet the "in good faith" requirement by asking whether the person who volunteers to help is a healthcare provider.

When responding to most in-flight medical emergencies, physicians have a variety of tools at their disposal. Most planes are equipped with automated external defibrillators (AEDs); the FAA requires that any plane weighing 7,500 lbs or more and carrying at least one flight attendant must have an AED on board. In addition, most U.S. airlines have 24/7 access to emergency physicians who can be consulted by radio if needed. Medical first-aid kits are also available.

It is not unusual for physicians who respond to serious in-flight medical emergencies to be asked to advise the pilot on whether the plane should be diverted so that the passenger can be treated at a hospital sooner rather than later. Do not assume the burden of deciding whether the plane gets rerouted; that is a decision best left to the pilot. Instead offer your medical opinion about the patient's condition and a prognosis expressed in terms of time.

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.*)

We are seeing early signs of spring here in upstate New York, as the daffodils are peeking up from the ground and the sound of birds once again greets us in the morning. However, if the past is predictive, we will experience at least one more cold snap before emerging from winter.



MARCO continues to do well, even during the pandemic. Our membership is growing, Sunday morning Grand Rounds continues to inform and update the 30-plus operators who check in for each session. We have added a weekly digital voice net, there are Zoom sessions, and planning is well underway for an exciting Caribbean DXpedition next year.

I have appointed a committee to look into the questions of how to make Grand Rounds more accessible to all of our members, and also to ensure that it remains viable and educational as we move into the future.

We want to hear your ideas and suggestions! You, the membership of MARCO, are our strength. You possess a wealth of clinical, technical and organizational skills, and I know first hand that most of you are not reluctant to express your opinions! So Let's have it—what should MARCO do to improve, grow and strengthen its interests and programs?

There will be another business meeting on Zoom in the spring, with date and time to be announced.

Stay safe, and I hope to hear you on the air.

Bruce, KM2L

MORE MARCO "OLD TIMERS"... (continued from page 1)

Marc Fink WA3QWA, John O'Connor, Jr. KE5SZA, George Vilican KE8GA (our dentist), Malin Dollinger K06MO, Dave Lieberman KT8E, Carlyle Rowland NOARN, Ed Rukbin N2JBA, Mark Young N2OJD, Larry Wissing, N4MKT, Jerrold Ziperstein, N4TSC, Paul Azar N5AN, Charles Nohava W8GMB, Norm Ulrich NU4DO, Rick Zabrodski VE6GK, Ted Figglock W1HGY, Tom Reilly W3GAT, Lionel Lieberman W4JMA, Mark Petrizzì WA1EXA, Marc Fink W3QWA, Barry Rabin WB1FFI, Joe Breault WB2MXJ.

EXTRA, EXTRA, EXTRA...The statistics for the Spanish Flu of 1918-1920 on page 2 lists 675,000 deaths in a U.S. population of then 103 million people....The death rate for the 2020 Corona-19 virus now is running at 544,253 in a population of 328.2 million. We are approaching a new record.

SPACE FLIGHT PHYSIOLOGY

There are many problems we face in sending men into space. Microgravity, temperature, vacuum and radiation are just a few along with space junk and micro meteorites.

Microgravity... There is gravity in space but it is far below the one we find on earth. What binds us to the Earth in orbit is not only gravity but centripetal force which can be illustrated by a person rotating a bucket of water, the water remains in the bucket as it is rotated vertically even when it is above the individual's head.

When the individual returns to earth his neuro centers, mainly his otolith inner ear takes about 7 days to re-activate, his reduced 20% blood volume takes about one week, his muscle rejuvenation take about a month and his boney structure never quite returns to normal, in fact he may have to go to hyper gravity to regain bone loss.

The returning astronaut usually has pre or actual syncope on returning to earth due to difficulty in maintaining a one gravity blood pressure and a normal earth volume which is reduced by diuresis while in space. Also loss of his proprioceptors on the bottom of his feet present a problem and a lowered heart rate and tendency to go into abnormal heart rhythms. Thus the returning astronaut will walk wide-legged. The typical astronaut takes about a week to regain his normal head up-right attitude, his normal blood volume and an 18% loss of red cells.



Dutch Saint Martin

MARCO members are planning a vacation-style DXpeditionDXCa-tion, 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.

Additional add-on-trips are being explored for a smaller group looking to extend their trip. There are ferries running daily to St. Bartholomew and Anguilla, with plans for part of our group to be on St. Bart's all or part of May 31-June 6, 2022 and Anguilla, June 6, 2022 (part of which will overlap with the ARRL VHF contest focusing on 6 m.

If you are interested contact Secretary Jay Garlitz by phone 352 246 6003 or internet at jay.aa4fl@gmail.com

MARCO Grand Rounds Streaming Audio, by Thomas Keister MD N5RTF

Here is how to access MARCO streaming audio and archived nets. The new url is: [www.marcoaudio.net](http://marcoaudio.net) <<http://marcoaudio.net>> This address will be used for all nets: CW, Sunday SSB, and the Wednesday night COVID net.

This link will take you to a page with a built-in audio player, links for a variety of popular players, and a list of our archived nets going back several years.

The old links still work, and you can still program <http://marcoaudioddns.net:8011/stream> or <<http://marcoaudio.ddns.net:8011/stream>> into a standard music player on computer, phone, or portable device for a direct link to the live nets only. Feel free to share these links with anyone, MARCO member or not. No login or password is required. There is no cost. There is room for 100 listeners at a time. Again, no limit to downloads. Comments are appreciated.



BIRDS OF A FEATHER FLOCK TOGETHER...

Send a Gift Membership To your HAM buddy \$15 *****

Make sure he is either a doctor or a patient and that includes any radio

enthusiast who is vulnerable who likes radio and not sickness!

ATTENTION

Marco Grand Rounds of the Air is a 60-minute Net, held each Sunday at 11 am Eastern Time on 14.342 MHz. Those who attend the net will be given 1 hr. certified CME Category II credit. In order to keep transcription to 60 minutes, Net Controller interruptions will be limited to two minutes.

RADIO HISTORY

Most people believe **Guglielmo Marconi** invented the radio; he did NOT. His contribution was actually the wireless telegraph, which permitted the transmission of coded messages through the air. Radio made a huge leap beyond the coded confines of the telegraph. It brought to the human ear the sounds of the human voice and music, sounds it seemed to pluck magically from the air. The telegraph and telephone were instrument for private communication between two individuals. The radio was democratic; it directed its message to the masses and allowed one person to communicate with many.

Radio as we know it was created by three men of genius, vision, determination and fascinating complexity: **Lee de Forest**, the self-styled "father of radio," whose invention of the audion made long range reception possible and provided the foundation for the modern electronics industry; **Edwin Howard Armstrong**, the resourceful inventor who created the unique system of FM broadcasting and whose discoveries form the framework for virtually all radio transmission and reception today and **David Sarnoff**, the immigrant from Russia who rose from delivering telegrams to the head of the Radio Corporation of America (RCA).

We never turn on a television, tune a radio, or listen to a voice from space without being touched by one of Armstrong's or de Forest's inventions, invention that Sarnoff was responsible for manufacturing and selling worldwide.

MARCO RESEARCH...Influenza was so named because the cause of the disease was supposedly the evil "influence" of the stars. The "influence" was believed to be the cause of plagues and pestilences.

During the American Revolution there were about 3,500 men practicing medicine in the Colonies. Only about 400 had medical degrees. In 1777, George Washington had the entire Continental army—then 4000 men—vaccinated. This action, considered controversial at the time, because few American doctors believed in vaccination, may have saved the army as a fighting force. Washington himself had facial small pox scars after picking up the disease in Barbados as a young teenager.

Abraham Lincoln probably had Marfan's syndrome, a hereditary disease of the connective tissue. The disease was first described more than 30 years after Lincoln's death, but it was not linked with the President until 1959 when a doctor in California discovered the disorder in a child who shared an ancestor with Lincoln. All of Lincoln's children had similar findings (*long limbs, asymmetry, vision & cardiac symptoms.*)

The Giraffe's blood pressure is two to three times that of a healthy man and may be the highest in the world. Because the giraffe has such a long neck, 10 to 12 feet, its heart needs tremendous force to pump blood to the brain. The Giraffe's heart is huge; it weighs 25 lbs., is two feet long and has walls up to three inches thick.

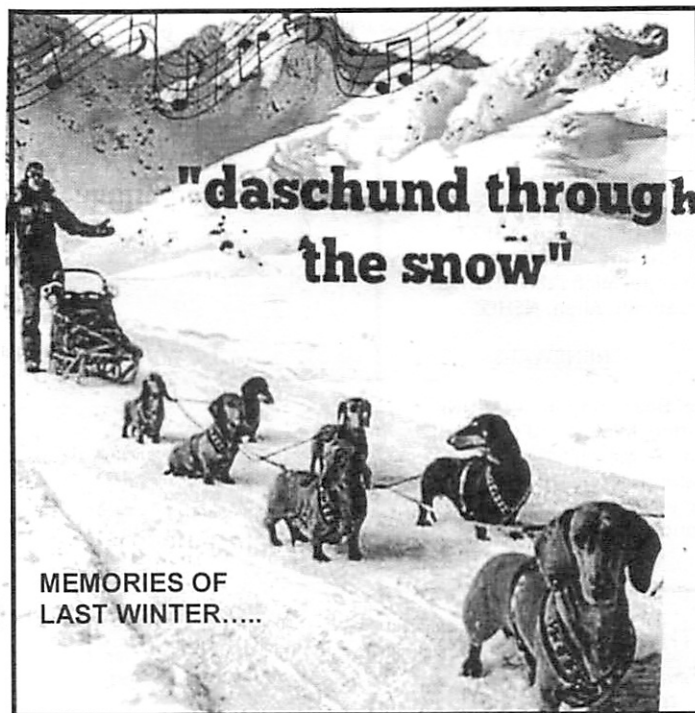
DOES IT PAY TO BE TALL & GOOD LOOKING?

Yes...Good-looking people and tall people get a "beauty premium"—an extra 5% an hour—while there is a "plainness penalty" of 9%. It was found that tall men get on average an annual pay raise of \$789/ per inch above average height.

Some look for unattractive aides so they won't get tempted nor to irritate their wives...in New York a 33-year-old single mother, filed suit against Citigroup, claiming she was fired for looking too sexy. Her name—Debralee Lorenzana (not Mable.)

Another fired debutante claimed she couldn't help she was voracious—it was unfair to be let go because it was in her genes and out of her control.

This boils down to: **Would you hire a beautiful young woman or a handsome young man to be your associate?** If beauty is an asset—then, why are there so many disproportionate adults in today's world?

**THE DENTAL CHAIR**

(Reprints from Paul N6DMV's article in Aether, 2010 circa.)

Paul on returning from Hungary stated that the number of cavities in Europe is about the same as in the States and they DO NOT use fluorides.

A stated conclusion is: The improvement in dental health obtained among European children over the last 15 years does not seem to be attributable to policies aimed at improving access to oral health services (including fluorides). What has been achieved is a higher rate of utilization by adults, due in part to the greater relative numbers of dental health care personnel in European countries (*International Dental Journal*). **(Reports circulating from Europe concerning fluoride dangers apparently scared off European dentists.)**

A study from the University of Michigan stated: International research conferences convened over the past 25 years proudly reported that dental caries prevalence was declining on a global basis. **However**, during the past decade the situation has reversed and scientific reports after reports signal an alarming increase in the global prevalence of dental caries in children and adults primary and permanent teeth, as well as coronal and root surfaces. This increase in dental caries signals a pending public health crisis (*which never happened?*). This is what stimulated the use of fluorides in the U.S. and possibly succeeded in doing so. **Attention dentists: Are flourides helping or are they dangerous as many Europeans believe? What is your honest opinion?**

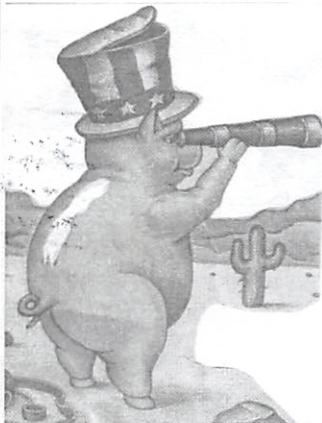
NEW FACES* for MARCO & RENEWALS, as of March 15th.

NEW MEMBERS*

Davidson, Steven, K3FZT*
Smith, Andrew, WJ8B*
Strange, Michael, WA2BHB*
Treadmill, Allen, N5HO*

RENEWALS

Del Baso, Angelo, WA2NNZ
Jaffee, Michael, KF5LHS
Knopf, Merrill, WW6AA
Paterek, Wm., KG7NXW
Stewart, John, AA5KV
Vance, Samuel, W4BUD



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

THE MARCO NEWS-LETTER (AETHER) is now alternatively, printed every April, August, December & digitally every June, October & February.....

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

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

Or Join online at: <https://marco-ltd.ora/join-marco-amateur-radio>

REGULAR MEMBERSHIP \$25: A licensed professional in the health care field who holds an amateur radio license. A DX Membership is \$25 in U.S. currency.

ASSOCIATE MEMBERSHIP \$15: Anyone licensed or unlicensed who is interested in medicine and/or radio.

10 year Regular membership fee \$200 (a saving of \$50). Associate membership for 10 years is \$100 (also a saving of \$50).

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, 6308 Kings Gate Circle, Delray Beach, FL. 33484, USA

WHY NOT SEND A HAM FRIEND A MEMBERSHIP IN MARCO, \$15, ONE WHO IS INTERESTED IN BOTH MEDICINE & RADIO.

Your Renewal Date _____
Is January 1 of each year



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.

DAY	Any Day	On the Hour	EASTERN TIME	FREQ.	NET CONTROLS
Any Day	10:30 a.m.	14.342	Halling Frequency	14.342	NET CONTROLS
Sunday	11 a.m.	14.342	KD4GUA	14.342	WB9EDP
Sunday	8:30 p.m.	7.22	WB9EDP	7.22	WB9EDP
Wednesday					

128th Edition

April 2021



MARCO'S

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

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