

President: Jay Garlitz, D.D.S., AA4FL
Pres. Elect: Bruce Small, M.D., KM2L
Secretary: Joseph Breault, M.D., WB2MXJ
Historian: Vacant
Webb Master: Dave Lieberman KT8E
Treasurer: Charles Lind, M.D. N8CL
Radio-Internet: Chip Keister, M.D., N5RTF
MediShare: Arnold Kalan, M.D., WB6OJB
News Editor: Warren Brown, M.D., KD4GUA



A non-profit Corporation, founded in 1965, privately supported for the public good and dedicated to the advancement of Medicine through Amateur Radio.

Marco Blogsite: marco-ltd.blogspot.com
"listserve": <http://googlegroups.com>

Web Site: <http://www.marco-ltd.org>
Internet address: warren.brown1924@gmail.com

(53rd year), Edition # 121 Since Year 2000, February 2020

P.O. Box 127, Indian Rocks Beach, FL., 33785-0127

DESALINATING WATER TO DRINK

WILL DESALINIZATION TURN OUR OCEANS INTO "DEAD SEAS" AND WIPE OUT OUR FISH POPULATIONS?

In places like San Diego, where freshwater is scarce, humans turn to machines that pull the salt out of seawater, transforming it into clean drinking water.

This process, called desalination, has been turning sea and brackish groundwater into potable water since the mid-20th century. The technology could become increasingly important in the near future, as the rising temperatures and erratic rain patterns threatens freshwater supplies. Cities with growing populations and arid climates face the possibility of running out of water, as Cape Town almost did in early 2018. But desalination is also costly and energy intensive. Many researchers are working to improve the technology so it can reach more people.

Desalination technology started with the simple premise of boiling water. The first desalination plant, built in England in 1945, heated water so it evaporated as steam, leaving the salts behind, and then cooled down and condensed as freshwater. This heat-and-evaporate approach dominated early desalination, and is still common in older plants, particularly across the Middle East. But thermal desalination is very energy intensive, and therefore can be expensive, depending on the cost of the energy supply to convert salt water to fresh water.

Despite the challenges, the desalination industry is expected to grow over the next decades.

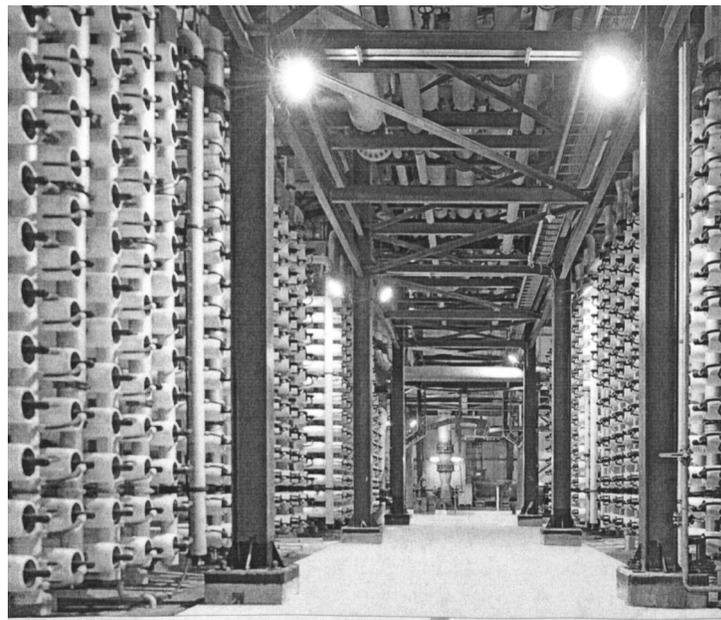
In the 1960s, a new technology called reverse osmosis (RO) began sweeping the desalination world. RO works by pushing saltwater at a very high pressure through a series of fine polymer membranes that let water molecules through but catch larger salts and minerals. After the first RO plant was built in Kuwait, the technology spread quickly and now dominates about 70% of the global market.

While RO has dominated for decades—and is likely to continue doing so for decades to come, researchers are constantly looking to make the technique cheaper, more efficient and less wasteful. Desalinated water is, on average, two to three times more expensive than more traditional water sources. One of biggest expenses for a desalination plant is the energy used to keep it going.

But when it comes to energy, there's a physical limit to how efficient these technologies can be. It will always take a certain amount of energy to separate salt and water, and thanks to improved membranes and energy recovery devices, many RO plants are already approaching this limit.

To reduce those energy costs plants are now desalinating in batches, rather than running the plant continuously. Some are looking at completely unique approaches, like using liquid solvents to separate water and salts with minimal energy.

Others have turned to renewable energy as a way to reduce desalinations greenhouse gas footprint and potentially reduce costs. Small prototype



A reverse desalination plant in Ashkelon, Israel
(Credit: ImagineStock/Shutterstock & Discover Magazine Nov. 2019)

LATE BREAKING NEWS

Report causes concern and confusion in California's amateur radio ranks....ARRL responds in Letter of 10/15/2019: *By all credible and reliable accounts, the State of California has not turned its back on Amateur Radio as an emergency communication resource nor have established repeater owners been asked to remove their equipment from state-owned sites unless they pay sizeable fees. The California controversy, inflamed by a viral YouTube video, stemmed from a California Dept. of Forestry and Fire Protection (CAL FIRE) communication telling a repeater owner that Amateur Radio equipment would have to be removed from a state-owned site or "vault" if the owner(s) determined the cost was too great to proceed with a formal application to keep it there. Keep your eyes on the ARRL Letter for any further clarifications they may publish.*

January 1st is dues-paying time...Secretary Dr. Joe Breault reports 63 members are unpaid, 64 overdue...send dues to: Joe Breault WB2MXJ, 1615 Brockenbraugh St., Metairie, LA 70005 (See page 12) or via PenPal. Keep MARCO vibrant—send a gift subscription to a Ham friend for \$15/year.

If you have a Ham contact, here or overseas, who needs medical financial or equipment support, have them contact our MediShare Director, Dr. Arnold Kalan at wb6ojb@yahoo.com "We are a family!"

WRITE TO US!
 We welcome your comments.
 Mail to Marco, P.O. Box 127,
 Indian Rocks, FL,
 33785. Email to
 warren.brown1924@gmail.com
 Letters may be edited for
 brevity & clarity.

MARCO NET SCHEDULE

<u>DAY</u>	<u>EASTERN</u>	<u>FREQ.</u>	<u>NET CONTROLS</u>
Any Day	On the Hour	14.342	Hailing Frequency
Sunday	10:30 a.m. Eastern	14.140	CW Net, Chip, N5RTF
Sunday	11 a.m. Eastern	14.342	Warren, KD4GUA

(Alternate confidential Grand Rounds frequency—
 on or about 14.344 or as announced on the air.)

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

Page 2

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.

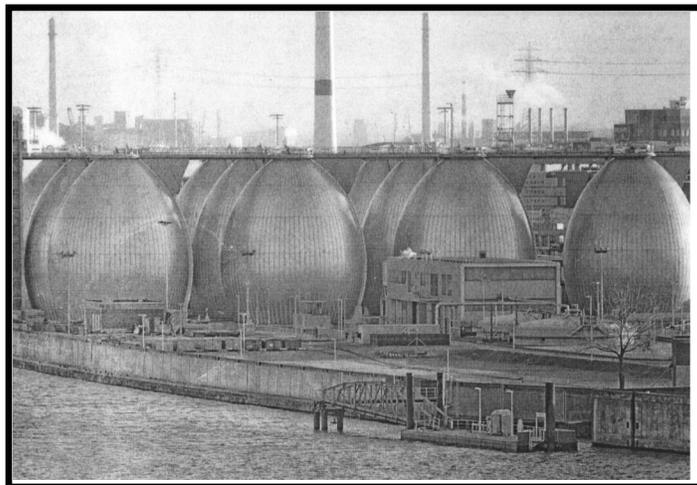
plants have started running on photovoltaic power, and Dubai is currently working on a project to power all of its desalination with solar energy by 2030. Others are experimenting with solar power and the old thermal desalination process, using the power of the sun to heat and evaporate water. None of these approaches is ready to be implemented on a large scale however.

The growing desalination industry will also have to deal with growing volumes of super-concentrated wastewater. Already, it is estimated that 142 million cubic meters of brine are produced every day by global desalination efforts, about 50% more than the amount of freshwater produced daily.

Most brine is currently discharged into the sea and, if not done so responsibly, could threaten marine life that comes into contact with the super salty water and any chemicals left over from the desalination process. While the industry has ways of dealing with the waste, it could be a growing problem as the industry continues to scale up.

Even with these possible improvements, desalination today remains impossibly expensive for some countries. It can cost billions of dollars and takes several years to build a desalination plant. While there is research aimed at making the process more accessible, affordability is still a limiting factor. Its very hard to hit the price points accessible to people living on \$2 a day, and that's the areas that should be concerned.

As the planet faces an uncertain water future, desalination is going to keep pumping out freshwater for thirsty cities. Whether it can do so while transitioning to renewable energy and reaching parts of the world that need it most remains to be seen.



A desalination plant in Hamburg, Germany.
 (Credit: Andra Izzotti/Shutterstock & Discover Magazine, Nov. 2019.)

CANCER MORTALITY RATES ARE FALLING IN U.S.

(Information from the Wall Street Journal, Jan. 10, 2020.)

Cheer Up, for all the political grouching about health-care costs, the good news is that cancer survival rates have improved enormously over the last three decades especially in the USA.

The American Cancer Society reported this week that the cancer mortality rate in the U.S. has plunged nearly 30% since its peak in 1991, with the biggest annual decline occurring in 2017. Fewer Americans are smoking, and more are being diagnosed at earlier stages thanks to better tests and screening, increasing the odds of survival.

The five-year survival rate is now 98% for prostate cancer, 92% for melanoma and 90% for breast cancers. Between 2013 and 2017, the death rate for men with melanoma declined by a stunning 7.6% annually. Screening and treatment improvements also helped reduce the death rate for breast cancer by an average of 1.5% annually from 2008 to 2017.

Scientific understanding of cancer and its genetic determinants has advanced by leaps over the past decade. Personal DNA testing companies like 23andMe arm people with more information about their risk factors. Most women now know, for example, that mutations in the BRCA1 and BRCA2 genes increase the risk of breast and ovarian cancers.

Breakthrough therapies that harness a victim's immune system have also increased survival rates by multiples over traditional treatments such as chemotherapy. That's especially true for cancers with low survival rates such as metastatic melanoma and lung cancer.

But the drugs require enormous investment and therefore aren't cheap once they are approved by the FDA. The U.K.'s National Institute for Health has rejected immunotherapies because they were too expensive. Such government rationing and price controls on drugs are one major reason that countries with socialized medicine like the U.K. have lower cancer survival rates than the U.S. The age-adjusted cancer mortality rate is about 20% higher in the U.K. and 10% higher in Canada and France than in the U.S.

According to a study in the Lancet, an individual diagnosed with pancreatic cancer between 2010 and 2014 had nearly twice the likelihood of surviving five years in the U.S. than in the U.K..

Almost everyone knows someone who has been struck with cancer, and many have had bouts of their own. **The good news is that the prognosis has never been better, and innovative drug therapies are a major reason.**

Above was taken from Jillian Mock's fine article "Why Desalinating Water is Hard—and Why We Might Need to Anyway," which appeared in Discover Magazine, Nov. 2019.)

Note: During a recent Marco annual meeting held in El Paso, Texas, Bernie Krasowski KD5QHV, our host, took us on a tour of a desalination plant out in the desert. The group scratched their heads wondering what a desalination plant was doing out there? What we learned was that El Paso derived its drinking water from a large underground saline lake!

THE LATEST ON ASPIRIN & ESTROGENS

(Information for below was from "Medscape.")

A new analysis has found that older adults (>65 years) who regularly took aspirin had a significant reduction in mortality from all causes and from cancer compared with individuals who didn't take aspirin.

"This observation was consistent across all causes of mortality...however the greatest reduction in risks was noted for colorectal cancer mortality."

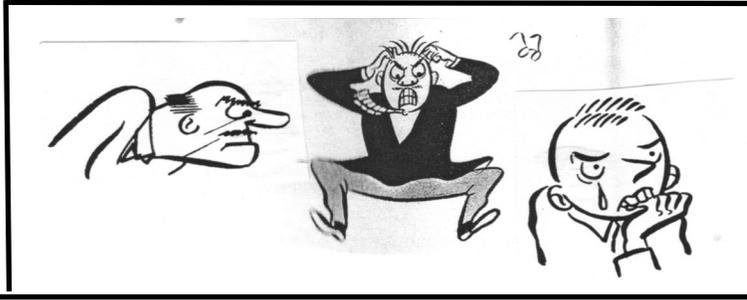
The data indicated that use of conjugated equine estrogens alone significantly decreased breast cancer incidence and deaths from breast cancer, while estrogens plus medroxyprogesterone acetate significantly increased the risk of developing the disease. In both instances, these effects linger for decades after discontinuation.

Rowan Chlebowski, MD, UCLA Medical Center stated, "No one has been able to reconcile these findings," he acknowledged.

Asked whether these data should influence current guidelines on menopausal hormone therapy he said, "Yes, I would hope so. Women considering estrogens alone should know it's safer and there may be a breast cancer benefit associated with it's use," he said. Women considering estrogen plus progestin have "a little more difficult dilemma because they have to be willing to accept a 20-year and maybe lifetime increased breast cancer risk although the absolute risk is very small," he said.

PHYSICIAN BURNOUT WHILE TREATING PATIENTS ³

Excerpts from article by Joseph DeVeau, M.D. in "American Family Physician"
Nov. 2019.



Case #1. A 25-year-old patient presents with viral URI that have been present for two days. The patient requests antibiotics based on her experience at past care at local retail clinics. Antibiotics are not indicated; however, you oblige, recognizing that the patient may choose other health care options for future care. You also fear that the patient will give you poor patient-satisfaction ratings in the post visit survey.

Case #2. A 54-year-old presents for a consultation regarding ongoing fatigue and myalgia's related to her fibromyalgia diagnosis. While you are typing into the electronic health record, she asks whether you are listening. She then challenges your recommendations with information from online sources, including message boards and blogs. You respond by stating that you cannot help her if she does not want your opinion or expertise. You immediately regret your words and apparent lack of compassion.

Physicians face multiple stressors in modern medicine that can lead to disillusionment and burnout, which occur when the reality of practicing medicine does not match physician's previous naïve expectations. Burnout is a syndrome that includes emotional fatigue, cynicism, depersonalization, and a loss of meaning in work. Nearly 43% of American physicians exhibit at least one symptom which can result in depression and possible substance abuse. Furthermore, ongoing emotional distress causes physicians to be at higher risk of suicide. Male physician suicide rates are currently 1.4 times that of the general population, and nearly 300 doctors annually take their own lives. Female physicians are even more vulnerable with rates 2.3 times higher than the average for women in the general population.

Burnout adversely affects the ability to provide quality care to patients, even to the point of becoming a public health crisis. One study showed that self-reported major medical errors among surgeons increased 3% to 10% as measures of burnout increased. Also, the risk of losing capable physicians through attrition or dysfunction will further affect patient care and access.

Identifying the external and internal root causes of burnout and creating actionable initiative and strategies may be a start in improving stress and physician morale. External factors include increased electronic health record documentation requirements; perceived loss of control and autonomy; medicolegal stressors; administrative tasks, including quality reporting, payer preapproval and billing demands; a shift from professionalism to consumerism; patient access to online medical resources and physician reviewing platforms; and patient demands and expectations of physicians. Many patients regard the primary care doctors as the face of American health care, resulting in transference of their frustration with the entire system onto those front-line physicians.

Internal factors contributing to burnout stem from the erosion of core values with which physicians entered the medical field. Studies show that doctors may be vulnerable to burnout because of specific personality traits and working in a medical culture that emphasizes perfectionism, denial of personal vulnerability, and delay in gratification. Exhaustion, lack of time, and a sense of demoralization have made it even more difficult for doctors to care for themselves and their patients. Primary care physicians have found themselves excluded from positions of influence, with their voices dampened by health care's move to a corporate culture, and they have lost touch with each other in the current health care system.

How can physicians develop strategies, including resiliency skills, that enable them to remain connected to the deeply rooted reasons that led them to become physicians? Early intervention could be part of the answer. A small study found that early exposure to an interactive resiliency in short-and long-term decreases in burnout symptoms. Such interventions suggest that doctors benefit from focusing on themselves to build resiliency as individuals and as a physician community.

For this change to succeed, strong physician leadership is required. ➡

SOLAR CYCLE 25 PREDICTION

Submitted by Danny Centers, W4DAN

The Solar Cycle Prediction Panel has released its latest forecast for the coming Solar Cycle 25. The panel's consensus calls for a peak in July 2025, with a smoothed sunspot number of 115. The panel agreed that Cycle 25 will be of average intensity and similar to Cycle 24. The panel additionally concurred that the solar minimum between Cycles 24 and 25 will occur in April 2020. If the solar minimum prediction is correct, this would make Solar Cycle 24 the seventh longest on record at 11.4 years. In its preliminary forecast released last April, the scientists forecast tht Solar Cycle 25 would likely be weak, much like the current Cycle 24.

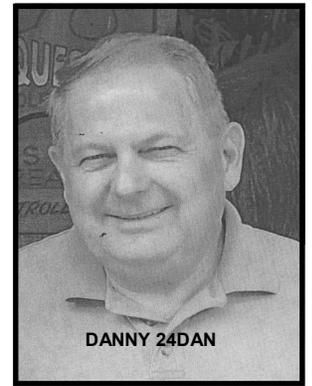
"Solar Cycle 25 may have a slow start, but is anticipated to peak with solar maximum occurring between 2023 and 2026, and a sunspot range of 95 to 130. This is well below the average number of sunspots, the panel said last spring, adding with "high confidence" that Cycle 25 "should break the trend of weakening solar activity seen over the past four cycles." The panel said the expectation that Cycle 25 would be comparable in size to Cycle 24 suggests that the steady decline in solar cycle amplitude seen from Cycle 21 through Cycle 24 has ended and that there is no indication of an approaching "Maunder-type" minimum. Cycle 24 peaked in April 2014 with an average sunspot number of 82.

EXTRA Update, Danny sent in Special Bulletin from ARRL HQ.: New Solar Cycle 25 is on the way, but just when is not clear. On Dec. 24, two new sunspots—one in each hemisphere—emerged that exhibit the reversed magnetic polarity marking them as belonging to Solar Cycle 25. According to Hale's Law, sunspot polarities flip-flop from one solar cycle to the next...the sun is now in solar minimum—the polarity...reversed polarity sunspots appear on the sun...the remarkable sunspot scarcity has prompted discussion of a possible "extended minimum". Such an event could have implications for terrestrial climate. Solar activity is proceeding normally.

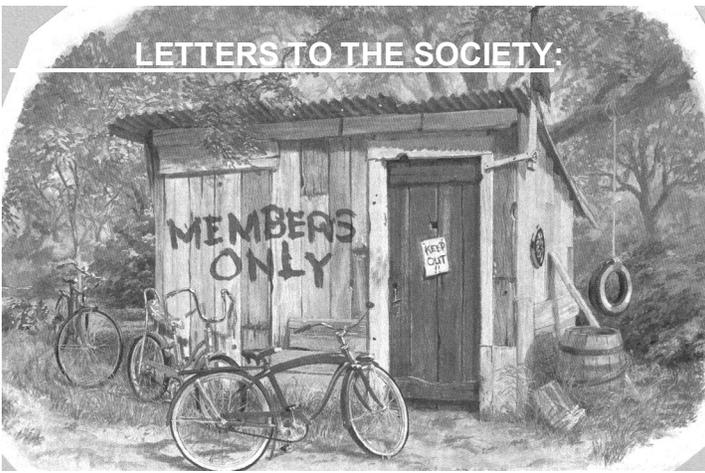
Professional organizations and local health care systems must pay a major role in supporting these efforts, especially in decreasing administrative burdens on physicians and improving practice environments. Forward thinking health care organizations, including Stanford Health and Novant Health, have made bold investments in physician health and wellness by creating and implementing physician wellness strategies.

One large outfit engaged its doctors by holding brainstorming sessions. In the work groups, physicians voiced their frustration regarding administrative burdens By mandating that their doctors perform only "doctor work," the organizations executives created processes to ensure that their physicians worked at the top of their licensure rather than being bogged down in administrative tasks (completion of prior-approval paperwork) that could be handled by other staff members.

The AMA's Code of Medical Ethics enjoins physicians to address their own and their colleagues' mental health and well-being. It can be argued that physicians have performed poorly with this mandate. Rebuilding physician community and mutual accountability for wellness will not fix all of the external factors that have led to the burnout epidemic, but it will remind physicians that **we are all in this together, united and no longer left to fend for ourselves.**



LETTERS TO THE SOCIETY:



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.

Ham Confusion in California? (*See Page one*) has brought several responses...apparently this has fostered an *overreaction* brought about by a misconstrued YouTube video...keep your eyes open for any ARRL reaction...

Jeff Wolf K6JW writes from California...This is an update on my antenna situation. After sinking about \$2500 into useless attempts to repair my SteppIR DB.18E antenna, even SteppIR can't get it fixed. So, it will be coming down and will be replaced by a Mosley Pro 5 band (10,12,14,17,20,40) antenna. It will go up in late January at which time I'll be able to get back on the Sunday net.

Joe Rubin, W4CBJ, St. Petersburg, FL has sent a survey of leukemia mortality among amateur radio operators in California and Washington state for the years 1971 to 1983. Proportionate mortality ratios (PMRs) were computed. During the study period, 296 male deaths were listed for Washington and 1642 for California. All malignant neoplasms had elevated PMRs in both states. The excess mortality due to leukemia was limited to myeloid and unspecified types of leukemia. The PMRs due to leukemia among Washington radio operators who worked in electrical exposure occupations was 264, as compared to PMR of 210 among hams who worked in other occupations. These results offer further support for the hypothesis that electromagnetic fields are carcinogenic.

Talk about oddities....Ed Rubin N2JBA, in Amenia, N.Y. (no relation) sent the same article to MARCO....**Joe Rubin** incidentally reports his uncle is named "Rubin Rubin!" (a popular name!)

Danny Centers, W4DAN, (our former secretary-treasurer) has a new email address: *Danny-C@email.com* His new phone numbers are 423 693 9103 or 423 310 3184.

"GOSSIP"...Early politicians required feedback from the public to determine what the people considered important. Since there were no televisions, TV's or radios, the politicians sent their assistants to local taverns and pubs. They were told to "go sip some ale" and listen to the people's conversations. The two words "go sip" were eventually combined when referring to the local opinion and thus we have the term "gossip."

What does "Australia" mean in Latin? The name "Australia" in Latin means "southern." The name was adopted by the British Admiralty in 1824. Until then, the continent was known as "terra australis incognita" (*unknown southern land*) and later Terra Australis by explorer Matthew Flinders—and ever later, shortened to Australia by Flinders on a chart in 1804.

Which West Coast city was originally named "New York?" Settlers who came to what's now the Seattle area established their town of New York in 1851, more than 200 years after the Big Apple made it on the East Coast in 1624. Later named New York-Alki ("*Alki*" meaning "*by-and-by*" in *Chinook*), the town was eventually relocated to the Pioneer Square district on Elliott Bay, after which it was named Seattle in honor of Sealth, the friendly Duwamish Indian leader. The name stuck, and a uniquely Pacific Northwest culture was born.

"Xofluza" is approved for treatment of acute uncomplicated influenza in patients 12 years + who have been symptomatic for no more than 48 hours. Advise patients that XOFLUZA is dosed based on weight and is available in blister cards containing two tablets to be taken together as a single dose.

VD Alert: Over the past five years, Florida has had a 37% increase in gonorrhea. Treatment is now 250 mg of Ceftriaxone IM in a single dose, PLUS 1 gram of Azithromycin orally in a single dose.

Study finds limits to Stents' benefits...Stents and coronary artery bypass surgery are no more effective than intensive drug treatment and better health habits in preventing millions of Americans from heart attacks and death, a large study found, shedding new light on a major controversy in cardiology. The study suggests that while stents and bypass surgery can be lifesaving for people who are having heart attacks, they aren't necessarily better than cholesterol-lowering drugs and other changes in health habits for most people with chronic or stable coronary artery disease. The federally funded study "*Ischemia*," follows two earlier clinical trials that found similar results. *Ischemia* included 5,179 high-risk participants identified as having moderate or severe ischemia. ???

Proton pump inhibitors, such as Nexium, Prilosec, Prevacid, also known as "acid blockers" used for gastric indigestion are now reported as *potentially harmful*. Despite clinical research that shows drinking more water reduces stomach acid more than these drugs and with no side effects, pharma's relationship with the doctor's office often prevents these self-help practice's from being disseminated. Side effects of PPIs include increased risk for kidney and heart disease, cognitive deficiencies and increased mortality overall. (*The GOOD NEWS—"water is cheaper!"*)

Age limit to buy tobacco raised to 21...Anyone under 21 can no longer legally buy cigarettes, cigars, or any tobacco products in the U.S. The new law enacted by Congress also applies to electronic cigarettes and vaping products that heat a liquid containing nicotine.

Memorial Day was established on May 30, 1868 for remembrance and decoration of graves of soldiers lost defending the nation. The original name, "**Decoration Day**" was changed to "**Memorial Day**," in 1968 and the designated date was changed to the last Monday of May.

MARCO AD IN QST MAGAZINE

Club/Hamfests/Nets

MARCO Medical Amateur Radio Council.
Professionals enjoying ham radio. Free newsletter & info: secretary@marco-ltd.org



**MISCONCEPTIONS OF
"CANCER FREE"
PATIENTS**

By John D.Young, M.D.



In the last several months I have seen a number of patients who have been diagnosed with very early cancer. There are various types of cancers but a large majority are of blood origin, like the leukemias. The oncologist has seen them and tells the patient it is early in the disease so why don't we just wait until you have more serious signs and symptoms before we treat! The patient is upset, and believes there must be something they can do to help strengthen the immune system so they don't get sick and die. The good news is there are things a patient can do to slow down or rid the body of cancer while it is still in its early phase.

Thanks to the recent agreement between the U.S. FDA and the European FDA many new lab tests are available that can tell if the cancer cells are beginning to spread, by generating more blood vessels. Unfortunately, in America we do minimal similar testing. One reason is our tests are based on 2 million cancer cells must be present for the lab to pick up changes. In Europe it is all based on 20,000 cancer cells. The US uses about 10-15 markers for cell activity whereas Europe uses about 45-60 markers. This is a significant difference. The European lab will even tell you what drugs or products are more effective at eliminating your cancer cells. Next time your doctor says to wait until you get sick before we treat, tell them to check some of the European testing. I have done this for a number of patients and they were all pleased. Also, one of the biggest misconceptions I hear from patients is the doctor removed the cancer and all the margins were free and that you are fine. That sounds great but it is not always true. We now have the ability to possibly diagnose and identify cancers from a blood draw. We realize that once you have malignant cells they probably have spread throughout the body. Ask your doctor or oncologist to show you how to be more proactive in making more sure that cancer cells never spread in your body. Remember 95% of people die of cancer not because of the original location of the cancer but of the metastasizing of the tumor. The oncologist is well trained in helping to prevent this from happening. Let him know you want to be proactive with your tumor and not wait until you are really sick.

John D. Young, M.D.

(The above fine awareness appeared in Dr. Young's article which appeared in the Dec. 2019 edition of the "Feather Sound News," in Clearwater, Florida

DAYLIGHT SAVINGS TIME (DST)

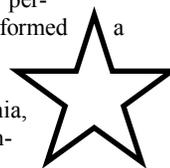
By Bobby Deskins, Feather Sound News, Dec. 2019

We have now returned back to Standard Time and many of you are complaining. The modern day idea was brought up by New Zealand in 1895. It was then proposed moving the clocks by 2 hours to take advantage of the daylight hours. Because of the tilt of the earth, as we orbit the sun, there are times of the year when we are leaning away from the sun and other times when we are leaning toward the sun. The times when we are leaning toward the sun bring us more daylight hours and vice versa. It's this actual change that has caused us to adjust our schedules to try to take advantage of the sun's light. Some say the DST saves energy by having more activities during the daylight hours when we can use the sun's light.

It was first implemented in Germany in 1916, followed quickly by Great Britain and then the U.S. in 1918. However, the very next year the U.S. repealed that act and left it up to the states. This caused a chaotic time situation for years. For instance, by 1965 in Iowa alone, there were 23 different start and end time pairs and this was multiplied over many states. As a result, in 1966, the U.S. signed into law the Uniform Time Act. This standardized daylight saving time starting the 1st Sunday in April and ending the last Sunday in October. This was changed in 2007 to the second Sunday in March and the first Sunday in November. All this sounds great but that 1966 act also allowed for states to remain on standard time if they wished.

In 2018, Florida voted to remain on daylight savings time year round but it has not been approved yet in Congress.

Penn Medicine recently announced that it had performed two successful uterus transplants and had formed a national scientific consortium with two other pioneers of the experimental procedure.



Researchers from the University of Pennsylvania, Baylor and the Cleveland Clinic gathered in Washington to brief congressional staff on the state of uterus transplantation.

Baylor researchers have estimated at least 500,000 U.S. women of childbearing age are infertile because of a missing or non-functioning uterus.

Baylor, which launched its clinical trial of uterus transplantation in 2016, has had three births as a result. The Cleveland Clinic delivered its first baby for such a transplant in July.

Only about 50 uterus transplants have been done world-wide, most with organs from living donors. In May, Heathie Bankos, a nurse and mother of three traveled to Baylor to donate her uterus to a recipient.

Uterus transplantation remains controversial. It involves major surgery, costs about \$200,000 that is not covered by insurance, and is not lifesaving, like a vital organ transplant. When the transplant is successful—and it may not be—the recipient must take antirejection drugs until giving birth; then the recipient may elect to have the uterus removed.

ALL STATES SHOULD REQUIRE BIKE HELMETS

The National Transportation Safety Board is recommending that all 50 states enact laws requiring bicyclist to wear helmets to stem an increase in bicycle deaths in the US. 857 bicyclists died in crashes with motor vehicles last year, a 6.3% increase over 2017. Bicycle deaths rose even though total road deaths fell 2.4%. Since head injuries are the major cause of deaths, helmets would be of great help. No states require all bicyclists to wear helmets.

WHAT DOES "ALOHA" MEAN?

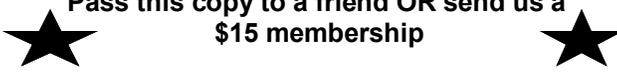
You may have heard that "aloha" means both "hello" and "goodbye." But the literal meaning is even more beautiful than that. "Alo" means "presence," while "ha" means "breath." So the literal meaning of "aloha" is the "presence of breath" or the "breath of Life." In this way, to greet someone with the word "aloha" is as though you're welcoming their life, whatever that may be. The nonjudgement respect that it represents is very much something of the Hawaiian culture: a compassionate and carefree island lifestyle that invites you to be you.

A WONDERFUL LADY—"JUDY GARLAND"

Born *Frances Ethel Gumm* in Grand Rapids, Minnesota, Judy Garland is still regarded as one of the most beloved Hollywood stars of all time. Garland was born into a show business family and began performing at an early age with her sisters Mary Jane and Dorothy as The Gumm Sisters. She quickly rose to become a child star in her own right, adopting the stage moniker of Judy Garland around age 12.

She was so popular that she was signed without a screen test to the biggest film studio in the world at the time, MGM. She appeared in a number of films before her best-known role of Dorothy Gale in 1939's The Wizard of Oz. The film was a hit and earned her an Academy Award. While Garland was Hollywood's

KEEP MARCO PERKING !
 Pass this copy to a friend OR send us a
\$15 membership



STANFORD SCIENTISTS PREDICT PEOPLE'S AGE BY MEASURING PROTEINS IN BLOOD.

The carnival worker who tries to guess your age relies on aspects of your appearance, such as your posture and whether any wrinkles emanate from the corners of your eyes and lips. If the guess is more than a few years off, you win a stuffed koala.

But a team of Stanford scientists doesn't need to know how you look to guess your age. Instead, it watches a kind of physiological clock: the levels of 373 proteins circulating in your blood. If the clock is off, you don't win a plush toy, but you may find out important things about your health.

The study's results suggest that physiological aging does not simply proceed at a perfectly even pace, but rather seems to chart a more herky-jerky trajectory.

We've known for a long time that measuring certain proteins in the blood can give you information about a person's health status—lipoproteins for CV health for example. But it hasn't been appreciated that so many different proteins' levels—roughly a third of all the ones looked at—change markedly with advancing age.

Changes in the levels of numerous proteins that migrate from the body's tissues into circulating blood not only characterize, but quite possibly cause, the phenomenon of aging.

The researchers analyzed plasma—the cell-free, fluid fraction of blood from 4,263 people ages 18-95. *Proteins are the workhorses of the body's constituent cells, and when their relative levels undergo substantial changes, it means you've changed, too.* Looking at thousands of them in plasma gives you a snapshot of what's going on throughout the body.

Ages 34, 60, and 78, stand out as distinct times when the number of different blood-borne proteins that are exhibiting noticeable changes in abundance rise to a crest.

This happens because instead of simply increasing or decreasing steadily or staying the same throughout life, the levels of many proteins remain constant for a while and then at one point undergo sudden upward or downward shifts. These shifts tend to bunch up at these three separate points in a person's life: young adulthood, late middle age and old age.

The investigators built their clock by looking at composite levels of proteins within groups of people rather than in individuals. **But the resulting formula proved able to predict individual's ages within a range of three years most of the time.** And when it didn't, there was an interesting upshot: People whose predicted age was substantially lower than their actual one turned out to be remarkably healthy for their age.

On measuring the levels of roughly 3,000 proteins in each individual's plasma, the team identified 1,379 proteins whose levels varied significantly with participants' age.

A reduced set of 373 of those proteins was sufficient for predicting participants' ages with great accuracy but there were cases of substantial divergence between participants' chronological and physiological age—for example, among the subjects in the study, with their genetic proclivity toward exceptionally good health in what for most of us is advanced old age. The study also strengthened the case that men and women age differently.

The study had data on hand-grip strength and cognitive function for that group. Those with stronger hand grips and better measured cognition were estimated by the plasma-protein clock to be younger than they were.

Of the proteins the analysis found to change with age, 895 or nearly 2/3rds were significantly more predictive for one sex than for the other, promoting increased inclusion of women in clinical and the demarcating of sex as a biological variable. A drop of blood is all that is needed for a 373-protein readout.

Any clinical applications of this technique are 5-10 years off though it could be used to identify individuals who appear to be aging rapidly & also to find drugs that slow the aging process or predict an early warning of a drug's unanticipated tendency to accelerate aging.

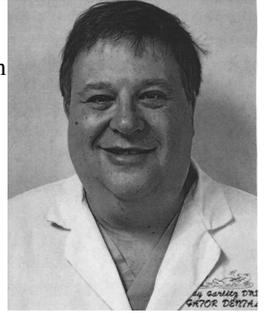
KEEP MARCO SPARKING !

Pass this copy to a friend OR send us a \$15 membership

6

OUR PRESIDENT Jay Garlitz AA4FL SAYS.....

20/20 seemed so far away when this Century began. Changes in our professions and society in the last two decades abound, some that bring comfort and some a source of angst. We adapt to change at different speeds and MARCO has done it's best to avoid speedbumps. The planning that make this happen starts at our annual business meeting, this year to be held Friday morning May 15, 9 am. The agenda will be replete with topics that you care about. Our Bylaws, Aether, Listserv (google group), Direct ors/Officers, Website, and much more will be discussed, paving the way for success. We hope you'll join us and look forward to your input.



The hotel hosting our annual meeting is the Wingate by Wyndham, 3055 Presidential Drive, Fairborn, OH. Our room block of rooms starts Thursday May 14, for three nights priced at \$129 plus \$16.45 tax per night (breakfast is included). Reservations must be made by April 23, phone 937 912 9350. Make your reservations ASAP as availability is limited.

The HamVention MARCO experience extends well beyond our annual business meeting. Spouses and guests are welcome. We meet for dinner Thursday night, planning our evening once we know your arrival time. Friday after the business meeting those going to HamVention head to Xenia, with non-ham spouses planning their own adventures. Friday evening we will select a venue to gather for dinner. On Saturday, the focus is HamVention followed by our annual Marco dinner banquet that evening.

Our members with dues up for renewal have received their billing this year by e-mail wherever possible, the second year of this effort. Webmaster Dave Lieberman KT8E and Secretary Joe Breault WB2MXJ, have labored to get this done for us, through meritorious volunteerism. E-mail invoicing with Pay Pal payment is the preferred modality as the renewal is processed quickly in our membership system. If you have made a payment and receive a second invoice the system entry has not caught up with the mailing, especially true for those who mail in their payment. Dave will have an article in Aether's April issue explaining the process and how our organization benefits from this approach.

Having your e-mail address is paramount for MARCO to run smoothly, and for our leadership keeping in communication with you. If you prefer to not release your personal e-mail address due to concern of spam/privacy, the ARRL offers e-mail forwarding providing you with a callsign@arrl.net address that will forward transparently to your personal address. This might be a good solution for you to use in listing an e-mail address on QRZ or other public sites, as you are in control. Use your ARRL profile on their website to set this up.

Two years serving as President completes in May, having passed quickly. My final President column will be in the April issue I will remain active in service to MARCO and am gratified by the many volunteers who afford us success through dedicated involvement.

Do not hesitate in contacting me with any questions or concerns about MARCO.

In Service to MARCO and 73,

Jay AA4FL

EDITOR'S NOTE: Late dues received (not listed on page 12) include:

Daily, Richard, KB5FLA, Russellville, Arkansas
Fink, Marc, W3QWA, Chesapeake, Virginia
McGirr, Michael, Crete, Illinois
Przekop, Micheline, KC9ARP, Batavia, Illinois
Shatz, Arnold, N6HC, Santa Anna, California
Zipperstein, Jerrold, N4TSC, Boca Raton, Florida
Keith, WB9GET, Texas
Jim, KA8KEI, Tennessee

LISTEN TO MARCO GRAND ROUNDS OF THE AIR
Every Sunday, 11 a.m., Eastern, 14.342 MHz.

MEMORIES OF YEARS AGO IN MARCO

Our History Book

Twenty years ago in Marco

It was twenty years ago when the FCC dropped the "Novice" and "Advanced" licenses leaving only "Tech", "General", and "Extra" licenses available. No further Novice or advanced licenses would be issued.

The NL dedicated the February 2000 issue to the late former President of Marco, Edward R. Briner who became a Silent Key on November 13, 1999.

Fifteen years ago in Marco

The February 2005 edition of Aether featured our President Chip Keister attempting to garner interest in the upcoming New Orleans annual Marco meeting scheduled for his home town. Bruce Small KM2L, our Past President has agreed to two "hurricanes at Pat O'Brien's Pub providing Marco will provide transportation back to the hotel.

Bob Morgan in his "News from Canada" column mentioned a Toronto physician, Dr. Michael Kutryk, who has developed an antibody-coated stent that promotes faster healing in coronary stents.

Ten years ago in Marco

Late Marco President Fred Simowitz K0FS tells how he and Ira Wexler W3HEF founded the Marco Grand Rounds of the Air in the 1970s.

Five years ago in Marco

Mary Kaye Favaro AE4BX has returned to Myrtle Beach, SC after serving a locum tenens at the Navajo Indian Reservation in Arizona.

Marco learned that the late Sister Mary Emmanuel, 80, had been placed in a retirement facility in Houston, TX. She was grateful to her Ham friends in Marco for their interest in her whereabouts.



THE CUTTING EDGE

A promising new therapy to reduce heart failure rates is underway. The trial will test the hypothesis that unloading the heart's left ventricle for 30 minutes with an Impella heart pump prior to opening blocked arteries will reduce myocardial damage from a heart attack and lead to a reduction in future heart failure rates. In other words less scarring.

Be on the alert for the remote possibility of a lymphoma developing around breast implants.

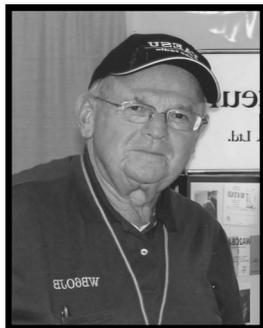
Segway has developed a traveling easy chair known as the S-pod that travels at 7.5 mph (but is capable of 24.8 mph!), has a range of 43 miles and can climb angles up to 10 degrees. It is not supposed to replace cars but is handy when traveling in theme parks and like places.

Puerto Rico's problem is not only hurricanes and earthquakes...In 2018, two-thirds of primary care docs in Puerto Rico were older than 55, compared with 43% in the nation. Meanwhile, only four out of every 10 graduates of family medicine residencies from 2011 to 2017 remained on the island in 2018 placing Puerto Rico's new family physician retention rate among the lowest in the nation.

When to give antibiotics...A recent study revealed that C-reactive Protein (CRP) has independent predictive value for identifying lower respiratory tract infections caused by a bacterial pathogen.

MEDISHARE IN 2020

Arnold Kalan WB6OJB, MediShare Director of MARCO is looking for further donations to help less fortunate hams throughout the world and



for worthwhile projects.

In the past MARCO's "MediShare has donated...both in functional and financial ways to African, South American, Russian, and U.S. projects that have brought happiness to many. Any extra dough? Send it to MediShare via Arnold Kalan, M.D., 16690 Charming Lane, Pacific Palisades, CA 90272 or our Treasurer Chuck Lind, address on pg. 7. (A tax-deductible humanitarian project.)

FINAL CME RANKINGS, 2019 BOB CURRIER MARCO GRAND ROUNDS OF THE AIR.

(Corrections to Marco)

14,342, Sundays, 11 am Eastern, One Hour Cat. II CME

CALL	HRS.	NAME	QTH
KD4GUA	49	Warren	Largo, FL
NU4DO	47	Norm	Largo, FL
N5RTF	47	Chip	New Orleans, LA
KNOS	46	Dave	Virginia
WB9EDP	46	Harry	Batavia, ILL
N4TSC	46	Jerry	Boca Raton, FL
KC9CS	45	Bill	Seminole, FL
N6DMV	45	Paul	Torrance, CA
W1RDJ	43	Doug	Cape Cod, Mass
N2JBA	43	Ed	Amenia, N.Y.
KE8GA	40	George	N. Carolina
KM2L	39	Bruce	Clarence, N.Y.
K6GZ	39	Bill	Hysteria, CA
N5AN	39	Bud	Lafayette, LA
N4MKT	39	Larry	The Villages, FL
KE5SZA	38	John	Marietta, OK
WB6OJB	38	Arnold	Pac.Pal., CA
NOARN	38	Carl	Denver, CO
N3IM	36	Keith	Mill Hall, PA
WB1FFI	33	Barry	Syracuse, N.Y.
KC9ARP	32	Michelin	Batavia, IL
K6JW	29	Jeff	Palos Verdes, CA
N2OJD	29	Mark	Sidney, OH
K4RLC	28	Bob	Raleigh, N.C.
KD5QHV	28	Bernie	El Paso, TX
KK1Y	28	Art	Seminole, FL
W6NJY	27	Art	Beverly Hills, CA
N9RIV	26	Bill	Danville, IL
W4DAN	26	Danny	Cleveland, TN
WA5EXA	25	Mark	Cape Cod, Mass
KG4CSQ	24	Ralph	Alabama
N8CL	23	Chuck	Albany, N.Y.
W8LJZ	23	Jim	Detroit, MI
KA8KEI (?)	18	Jim	Tennessee
WA3QWA	16	Mark	Chesapeake, VA
WB9GET	12	Keith	Texas
AA4FL	10	Jay	Hawthorne, FL
WA1HGY	10	Ted	Mass
KB5BQK	10	Linda	El Paso, TX
N9GOC	8	Pat	Champagne, IL
KI7JCV	6	Jim	El Paso, TX

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)	36.45

Record number of stations checked-in was 51, on Feb. 24, 2013

The top above does not count those who checked in via the computer. To get Category I CME credit please advise the editor of your attendance.

DON'T LET THIS ONE FOOL YOU !**This is an update on Drug-Induced Parkinsonism.**

Drug-induced parkinsonism is a movement disorder that is characterized by the appearance of Parkinson's disease symptoms in patients treated with certain drugs, often soon after treatment begins. These symptoms include loss of ability to control the movement of voluntary muscles (loss of arm swing can be the earliest feature) and slowness of movement resulting in expressionless face, slow initiation of movement and speech difficulties, with tremor being less common. Next to Parkinson's disease, drug-induced parkinsonism is the second most common cause of parkinsonism, accounting for about 10% of all parkinsonians' cases



Due to their indistinguishable clinical features, drug-induced parkinsonism is too often mistaken for Parkinson's disease, and patients are often unnecessarily treated with anti-parkinsonism drugs for prolonged periods without improvement of symptoms. Unlike Parkinson's disease, which develops gradually over time, drug-induced parkinsonism advances more quickly, over the course of a few days to months after starting, or increasing the dose of the causative drug. This condition also can occur after years of taking a medication.

Additionally, Parkinson's disease is mostly associated with aging, is irreversible and has unknown causes, whereas drug induced parkinsonism is reversible, with symptoms resolving after the offending drug has been stopped—a hallmark feature of this condition. Generally, 60% of people with drug-induced parkinsonism will recover within two months of stopping the causative drug. However, some individuals may take as long as two years to recover. Worsening or persistent symptoms after drug discontinuation occur in up to 25% of cases and may indicate the pre-existence of Parkinson's disease that was "unmasked" by the offending drug.

Examples of oral drugs that can cause Parkinsonism:

Antidepressants: *Norpramin, Silnor, Tofranil, Pamelor, Wellbutrin, Celexa, Lexapro, Zyprexa, Luvox, Paxil, Zoloft, generic trazodone.*

Antipsychotic drugs: *Zyprexa, Risperdal, Zeldox, & generic chlorpromazine, haloperidol.*

Bipolar disorder drugs: *Lithofid, Depakene.*

High blood pressure drugs: *All Calcium channel blockers & generic methyl dopa.*

Other Drugs: *amiodarone, fentanyl, levothyroxine, Synthroid, Provera, tamoxifen, Thalomid.*

Duration of treatment, potency and dosage of these causative drugs influence the risk.

Importantly, drug type is a major consideration for drug-induced parkinsonism, as certain classes of medications are strongly associated with this disorder. Drugs that block dopamine in the brain, such as antipsychotics and dopamine antagonists used for nausea, most commonly cause drug-induced parkinsonism along with the drugs listed above.

Case example (a "must read"):

Larry was an otherwise healthy 58-year-old man with irritable bowel syndrome. He was given trifluoperazine, an antipsychotic, to soothe the intestinal tract. Trifluoperazine is not approved for such use, and he was not psychotic. Six months later, Larry developed severe parkinsonism characterized by tremors, limited movement and rigidity. To treat this, Larry was started on oral levodopa, a drug for Parkinson's disease. Presumably, the doctor did not realize the parkinsonism could have been drug-induced, and the trifluoperazine was continued.

For seven years, Larry took both drugs until seeing a Parkinson's disease specialist. The specialist recognized the real cause of his problem, stopped the trifluoperazine treatment and slowly withdrew the levodopa over a six-month period. Larry's severe parkinsonism resolved completely.

If you are taking any medication that has the potential to cause parkinsonism, always be vigilant for the onset of parkinsonism symptoms in you or your patient.

(Information for the above fine article was taken from the Oct. 2019 edition of "Worst Pills, Best Pills News.")

WATER AND ASPIRIN

From the Mayo Clinic & presented on Marco Grand Rounds, Dec. 22, 2019.

A cardiologist determined that heart attacks can be triggered by dehydration. How many folks do you know who say they don't want to drink anything before going to bed because they'll have to get up during the night? *Drinking one glass of water before going to bed avoids stroke or heart attacks....interesting.*

Something else I didn't know. I asked why people need to urinate so much at night. Gravity holds water in the lower part of your body when you are upright (legs swell). When you lie down and the lower body (legs) seeks level with the kidneys, it is then that the kidneys remove the water because it is easier. You then need minimum water to flush the toxins out of your body.

Correct time to drink water? Drinking water at a certain time maximizes its effectiveness on the body: 2 glasses of water after waking up—helps activate internal organs.
1 glass of water 30 minutes before a meal—helps digestion.
1 glass of water before taking a bath—helps lower blood pressure.
1 glass of water before going to bed—avoids stroke or heart attack.

One glass of water at bed time will also help prevent night time leg cramps. Your leg muscles are seeking hydration when they cramp and wake you with a warning "*Charley Horse.*"

Mayo Clinic on Aspirin—Most heart attacks occur in the day, generally between 6 A.M. and noon. Having one during the night, when the heart should be mostly at rest, means that something unusual has happened—**sleep apnea!** **Best to help avoid by sleeping on your side not your back.**

If you take an aspirin or a baby aspirin once a day, take it at night. The reason: Aspirin has a 24-hour "half-life", therefore if most heart attacks happen in the early hours of the morning, the Aspirin level would then be highest in your system. If your Aspirin is getting old and inactive it begins to smell like vinegar—replace it.

Bayer is making crystal aspirin to dissolve instantly on the tongue, and is not labeled "*enteric coated*". They work much faster than regular tablets, that's why it is advisable to keep them close to your bedside.

Heart attacks, depending on which vessel is obstructed, give different signals. There may be no pain in the chest...instead it might be in your chin along with nausea, light-headedness and sweating. If it occurs take two baby aspirin immediately. THEN, call 911, then take a seat by the front door—do not lie down! Simply wait for the ambulance and—GOOD LUCK!

Remember...the amount of water you should drink has no simple answer...it depends where you live and how active you are.

Water is your body's principal chemical component and makes up about 65% of your body weight. Your body depends on water to survive. Water gets rid of wastes through urination, perspiration and bowel movements. It keeps your temperature normal, lubricates and cushions joints and protects sensitive tissues.

Lack of water can lead to dehydration—a condition that occurs when you don't have enough water in your body to carry out normal functions. Even mild dehydration can drain your energy and make you feel tired.

Men generally need about 15 cups (3.7 liters) of fluids daily whereas women require around 11 cups (2.7 liters). About 20% of daily fluid intake usually comes from food and the rest from drinks.

What about 8 glasses of water a day? It's a reasonable goal

Your fluid intake is probably adequate if you rarely feel thirsty and your urine is colorless or light yellow.

Although uncommon, it's possible to drink too much water. When your kidneys can't excrete the excess water, the sodium content is diluted (hyponatremia) which can be life-threatening.



The US National Oceanic Administration has released a new update to the World Magnetic Model confirming that the magnetic north pole, whose coordinates are crucial for the navigation systems used by governments, militaries and a slew of civilian applications, is continuing its push toward Siberia.

The data confirmed that this year, the magnetic north pole passed to within 390 km of the geographic North Pole, and crossed the Greenwich prime meridian. Compilers also confirmed that the Earth's magnetic field is continuing to weaken at a rate of about 5% every 100 years.

Scientists still don't know exactly what's driving Pole's accelerated drift. The Magnetic north is created by the churning of molten metal in Earth's core, which creates huge electrical currents to produce the magnetic field. Although the movement has been much faster since the 1990s than at any time for at least four centuries, scientists really don't know much about the changes in the core that's driving it.

With the pole passing the Greenwich meridian and continuing its race east, humanity is entering the unknown, scientifically speaking, since from the time records of the magnetic north pole's position have been kept starting in the 16th century, the pole had drifted around the Canadian Arctic.

One scientist postulated that a "jet stream" of liquid iron flowing in the planet's core could help explain shifts in the position, but suggested tracking the flows of this liquid iron could be difficult, because it lies beneath 3,000 kilometers of rock.

Concerns are increasing about the fluctuations in the magnetic north pole and its impact on the magnetic field protecting Earth... without the field, Earth would be left vulnerable to solar flares, which could cause damage to everything from spacecraft to power grids. Even with the magnetic field intact, the planet remains vulnerable. In 2011, the US National Academy of Sciences calculated that repeat of a solar storm like the one which hit the planet in 1849 could cause as much as \$2 trillion in damage and take a decade to repair

Furthermore, a weakened magnetic field may lead to a potentially cataclysmic process called a "geomagnetic reversal" in which the Earth's north and south poles effectively switch places. The last such flip is estimated to have taken place about 800,000 years ago, and some believe that another may be due soon even though such an event could take centuries to complete.

(Information for above was donated by Tom Nocera.)

THE CUTTING EDGE

No study has shown an impact of statins on CV outcomes among older adults without preexisting CAD or significant risk factors.

The U.S. Preventive Services Task Force guideline states that current evidence is insufficient to assess the balance of benefits and harms of statins in people older than 75 who have no history of stroke or heart attack.

There is no definitive evidence that statins can prevent future CAD or death for people with CAD who are older than 80.

Statins may cause muscle pain or weakness and increase fall and fracture risk in older persons.

A meta-analysis of 13 statin trials found that statins slightly increase the risk of incident diabetes, although the clinical significance of this finding for older adults is unclear.

Early recognition and treatment of amblyopia ("cross-eyes") are important to prevent vision loss. All children 3-5 years of age should be screened at least once to detect amblyopia.

The hallmark of influenza is **ABRUPT** onset of fever, cough, chills or sweats, myalgia's and malaise. Treatment with one of four approved anti-influenza drugs may be considered if the patient presents within 48 hours of symptom onset.





Sound identity or *sound pressure level (SPL)* is also specified in decibels. The reference level of 0 dB corresponds to a pressure of .0002 microbars, which is the standard threshold for being able to hear a sound. As the sounds get louder, the value of SPL in dB also increases, indicating an increase with respect to the reference level.

SPL in the average home is about 50 dB above the 0 dB threshold that serves as the SPL reference. When a vacuum cleaner 1 meter away is on, SPL increases to 70 dB. A chainsaw 1 meter away produces an SPL of 110 dB, and the threshold of discomfort from sound intensity is 120 dB.

Radio and electronic circuits also deal with signal levels that change by many orders of magnitude. This, the decibel, is a common feature of the technical side of amateur radio. For example, received signal strengths on the HF bands are usually reported in S-units. Each S-unit represents a change in strength of 5 to 6 dB. Although most receiver S-meters are not accurately calibrated, it is useful to consider that a change in signal strength of one S-unit is a change in signal power of about four.

Here are some other places you'll find the ubiquitous decibel:

Filter bandwidth is the width of the frequency range over which signals are attenuated less than 3 dB, or where the filter output is no less than half of the input power.

Feed line loss is specified in decibels per some length (100 feet or 100 meters is common) at a particular frequency.

Antenna gain is given in decibels, usually compared to an isotropic or dipole antenna.

Power amplifier & preamplifier gain is usually given in dB.

Adding Decibels Together: Another characteristic of decibels is that gains and losses of stages in a radio system can be added together if they are specified in decibels. For example, if you have an antenna with 8 dB of gain connected to a preamplifier with 15 dB of gain, the total gain is simply 8 + 15 = 23 dB. Similarly, if a power amplifier with 12 dB of gain is connected to a feed line with 1 dB of loss and then to an antenna with 4 dB of gain, the total gain of that combination is 12-1+4= 15 dB. Losses are treated as negative gains.

(The article on pages 34-38, QST, January 2020, goes into more depth.)



Mackinac Island, Mi., (above) is the only island in the U.S. that bans automobiles. Bikes, horses, shoes are allowed but autos have been a "no-no" since 1898. (Ham radios are a "yes, yes.")

Aspirin in Older Adults Linked to Fewer Deaths... A new analysis has found that older adults who regularly took aspirin had a significant reduction in mortality from all causes and from cancer compared with individuals who didn't take aspirin...the greatest reduction was noted for colorectal cancer (CRC). The risk of dying from any cause was reduced by 19%, from any cancer by 15%, from GI cancer by 25% and from CRC by 29%. The efficacy of aspirin as a cancer preventive may be associated with BMI as overweight people had the greatest reduction.

Two different types of menopausal hormone therapy—estrogens alone and estrogen plus progestin—have opposite effects on breast cancer incidence. Estrogens alone decreased while Estrogens + progestin increased long-term cancer prevalence.

PTSD THE EPIDEMIC IN OUR RANKS

By Col. Sean Mulvaney, Medical Corps, U.S. Army (Retired)

“I’m driving in my car and I see and smell a car burning on the side of the road. Suddenly my chest gets tight and I can hardly breathe. I smell cordite (ammunition powder). My pulse is racing, and I start to sweat. My hands tingle. I feel the blast wave hit me.”

This is a flashback described by a soldier suffering from post-traumatic stress disorder (PTSD). His trauma came from clearing a bunker during the ground assault period of Operation Desert Storm in 1991. The sights, smells, touch, and sounds are from close-quarters killing while moving through the bunker. An inner door blew up as this soldier approached it, knocking him unconscious. In 2008, the life-threatening incident came back in full force with the complete packet of sensory information—undiminished in intensity nearly two decades after his injuries.

Most cases of PTSD will resolve within one year, but not all. Fortunately, there is a new treatment that is demonstrating a high level of effectiveness with minimal risk factors. It is called the Stellate Ganglion Block (SGT).

STELLATE GANGLION BLOCK: SGT is a safe, routine medical procedure that has been in common use since the 1940s. Its use in PTSD, however is relatively new. Anesthesiologist Eugene Lipov first described a successful treatment of a single case of non-combat-related PTSD with a right-sided SGB in 2008. Two colleagues and I were the first to use SGB to treat combat-related PTSD. Our initial results were published in 2010, followed by a case study of 66 patients in 2014.

SGB is an injection into the front of the neck, precisely guided using ultrasound or fluoroscopy, that targets the cervical sympathetic chain. This is a component of the autonomic nervous system that serves a two-way information conduit between the brain and the body. SGB is referred to as “block” because the goal of the injection is to temporarily stop the nerve conduction with a dose of long-acting local anesthetic (a numbing agent like you might get before a dental filling—*this de-activates the sympathetic (fight-or-flight) system, and presents a positive Horner’s response that gives visible proof of its shut down. The lidocaine apparently resets or reboots the system. More than one injection MAY be needed.*)

The sympathetic nervous system is responsible for your fight-or-flight response when confronted with perceived threats such as when someone driving in front of you on a dark rainy road slams on their brakes, or when someone tries to kill you.

Chronic activation of the sympathetic (fight-or flight) nervous system is the core pathology of PTSD and leads to a chronic stress state and anxiety (and needs “re-booting”). This chronic and inappropriate activation of the sympathetic nervous system is what is working against people with PTSD. However, doctors can reset this fight-or-flight response with a Stellate Ganglion Block.

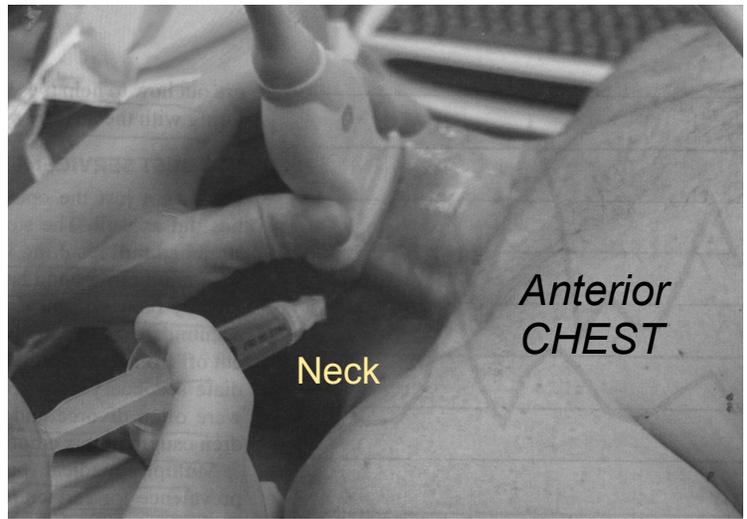
For people who cannot wait for SGB to become a widely available treatment option, it is a commonly performed medical procedure, usually done by pain medicine fellowship-trained physicians. Unfortunately, there are significant differences in how physicians perform this procedure, and this can alter how well an SGB improves PTSD symptoms. The key points are assessing the quality of the SGB to ensure the sympathetic nervous system was actually blocked and following with patients to assess their response. Most insurance companies still do not consider PTSD to be an indication for SGB, so they will not pay for it, which means out-of-pocket expense.

(Information for above was taken from the Nov. 2019 edition of “Proceedings,” publication of the U.S. Naval Institute.)

TINY LEGO-LIKE SATELLITES NOW ENTERING ORBIT.

A year ago SpaceX sent the rocketry equivalent of a clown car to orbit. Now Project Excite, satlets made of other satellites, all clones of each other, are capable of joining and working together to modular build larger units. The plug-and-play satellites cost less, take less time and should be capable of building larger objects in space.

(More details as progress commences.)



Stellate Ganglion Block (SGB) is a routine medical procedure that has been in use since the 1940s, however, only recently, has it been used to treat post-traumatic stress disorder (PTSD). It is an ultrasound or X-ray guided injection into the front of the neck that targets the cervical sympathetic chain and can reset the fight-or-flight responses associated with PTSD.

UNDERSTANDING DRUG TRIALS.

The vast majority of drug candidates fail. The ones that manage to cross the finish line can take nearly a decade to go from “molecule to market.” Then they stand a chance to bring in billions of annual sales.

Approval means the FDA has determined that a drug provides benefits that outweigh its potential risks.

Those hoping to begin the acceptance procedure must submit an investigational new drug application containing preclinical animal studies data and manufacturing details. Once the FDA signs off on those details (about 95%) human trials can begin. **The goal of Phase 1 is to demonstrate safety & about 70% succeed.**

Once safety is established, about 33% of Phase 2s advance to phase 3 trials all aiming to prove that a drug candidate is effective and that adverse side effects are manageable. **Phase 2, usually takes about 2 years.** These trials take longer and involve higher numbers of patients. They often include randomized control groups to compare the drug candidates either with a placebo or the current standard of care. About 30%, if approved, advance to **Phase 3 which determines efficacy and monitoring for any advance events over the long term.** These trials are generally the largest and can run for several years. About 25% of Phase 3 then advance to the next phase followed by the drug company filing for petition for approval. This takes about a year for the FDA to review the results.

There are ways to speed-up the process. For example, accelerated approvals are possible for drugs that treat serious conditions. Such approvals are based on what are known as surrogate endpoints, or signals thought to predict a clinical benefit rather than a benefit itself. If for instance, a surrogate endpoint in a cancer trial might be a reduction in tumor size, instead of an overall survival rate, which in itself could take years to determine.

Meanwhile, companies that successfully bring a pediatric rare-disease treatment to market can earn a priority-review voucher, which shaves several months off the review process when used. These vouchers can be sold to other companies seeking quicker approval and have fetched prices as high as \$350 million.

Even drugs that seem to fizzle out can suddenly resurface. In October 2019 Biogen announced it would seek approval for its Alzheimer’s disease treatment aducanumab, after previously announcing the drug had failed a late-stage study in March. The change, came after a new analysis of the data and conversations with regulators, the company said. Biogen’s market value has grown by nearly \$25 billion since that announcement.

Such price volatility is common. It is in physicians interest to arm themselves with an understanding of the workings of the system.

(Information for above was taken from Charley Grant’s fine article in the Wall Street Journal of Dec. 26, 2019)

NEW FACES for MARCO & RENEWALS, as of Jan.1, 2020

(More on Page 6)

Dollinger, Malin, Calif.
 Savage, Kathleen, Mass.
 DelBalso, Angelo, E. Amh., N.Y.
 Manoli, Paul, West Mystic, CT.
 Coates, Gary, Roxboro, NC
 Favaro, Mary, Myrtle Beach, SC
 Reichman, Robt., Calif.
 Lukas, Paul, Torrance, Calif.
 Wolf, Jeff, Rolling Hills, Calif.
 Haley, Frank, Alberta, Canada
 Stewart, John, Shreveport, LA.
 Newland, Jim, Omaha, NE
 Zaroni, Mike, Kaneohe, HI
 Lind, Chuck, Niskayuna, N.Y.
 Lind, Ben, Glenview, IL.
 Nohava, Charles, Ohio
 Pavel, Forest, Parkville, MO
 Meltzer, Gerald, Colorado
 Rabin, Barry, Syracuse, N.Y.
 Quackenbush, Bryan, N.Y.
 Rosenfield, Wayne, Parrish, FL
 Laje, Gonzalo, Maryland
 Stapp, Mike, Minneapolis, MN.
 Gerkens, Pieter, Belgium
 Showers, Tom, Grenada, MS
 Grayhills, Laurence, Florida
 Fitzpatrick, Jim, Madison, WI
 deAranzeta, Mario, Trenton, FL
 Small, Bruce, Clarence, N.Y.
 Lindley, James, Texas
 Brigham, Ralph, Huntsville, AL
 Lieb, David, Illinois

Kring, Roy, Bedford, MA
 Thomas, Austin, Midlothian, VA
 Kahn, Art, Beverly Hills, Calif.
 Bangsil, Edgar, Silver Creek, N.Y.
 Arthur, Don, Brewster, MA.
 Barrett, Lee, West Point, Utah.
 Dubin, Stephen, Springfield, PA
 Davidson, Bill, Chicago, IL.
 Davis, Chris, Perrysburg, OH.
 Bertka, Ken, Coopersburg, PA.
 Pakula, Stephen, Scottsdale, AZ
 Laughlan, Darrell, New Hill, NC.
 Berman, Mel, Englewood, OH.
 Toor, Dalvinder, Vancoiuver, BC.
 Baretella, Mark, Daytona Bch., FL
 Rodman, Diane, Buffalo, N.Y.
 Takase, Shinya, Fukushima, Japan
 Smith, Larry, Athens, GA.
 Geiger, Marianne, Rockford, IL
 Young, Mark, Sidney, Ohio
 Brandt, Keith, Alvin, TX
 Hablitzel, Wm., Stout, Ohio
 Smith, Bob, Clermont, FL.
 Ford, Robert, Teaneck, N.J.
 Petruzzi, Mark, W. Warmouth, MA
 Levine, Gordon, Anaheim, CA.
 Milazzo, Carol, Citrus Heights, CA
 Brown, Warren, Largo, FL.
 Lfland, Thomas, Boca Raton, FL
 Petit, James, Summertown, TN
 Custer, James, Mankato, MN.

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

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 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: _____

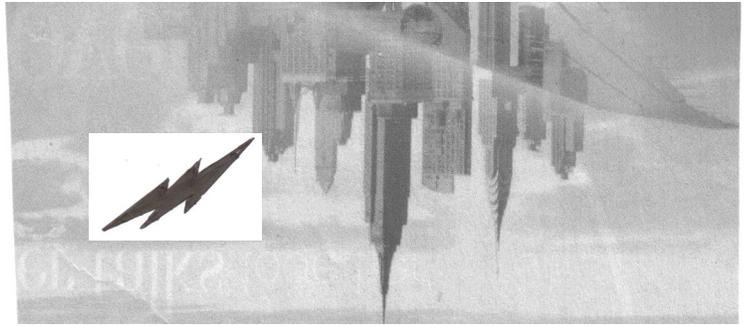
Internet Address: _____

Your Birthday _____ (Year optional.) Member ARRL _____

Applications for membership should be sent to
 Secretary Joseph Breault WB2MXJ,
 1615 Brockenbraugh St., Metairie, LA, 70005
 Email: wb2mxj@arrl.net

**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	EASTERN TIME	FREQ.	NET CONTROLS
Any Day	On the Hour	14.342	Halling Frequency
Sunday	10:30 a.m.	14.140	NSRTF (CW-net)
	11 a.m.	14.342	KD4GUA



"AETHER"

MARCO'S

121st
 Edition
 (2000-2020)
 February 2020

MEDICAL AMATEUR RADIO COUNCIL, LTD.,
 P.O. Box 127, Indian Rocks Beach, FL, 33785
 (Send dues to Jos. Breault, M.D., WB2MXJ, 1615 Brockenbraugh St. Metairie, LA 70005.)