

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



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

Email: aether@marco-ltd.org

Listserv: marco-ltd@googlegroups.com

President: Bruce Small, M.D., KM2L
 Pres. Elect: Robert Conder, Jr., PsyD, K4RLC
 Secretary: Jay Garlitz, D.M.D., AA4FL
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 Aether Editor: Warren Brown, M.D., KD4GUA
 Online Edition Editor: Jay Garlitz, D.M.D., AA4FL
 Jay Garlitz, D.D.S., AA4FL (text ed.)

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(56th year), Edition # 134 Since Year 2000, April 2022

14607 Brewster Dr., Largo, FL. 33774

A DOCTOR'S DILEMA !

SUCCESS STORY: A PHYSICIAN COMING TO TERMS WITH ALCOHOLISM

I was quite successful through college, medical school, and residency. Accolades, recognition, and honors followed. I rarely drank. Maybe it began socially. Maybe the long hours. Frequent nights on call without sleep contributed in time to the practice I loved. So much demanded more than I could give without compromising my ability to be the husband and father I wanted to be. I was calmer when I drank, I socialized more enjoyably, I could fall asleep without reworking the pains of life.

I could control my drinking, it wasn't a problem. No family member or friend ever voiced concern. I never had a DUI, I never had a "blackout," I was okay. Or so I thought.

It was a busy evening on-call. With all active issues resolved. I drove the seven minutes home around midnight. All was quiet except my thoughts. Couldn't sleep but I knew how to treat that with a drink or two. From an alcohol-induced sleep, I was abruptly stirred by the phone ringing. It was 2.00 AM and two urgent patients needed to be seen. I hurried back to the hospital after brushing my teeth and nearly swallowing a mouthful of toothpaste. I couldn't have alcohol on my breath. Later that morning, I learned that a patient complained about me smelling the alcohol. I was terrified. Would I lose my license? I thought to myself, "if you can successfully navigate through this, you'll never drink again!"

I learned that if I cooperated with an assessment and plan through Physician Health Services (PHS), this episode might not be reported to the Board of Registration in Medicine. My best lies were unsuccessful at avoiding a three-day inpatient evaluation. I minimized my problem to the evaluators and never admitted that I was an alcoholic. I returned home with a discharge diagnosis of being "On the cusp of alcohol dependence." To resume practice, PHS presented a support system including a three-year contract of abstinence from alcohol (verified by random drug and alcohol testing), support groups including one just for physicians, and a monthly meeting with a PHS associate director with expertise in addiction medicine, by training and by personal experience...invaluable tools to guide me to success.

But no, thinking I was so smart, I did the minimum to comply, and endured the three years. I never admitted that I was an alcoholic. At the end of my monitoring contract I soon resumed "controlled" drinking—just wine with dinner, then a cocktail or two on weekends before and/or after the wine with dinner. Then I hid a bottle of vodka in the garage. My visits to the garage became more and more frequent and secretive. This time I would hide it better. No one would know.

Six years after completing my first PHS contract, I again found myself in the PHS office "on the cusp" of losing my profession and livelihood. My lies no longer convinced anyone. After three days of intensive evaluation, I finally said to myself and others, "I am an alcoholic."

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GEE WHIZ !

LATE BREAKING NEWS

The next edition of AETHER will be via internet only in June 2022.

The DXPedition to the Caribbean scheduled for May has been indefinitely postponed due to the pandemic...details pending.

If you need Category I or II CME credit, contact baycarecme.org for Cat 1, it is up-to-date and courtesy to MARCO via Dr. Brown (printed AETHER editor). For Cat 2, tune in to MARCO Grand Rounds, Sundays, 11 am Eastern time on 14.342 MHz. Certificate for submission to the State Licensing Boards is issued in April's printed Aether or check with Chip Keister N5RTF (504 812 8717) for details on contacting the Sunday lectures on your personal computer.

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

Webb Telescope in orbit...The James Webb Space Telescope was launched successfully, aboard an Ariane 5 rocket that lifted off from a pad in Kourou, French Guiana last December. The largest—most powerful of its type— will herald a new era of discovery in space—100 X as powerful as the Hubble Space Telescope & 1 million miles from Earth.

MARCO NET SCHEDULE

| DAY | EASTERN | FREQ. | NET CONTROLS |
|-----------|--------------------|--------|---------------------|
| 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 |
| Wednesday | 8:30 p.m. Eastern | 7.22 | Harry, WB9EDP |

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

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.

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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.

After three months of intensive inpatient rehab with other physicians, pilots, notable entertainers, attorneys, and judges, I could fully acknowledge my alcoholism. "I'm not an idiot, I'm not alone, but I need a program to seek a daily reprieve from my alcoholism, and I need to be honest."

PHS again proposed a three-year contract of monitored sobriety, support groups, and an associate director to help navigate the good and bad days. Instead of tolerating the program, this time I embraced it. Miraculously, I had by career, my family, and my health. It felt right.

Eighteen months to the day after my last drink I had a sudden massive upper GI bleed, a known complication of alcoholism. I rapidly lost consciousness in the ER, in Trendelenburg, I heard the nurse say "BP undetectable." The ER doc, a colleague and dear friend, told me through the shadows that he was going to put me to sleep, as another doc started central lines. My family gathered as they were told I wouldn't survive the next 12 hours. Ten days later, I was extubated and learned that I had received 46 units of blood in the first 24 hours and coded three times.

Why would this happen after I was confronting my alcoholism? Is this going to happen again, but without such a miraculous outcome?

I can't and don't need to answer these questions, I know I woke up this beautiful morning. I know I have the support of PHS, the support of their alcoholics, some professionals, some without work or home, some with 40+ years of sobriety, some who have gone their first 24 hours without drinking.

When I was first reported, I resented those who filed the report, and I resented those in PHS who tried to help me. I lied to all of them to save myself in fact, they have saved my life because mostly, I was lying to myself.

Studies report that at least 10 to 12% of healthcare professionals will develop a substance abuse disorder during their careers, including at least 1 in 10 physicians (1 in 6 surgeons) and 1 in 5 nurses. These numbers are higher than the general population, however they are likely even larger than this because medical professionals are notorious for underreporting substance abuse disorders.

These workers often work demanding 12- hour+ shifts which can drain them of all their energy, making alcohol seem like a quick and easy mood elevator. Exposure to high-stress situations can cause medical professionals to seek comfort in the form of alcohol.

Treatment facilities can provide treatment and detox, while ensuring medical professionals to keep their licenses. They provide information on avoiding triggers, keeping careers and reputations intact, along with licensing and disciplinary matters. Medical professionals in rehab can even connect with other medicals to build mutually beneficial bonds.

How long does alcohol persist in a blood test? 12 hours in a blood test; 3-5 days in a urine test and 90 days in a hair test. One drink usually wears off by one drink per hour.

How long does it take for the body to break-down alcohol? 1 oz. per hour.

How many doctors drink alcohol? 94%. Most heavy drinkers are elderly males 4 to 1 over females. 8% of doctors are abusers, 20% of nurses.

How long does a blood test remain +? 12 hours. The urine test remains + for 3-5 days and in the hair 3-5 days.

What will 1 oz. of alcohol register on a blood test? .015 blood alcohol concentration. It will result in a "calming effect up to .55% whereas the calming effect goes into lack of coordination, depression and disorientation. A level of .08 to .09 will affect balance (more so in overweight people). A blood alcohol level of 300 mg/dl-400 mg/dl unconsciousness death when over 450 mg/dl.

What is the blood alcohol level for determining DUI? 80 mg/dl.

What is a standard drink: 1 12 oz beer; 5 oz of wine; 1.5 oz of spirits.



OSCAR 1

Oscar 1 (Orbiting Satellite Carrying Amateur Radio) was not only the world's first non-governmental satellite, but it was also the first satellite built by a collection of private individuals. Designed and constructed using limited resources OSCAR 1 operated for nearly 20 days, testing radio reception from space. Oscar 1 was launched successfully on Dec. 12, 1961.

Sputnik 1, which was launched successfully by the Soviet Union in October 1957,

marked the beginning of the space age. Not willing to be left lagging behind, the U.S. launched their own satellite, Explorer 1 in Jan. 1958. Barely four years from the time the Soviets and the U.S. started tussling in space, a non-governmental satellite was also successfully launched.

The idea of launching an amateur radio satellite was born within months of Explorer 1's launch. The Project OSCAR was formed by a group of radio amateurs with that goal in mind.

In order to get the project started, a series of high-level meetings were called for by the members of the Project OSCAR group with representatives of the U.S. Air Force and space companies. In that sense, the success of OSCAR 1 was not only a scientific success, but also signaled that private individuals could actually get approvals from the bureaucracy.

OSCAR 1 was literally built in the basements and garages of the members forming the group. The shape of the satellite was dictated by the shape of the carrier rocket as the satellite had to fit in the space provided in the rocket. This meant that OSCAR 1, which was about 30 cm x 25 cm x 12 cm, was slightly curved. Constructed using donated materials, the total out-of-pocket expenses of OSCAR 1, which weighed about 4.5 kg was less than \$100.

A Thor-Agena rocket launched on Dec. 12, 1961 to deploy the military Discoverer 36 satellite, carried OSCAR 1 near its tail-end, adjacent to the engine nozzle. Designed and tested to endure the kind of shock that it might encounter, OSCAR 1 was deployed in low-Earth orbit, just above the atmosphere. This meant that OSCAR 1 was the first satellite to reach its own orbit after being ejected as a secondary payload of another primary mission.

Once deployed, the satellite started transmitting the letters "HI" in Morse code. These letters were chosen in particular over other possibilities because the letters "HI" was—and still remains—an internationally recognized friendly greeting between radio amateurs. Over 500 amateurs operating in 28 countries detected the simple Morse code that was being sent out and forwarded their observations to the Project OSCAR team.

OSCAR 1 was gold-plated and had black metallic strips across the casing to regulate the internal temperature. The observations from the ground along with the telemetry from the satellite provided key findings that served as inputs for designing OSCAR 2.

Since OSCAR 1 didn't have a solar cell charging system, its operations were set to last only till the batteries discharged completely. While the expected battery life was 28 days, OSCAR 1 beamed its "HI" signal till Jan. 1, 1962. By the end of January 1962 OSCAR 1 re-entered the Earth's atmosphere after over 300 revolutions in its orbit. The success of OSCAR 1 showed that radio amateurs and private individuals could design, construct, and track reliable operational satellites, but also that they could coordinate with government launch agencies to get the work done.

A HISTORY OF VACCINE RESISTANCE

The idea of universal vaccination has always met with resistance.

In 1796, Edward Jenner developed the smallpox vaccine, which over the next quarter-century cut the death rate from the disease in half. In 1867, the British government passed a law making the smallpox vaccine compulsory under penalty of fines and possible imprisonment. Mandatory vaccination then spawned the first anti-vaccine movement.

With the advent of the polio vaccine during the 1950s, there was in fact real and demonstrated harm. A small pharmaceutical company called Cutter Labs failed to fully deactivate the virus, leading to 70,000 mild cases of polio and 10 deaths. It was one of the worst biological disasters in U.S. history. Yet demand for the vaccine from other manufacturers did not abate. More recently there has been concern about thimerosal, a preservative that contained mercury and was used in some childhood vaccines. Studies showed thimerosal to be safe and not linked to autism, but it has not been used in childhood vaccines since 2001 due to parental concerns.

In 1998, a study purported to show a link between the measles, mumps and rubella (MMR) vaccine and autism. That study was withdrawn in 2010 and has been refuted by numerous other studies, but it helped fuel skepticism and even downright hostility to vaccines particularly MMR. There are now a number of organized groups staunchly opposed to mandated vaccinations. They say they're not opposed to vaccination, but contend that not all vaccines are equally safe and effective. They argue that parents should be able to make choices for their families.

Following measles outbreaks during the 1970s, states began to mandate vaccines for children attending public schools. Those laws faced pushback as well, in the end, all but two states Mississippi and West Virginia allowed for religious or philosophic exemptions.

Over the past few years, with cases of infectious diseases such as measles on the rise, several more states have ended most exemptions. It has led to highly contentious hearings attacking hundreds of demonstrations.

During the pandemic, groups opposed to mandatory vaccinations have grown larger followings. But overall support for vaccines remains high. A Pew Research Center poll last year found that 88% of adults believe the benefits of the MMR vaccine outweigh the risk.

THE HISTORY OF THE MICROCHIP

1947...Three Bell scientists—*William Shockley, Walter Brattain* and *John Bardeen*, invent the transistor.

1955...*William Shockley* founds Shockley Semiconductor in Palo Alto, California.

1957...A group of 8 leave Shockley to form Fairchild Semiconductor.

1958...At Texas Instrument, *Jack Kilby* comes up with the idea of creating the first integrated circuit on a single piece of silicon.

1959...*Robert Noyce* constructs an integrated circuit. Both Texas Instrument and Fairchild claim discovery of the circuit.

1964...*Gordon Moore* suggests that the computational power of integrated circuits would double every 18 to 24 months, which later becomes known as "Moore's" Law."

1968...*Robert Noyce* and *Gordon Moore* leave Fairchild Semiconductor to form Intel Corporation.

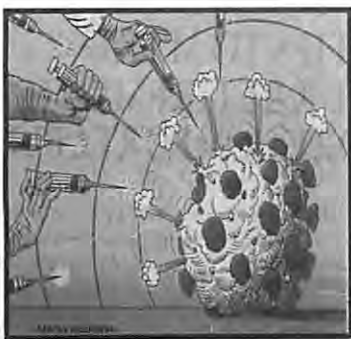
1970...Intel creates the first microprocessor, or computer-on-a-chip. It uses 2,300 transistors.

1990...*Robert Noyce* dies at the age of 62.

1993...Intel introduces the Pentium microprocessor which incorporates 3.1 million transistors.

2000...*Kilby* awarded the Nobel Prize for co-inventing the integrated circuit. *Robert Noyce* was never awarded the Nobel during his lifetime and it is never awarded posthumously.

At the medical meeting, the presiding doctor banged her gavel and said, "All in favor of the motion, stick out your tongue and say 'ah.'"



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HISTORY OF MARCO

Marco was founded in 1966 by the late William L. Sprague, M.D., WA6CRN, who held a meeting of physicians and dentists interested in exploring the formation of a medically oriented amateur radio operators organization. On April 16, 1966 MARCO was chartered as a non-profit corporation in the State of New York. It has had consistent growth since its founding. We now have representation in both the United States and ten foreign countries..

The purpose of the organization is to promote good will and fellowship among amateur radio operators worldwide, who are professionals in the healing arts, or those who have an interest in the various medical, dental and allied fields. On-the-air network options is considered an integral part of MARCO activity. Each Sunday morning at 11 am. Eastern time, "Grand Rounds of the Air," is conducted which qualifies the partaker for one hour CME category II education credit. The group exchanges medical and technical information and whenever possible, acts in the public service by assessing and acting on any medical emergency.

In 1990 the Marco Board of Directors established and funded through contributions by its members, "MediShare" whose purpose is to encourage members to donate time and resources to this charity arm of MARCO. Some of the recent programs have included financial aid to the Gulf Coast after Katrina, the South Pacific after the tsunamis, ambulances to Zambia and ambulance radios to Sri Lanka.

Any amateur radio operator in the health care field interested in joining MARCO should contact us.

Submitted in the Public Interest.

NET ETIQUETTE REMINDER TO ALL MEMBERS

As we move into the new year, it is a timely opportunity to remind everyone of proper operating procedure when taking part in any of MARCO's net sessions.

These are directed nets. There is a net control station, and you should respect that station's authority over the proceedings. The net control station will call for check-ins. Do not offer relays or comments unless requested by the net control station. In order to give all stations a chance to participate, be mindful of the number of comments you make and keep the length of your comments to two minutes or less unless the net control station grants permission to exceed this time

limit. Do not make on-air statements that may be embarrassing or damaging to MARCO or to any of its members. Remember that Sunday morning Grand Rounds is recorded and made available to the public.

Speak up? Participate actively and constructively.

We look forward to a great year!

WHAT WAS THE FIRST MEDICAL SCHOOL IN THE USA?

The *College of Philadelphia Department of Medicine*, now the *University of Pennsylvania School of Medicine*, was established on May 3, 1765. The first commencement was held June 21, 1768, when medical diplomas were presented to the ten members of the graduating class.

THE INTERSTATE SYSTEM was designed so that one mile in every five must be straight. These straight sections are usable as airstrips in times of war or emergencies. The interstate official name is *The National Defense Highway System*.

"She got her looks from her father." He's a plastic surgeon!





From Martin Diamond K1MGD...A change in my call sign...Some good news for me and a change for my mailing label...this past August on my birthday weekend, I gave myself a treat and FINALLY PASSED my Extra!! My new call sign is "K1MGD." *Congratulations Martin!*

From David Justis KN0S...*"Dear Warren...According to this letter from the University of Cincinnati, you are famous...at Ohio State. Was this really you?...i.e., the D. Warren Brown Chair of Leukemia Research and Distinguished Professor of Medicine at Ohio State in years past...WOW...now sent to my old alma mater at U of C...we did share many faculty over the years there. Warren Brown, KD4GUA* wrote back: "I am the infamous Dr. Warren Brown, who graduated from the Ohio State medical school but NOT the famous ONE who I NEVER heard about, besides there is no "D" in front of my first name...are you putting me on??? I am sure if there were two of us it would have intercepted our mail and I would have been sued for something...more later (?) Warren J (Joseph) Brown, alias KD4GUA. (Anyone familiar with any other warren browns—there was a famous Chicago sports writer at one time who had a son "Warren Junior" who was mistaken for me while I served in the Navy—I never had the honor of meeting him either—they told me we "were of mirror images?."

From Paul Lukas N6DMV, Jan. 3, 2022...Enjoyed the Tesla story (*Marco Grand Rounds of the Air, Sunday Jan. 2, 2022*) it brought back memories from the old days, when we learned about him. According to one story—no idea if it is true, but is typical of Tesla—when Tesla was working in Budapest, he went out for lunch in a restaurant. After he ordered the food, he took his pencil and made a drawing on the paper napkin—just invented the 3-phase electric motor!

When I arrived in America in 1967 and spoke no English, I was employed on the third day. How? This is how: An émigré family relative from Hungary in the 1900s—Uncle Fred, who sponsored me from New York took me to his home with my new first wife. He put us down in the cellar and said you will have to get a job, and from your first pay on, you will pay me for keeping you...hmmmm—BUT, who will hire a foreigner who cannot speak English? Then on the 3rd day he came down to the cellar and informed me that we will go to a factory which needs people. We arrived at a big factory, entered the hiring office. Uncle Fred talked to the receptionist and she said, "Yes, we are looking for electrical engineers." Then a short heavy man with glasses came, talked fast to Uncle Fred and gave him a set of sheets of paper in a folder. I looked at the pages and a drawing depicting a complicated cathode-ray tube, the name was "Storage Tube." After looking over the drawings I theorized the operation of the tube and drew the necessary operating voltages and controls on the page. About 10 minutes later the gentleman came back and saw me with the closed folder. He turned to Uncle Fred and asked, "He does not know what to do?" He then opened the folder, took a look at the drawings and jumped near me, grabbed my arm—you are hired—and dragged me into the factory. And with all this, I had long hair, old clothes—just spent 8 months in a refugee camp in Austria—I had gotten my first job in America and could not speak a word of English! (*Hello Nikola!—I too have arrived!*)

"Half-OK at 95...Mr. Johnson limped into the doctor's office and said, "Doc, my knee hurts 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!"

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.



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

"Life is fraught with opportunities to keep your mouth shut." *Winst. Churchill*

Hot Scoop & warnings...By 1990, the USSR had a population of 289 million people. Today, Russia has a population of around 150 million. In 1990 the USSR comprised more than 100 nationalities and spanned 11 of the world's 24 time zones. BUT then...at precisely 7:32 p.m. Dec. 25, 1991, the Soviet Union's 15 Republics became independent and its 40,159 nuclear warheads dropped to around 5000. Even the Ukraine, a launching site, lost its nukes and became independent and now are we looking for the potential landing sites instead of the launching sites.?!

There have been about 45 billion human beings born since creation and it's estimated that over one-third were killed by other human beings. We are our own worst enemy.

Transient Ischemic attack (TIA) has been a useful clinical term even though agreement on the diagnosis for individual cases has been far from perfect. The utility of the diagnosis has waned with improvements in brain imaging and a deeper understanding of the natural history of acute cerebral ischemia. The old diagnosis: *These are episodes of temporary and focal cerebral dysfunction of vascular origin, rapid in onset commonly lasting 2 to 15 minutes but occasionally lasting as long as a day.* These episodes were called TIAs, and the maximum duration was arbitrarily set at 24 hours. The new definition reads: *a TIA is a brief episode of neurologic dysfunction caused by focal brain or retinal ischemia, with clinical symptoms typically lasting less than one hour and without evidence of acute infarction.* Advances in imaging have rendered untenable the view that brain ischemia sufficient to cause transient symptoms often does not produce any brain injury.

The UN Climate Change Panel on Climate Change recently reported that the Earth's global surface temperature increased 1.1 degrees C since 1900 and warned that it will unalterably reach 1.5 degrees C above 1900 levels in less than 20 years, posing the risk of catastrophic harm to humanity. The extreme plethora of recent extreme weather events makes clear that climate change is an evolving crisis that is already harming human health, especially that of vulnerable populations. These harms will inexorably increase in coming years. Colloquially speaking humanity has reached a perilous precipice and must now find the will to change if it is to avoid devastating consequences.

(The above was taken from JAMA, Feb. 22, 2022, page 175, where it states "Instead of contributing to climate change, health care as an enterprise could become a model for environmental sustainability." Food for thought.)

What is the difference between a psychiatrist and a psychologist? A psychologist is a blind person in a completely dark attic looking for a black cat. A psychiatrist is a blind person in a completely dark attic looking for a black cat that isn't there.

Lady Astor once said to Winston Churchill, "Winston, if you were my husband I would put poison in your coffee!" Churchill replied, "If you were my wife I would drink it!"

Neil Armstrong once said, "I believe every human has a finite number of heartbeats. I don't intend to waste any of mine running around doing exercise."

HOW ARE TATTOOS REMOVED?

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select populations.

Almost 50% of all people between ages 18-35 have tattoos and almost one in four regrets it. Based on an estimate of about 60 million people in that age group, that would mean about 7 million people have tattoo regret.

Following tattoo application there were a number of shocking concerns that everyone should know...there were a host of reports of ink complications, infections, toxin effects, scarring, burns, chronic irritations and much more.

Among the concerns are the long-term effects tattoo inks can have on the immune system, pathology specimen interpretation and other unforeseen health complications.

Certain tattoo inks can be toxic, with some containing carcinogenic compounds. A 2012 Danish Environmental Protection Agency found; in fact, one in five tattoo inks contained carcinogenic chemicals and a vast majority of the inks tested did not comply with international health safety standards for ink composition. An Austrian government sponsored study found even more concerning, carcinogens were identified in 85% of black inks—by far the most popular color for tattoos.

More recently, the FDA found that many pigments used in tattoo inks are industrial-grade colors suitable for printer's ink or automobile paint.

Metal-based ink tattoos can react with MRI studies...Radiologists say this magnet based reaction is rare, but some have suggested simply avoiding iron-based tattoo inks.

Pathologists, meanwhile, are reporting tattoo ink in surgical biopsy specimens of lymph nodes. For instance, a 2015 report detailed the case of a young woman with cervical cancer which doctors believed had spread to her lymph nodes. After surgery to remove the nodes, they discovered that what appeared to be malignant cells in a scan was actually tattoo ink. A similar misdiagnosis occurred in another patient with melanoma.

Infections...The most common infections associated with tattooing involve staphylococcus aureus or pseudomonas bacteria arising from poor skin preparation or poor equipment sterilization. Three percent of tattoos get infected, and almost 4% of people who get tattoos recount pain lasting more than a month; itching persisting lasted usually for more than a month.

The risk of acquiring HCV (hepatitis C virus infection) remains present. Hepatitis which is 10 X more infectious than HIV, can be transmitted through needles used by tattoo artists. It is the reason the Red Cross restricts blood donations from those with newer tattoos done outside of regulated tattoo facilities.

The primary reason Harris Poll respondents reported tattoo regret was they "were too young when they had it done." The second most common reason, which coincides with the first, is the tattoo "didn't present older life style." Understandably, people who have many friends and family with tattoos are generally less stigmatize regarding their tattoo, and tend to suffer less tattoo regret. But, when tattooed respondents were exposed to individuals without tattoos, like in the workplace or institutions of higher learning, more stigma victimization occurred, and those impacted were more likely to suffer regret and ponder removal.

As the number who have tattoos grows, the market for getting these tattoos removed has also grown. Laser tattoo removal services have rapidly appeared across the nation and have become a multi-million dollar business, with additional potential for growth as the younger, highly tattooed, generations age.

Current lasers still have limitations in the colors they can erase with added difficulty stemming from more vibrant tattoo colors. Darker pigmented people tend to have less success with certain lasers and require more sessions to avoid skin damage.

Because the laser shatters the pigment particles under the skin for removal by the body, the issues with infections, scarring and the ink spreading becomes a concern again. Tattoos covering extensive areas of the body are simply too large to tackle in one session and could take years to remove and mucho dollars to remove.

Laser complications include pain, blistering, scarring and, in some cases a darkening of the tattoo ink can occur.

As technology and the demand for tattoo removal advances, some of the limitations of current lasers will shrink. Newer, easy-to-remove inks are being patented, which may represent a healthier approach due to bio-degradable ingredients, and a more predictable laser response. Picosecond lasers are also dramatically decreasing the number of sessions needed in

How are tattoos removed? Lasers work by generating a beam of light of a specific frequency. The intensity of the beam can be varied as can the frequency—which changes the color of the laser—and the duration of the light pulse. The laser beam will release energy selectively when it hits a target to a specific color.

Lasers are used to break down ink particles so that they can then be removed by the cells of the immune system. If the intensity of the laser energy is too high, there will be collateral damage to the surrounding skin that will produce a scar. If the intensity is too low the ink particle will not be disrupted.

The pulse duration is also important. When the tattoo pigment absorbs the laser energy it releases heat as the particle explodes. Rather than fire a single beam at the target, laser tattoo removal works best when multiple high-energy, millisecond or nanosecond pulses are fired repeatedly at the target. This allows any heat in the pigment explosion to dissipate before the next pulse hits. This reduces pain, and scarring.

There are several different types of lasers. Some lasers have a fixed frequency, while other are tunable. Each will remove a different color based on the frequency of light generated.

Person-to-person variation in skin color and thickness and tattoo-to-tattoo variations in pigments, technique and depth mean it's impossible to predict how much laser is required to remove a particular tattoo. Trained operators err on the side of caution, preferring to under-treat the tattoo and risk the need to repeat the treatment rather than over-treat and risk permanent scarring.

Treatments are usually done without local anesthetic, and are said to be only marginally more painful than having the tattoo. Devices to cool the skin prior to laser treatment reduces the discomfort.

How long does it take? Multi-colored tattoos often require multiple lasers or a single laser with a tunable frequency. Each treatment takes 5-30 minutes depending on the size of the tattoo. Following treatment, the skin will immediately whiten and swell; This may be followed by weeping of the skin a few hours later and the formation of a scab. This should heal after 7-10 days. The pigment will slowly fade over 3 to 6 weeks as the fractured ink particles are removed by the cells of the immune system. Repeat treatments are usually spaced 6 or 7 weeks apart.

Most tattoos require six to 12 treatments to fade. It's important to note that complete tattoo removal without scarring is rare. There will usually be as subtle silhouette indicating where the tattoo once was.

The skin also contains colored structures that also absorb laser light, so complications are possible. Pigment irregularity—where skin looks blotchy and uneven—is the most frequent complication especially in people of color.

Laser tattoo removal is best done in well-equipped centers with a range of laser devices that mirror the color complexity of the tattoo and best performed by trained technicians who understand the complexity of laser science and skin biology. Those working alongside dermatologists or plastic surgeons are possibly best placed to do this type of medical procedure. **Invisible ink: the rise of the tattoo removal industry...**Tattoo removal is a lucrative business. Clinics advertise the most popular laser treatments from Australian \$100 for the removal of a small matchbox sized tattoo. Some also offer to remove tattoos by surgical excision and "dermabrasion," which involves wearing away layers of skin with a wire brush.

Patients are at risk of suffering burns and scars from lasers used by unqualified and unskilled removers using much cheaper versions of the "industry-standard Q-switch laser"—including the IPL lasers which are largely responsible for injury and unsuccessful tattoo removal.

The relative ease of becoming a tattoo remover would seem to be one of the factors underpinning the growth of this industry. Virtually anyone can open-up shop. And laser tattoo removal machines of varying price—and no doubt variable quality—can be readily purchased via ebay.

Editor's Note: *After attempting to remove surgically a rather small tattoo in my office it became my last attempt!* To do a good job one should consult a plastic surgeon and then with skepticism. Best not to pay for a tattoo only then paying again to have it removed.

INCREASING YOUR LONGEVITY

Lifespans have increased dramatically over the last century, in large part due to advances in medicines that have nearly eliminated certain deadly infectious diseases. However, it's very possible that humanity's true longevity might be much higher. Humans might live longer if they can create the ideal conditions of a healthy low saturated fat diet, exercise, and friends to make them happy.

The average baby born in 1900 lived about 50 years. Nowadays, the life expectancy in the U.S. is nearly 79... 81 years for women and 76 for men.

It's very possible that humanity's true longevity might be much higher...

You might think that your genes determine your longevity, but the truth is genetics account for a probable maximum of 30% of your life expectancy. The rest comes from your behaviors, attitudes, environment and a little bit of luck.

Ways to maximize your longevity: Exercise regularly (*If you don't use it you lose it!*). Fill up your plate with vegetables. Consider intermittent fasting (*Studies back to 1930 have shown that caloric restriction extends longevity*). Get enough sleep (nine hours). Manage your stress (*such as eliminating overeating, smoking & creating a happy environment*). Cultivate personal relationships. Spending time with our loved ones actually does seem to improve longevity, maybe because it decreases stress or risky behaviors.

Anti-aging foods are: Avocados, walnuts, chocolate, berries, red wine, just plain water, green tea, beans and melons.

To verify the above, a recent study of 300,000 people found living a longer, happier life isn't just about diet, exercise, or genetics.

(*"happiness" is defined loosely as satisfaction and appreciation for one's positive outlook on life.*) Not only are happy people less likely to send out surges of stress hormones like cortisol that contributes to heart disease, but they're also more likely to follow good self-care and have better social networks' *Chronic unhappiness*, on the other hand, leads to increased blood pressure and decreased immunity. Unhappy people lacking emotional support also don't tend to take very good care of themselves.

All of this means that a Pollyanna personality not only makes life more enjoyable, it could also extend that life by a significant number of years.

Studies show that friends can affect our health more than family. People with strong social ties have a 50% better chance of survival and one of the keys is to have a few very close friends which is 22% better than close family ties. In fact, according to the researchers, the health risk of having few friends was similar to smoking 15 cigarette a day and more dangerous than being obese or not exercising in terms of decreasing your lifespan.

Keep in mind what *real friends* are; they are not the guy in the office that you exchange news with...so do this. Take a second and list your friends. Then think about whether the people you jotted down would include you on THEIR lists of friends. Think you'll be on all those lists? Probably not. In fact, only about half the time will the people you consider to be your friends consider you to be their friend. Why? Perhaps is that your definition of "friend" may differ from other peoples'.

And regardless of how you define "friend," according to experts you don't have the time to have dozens of friends. Because of that we have different layers or slices of friends: One or two truly best friends (like your significant other and maybe one more), then maybe 10 people with whom we have "great affinity" and interact with frequently, and then all sorts of other people we're friendly with but who aren't actually friends. In total you can have about 150 people in your social sphere. All of which means "friendly" and "friend" are two very different things. So that you can only have a handful of true friends. So why does this matter? This can lead to feelings of insecurity and loneliness, which can increase your risk of illness and death just as much as obesity, alcoholism and smoking. That means the key isn't to having more friends. The key isn't to try to have tons of friends. **The key is to have three or four really good friends, and then, plenty of people who aren't necessarily friends but are fun to be around, or result in a mutually beneficial relationship or share common interests.**

You don't need to be less friendly. You just need to nurture the most



6

FRIENDSHIP & HAM RADIO...One of the enduring mysteries' of life is what draws two people toward each other? Not necessarily the romantic type but the type that brings two persons together in friendship.

Scientists would have us look at phenomes, those chemical messengers each person gives off through his skin and breath. Research indicates that the right pheromone can trigger a love affair. It may not keep it going, but it can be a powerful starter. Unfortunately, there 's no way to control our pheromones. We're stuck with the ones we have.

Another element of personal magnetism is the subconscious. If one's beloved mother was a tiny dark-haired woman, his/hers subconscious will see to it that they will probably be drawn to short, brunette women throughout life, whether they are romantic friends, landladies or traffic cops. We are moved to reactivate happy memories as best we can.

Common backgrounds are a factor in friendships, but only at the outset. A shared passion for Ham radio will bring people together. A sense of safety is a big reason for our remaining close to someone. When a person walks into a room or answers a CQ he/she represents either a threat or a promise. We can feel neutral for awhile, but not long. Within minutes of talking to a stranger, we will place them into one of two cubbyholes: an OK "safe" person or a not OK "fearful" person.

Maybe fear and safety are terms too strong. Call it comfort...we want to be with people we feel comfortable with. We long to find people who have traveled where we have. Then we spend a lifetime hoping to encounter people who have also gone there and loved the same.

Magnetism and friendship take many forms. When it pulls, be it on the air or in the living room, we're wise to go along with pull—life is full of surprises, some very rewarding

important relationship's in your life. What's the easiest way to do that? Think about what you can do that will help the people closest to you be happier and then do it.

Perhaps one of the most convincing studies linking happiness to longevity is based on—of all people—a group of nuns. This study involved having each nun write an autobiographical sketch upon their acceptance into the convent. Six decades later, the contents of those sketches proved to be surprisingly strong indicators of whether the author was still alive and how healthy they were.

What make this particular study so convincing is that by following a group of people with nearly identical life histories, it eliminated practically all of the possible confounding variables such as diet or socioeconomic backgrounds. Yet despite their similar habits, some of the nuns experienced long illness free lives while others succumbed to death at an early age. It turns out that those nuns who had expressed the most positive emotions in their journal entries were the same ones who were still around. A full 90% of the most cheerful quarter of nuns were still alive at age 85, while only 34% of the least cheerful quarter were. The happiest nuns lived a full 10 years longer.

When combined with other indicators of longevity happiness can have an even more pronounced effect. In a test of 50 variables thought to have an effect on a person's lifespan, satisfaction ranked as one of the strongest predictors, right up there with expected indicators like genetics, intelligence, socioeconomic status, tobacco use and overall health. Coupled with one or more of these other factors, the test indicated that happiness adds a total of 16 years to the life of a man and 23 years to the life of a woman.

The mechanism for happiness's impressive effects on health can perhaps partly be explained by research showing that people with positive emotions tend to have higher levels of Immunoglobulin A, a key immune system protein and one of the body's primary defenses against respiratory illness.

Even short-term gaiety may boost your body's defenses. In a Tufts University study, researchers separated subjects into two groups of people: one group watched comedy films while the other suffered through stressful ones. The group who spent their time laughing saw their circulation improve as though they'd been exercising while the other group experienced reduced flow. In addition, when subjected to stressful events afterwards—sending stress hormone skyrocketing—the people who spent their time laughing recovered much more quickly, their heart rates fast returning to normal.

Best to smile with your best friend and enjoy more alcohol limited Happy Hours in the future.



LIGHTEN UP...



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Jeff Wolf, M.D., K6JW, 310 373 5970
Chip Keister, M.D., N5RTF, n5rtf@tkeister.net
Jerry Ziperstein, M.D., N4TSC, n4tsc@arrl.net

AD-HOC COMMITTEES:

- Membership—Jay Garlitz AA4FL, Alanna Conder K4AAC, Michaline Przekop KC9ARP
Historian: Michaline Przekop KD9ARP

Please send any corrections to above to MARCO, 14607 Brewster Dr. Largo, FL. 33774

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MEDISHARE UPDATE
Arnold Kalan, WB6OJB



The charitable arm of MARCO is alive despite the pandemic. We are looking for donations, big or small, to fund our next project. Recent donations: Rowie & Jeff K6JF, \$100; Arnold WB6OJB.

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

HOW POLITICS WORKS! My son was flunking out of college so I told him, "You will marry the girl I choose." He said "No way!" I told him "She is Bill Gates' daughter." He quickly said "YES." I called Bill Gates and said, "I want your daughter to marry my son." Bill Gates said, "No, I don't think so." I told Bill Gates, "My son is the CEO of the World Bank." Bill Gates, said, "OK." I called the President of the World Bank and asked him to make my son the CEO." He said, "NO." I told him, "My son is Bill Gates' Son-in-Law." He said, "OK."and that's exactly how politics work! (A tip of the hat to Ginger Norman)

Fellow is dying of thirst in the desert and spots a Bedouin tent in the sands...he struggles up and yells, "Water, water please?" The Bedouin says, "No water here-would you like to buy a necktie?" "No, No," the man replies, "Water, water?" "OK," says the Arab, "Second tent on the left." The man struggles out of the tent, crawls up to the second tent on the left, crawls in and yells, "Water, water, PLEASE?" The Arab looks at him and says, "No one is allowed in here without a necktie."

The floating baseball cap...A torrential rain soaked Louisiana and the resulting flood water came up about 6 feet. Mrs. Boudreaux was sitting on her roof with her neighbor waiting for help. Her neighbor noticed a lone baseball cap floating near the house. She saw it repeatedly float far out into the front yard and then float all the way back. She asked Mrs. Boudreaux, "Do you see that baseball cap?" Mrs. Boudreaux replied, "Oh yes, that's my husband Fred: I told him he was going to cut the grass today come Hell or high water."

Cured her illness...A worried father confronted his daughter one night, "I don't like that new boyfriend, he's rough and common and downright stupid too." "Oh no, Daddy," the daughter replied, "Fred's ever so clever, we've only been going out nine weeks and he's cured me of the illness I used to get once a month."

NAUGHTY BOY...A country doctor went to deliver a baby in the boondocks where there was no electricity. There was no one at home except for the laboring mother and her 5-year-old child. The doctor instructed the child to hold a lantern high so he could see, while he helped the woman deliver the baby. The doctor lifted the newborn and spanked him on the bottom and the newborn cried. The doctor then asked the 5-year-old what he thought of the baby. "Hit him again," the child said, "He shouldn't have crawled up there in the first place?"

A MAN PHONED HIS DOCTOR LATE AT NIGHT saying his wife appeared to have appendicitis. "That's impossible," the physician replied, peeved at being woken up. "She had an appendectomy last year. Don't be stupid. Only a moron would wake me up for something this idiotic. Have you ever seen anybody with a second appendix?" "No," the husband replied, "Have you ever seen anybody with a second wife?"

A Millionaire, well along in years, had a sharp pain in the chest. He turned to his wife and gasped, "I'm having a heart attack, quick, buy me a hospital!"

DENTIST: drilling, filling, billing!

There's an advantage to being poor...A doctor will cure you faster!

Oral diabetes medicines help control blood glucose levels in people whose bodies still produce some insulin. They include: **Glipizide** (*Glucotrol, Glucotrol XL*), **Glimepiride** (*Amaryl*), **Glyburide** (*DiaBeta, Glynase Pres Tabs*), **Micronase**. **Metformin** (*Glucophage, Glucophage XR, Glumetza, Fortamet, Riomet*) **Pioglitazone** (*Actos*), **rosiglitazone**, (*Avandia*). **Acarbose** (*Precose*) *Glyset*).

Many oral diabetes medications may be used in combination with each other or with insulin to achieve the best blood glucose control. **TYPES:**

SULFONYLUREAS (**Glipizide** (*Glucotrol, Glucotrol XL*) **Glimepiride** (*Amaryl*), **Glyburide** (*DiaBeta, Glynase PresTab, Micronase*). Insulin eventually depleted with use.

These medications lower blood glucose by causing the pancreas to release more insulin. Eventually the insulin supply deteriorates.

BIGUANIDES, Metformin (*Glucophage, Glucophage XR, Glumetza, Fortamet, Riomet*. Eventually insulin depleted with use.

These medications reduce how much glucose the liver produces. It also improves how insulin works in the body, and slows down the conversion of carbohydrates into sugar.

ALPHA-GLUCOSIDASE INHIBITORS, Acarbose (*Precose*), **Miglitol** (*Glyset*), **repaglinide & gliclazide**—safe as *Metformin*.

These medications work by delaying the breakdown of carbohydrates and reducing glucose absorption in the small intestine. Also blocks certain enzymes to slow down absorption of some starches. 35% decrease in CV disease.—causes stomach upset however.

THIAZOLIDINEDIONES, Pioglitazone (*Actos*), **rosiglitazone** (*Avandia*).

These medications improve the way insulin works in the body by allowing more glucose to enter into muscles, fat, and liver.

MEGLITINIDE, Repaglinide (*Prandin*), **nateglinide** (*Starlix*).

These medications lower blood glucose by releasing more insulin.

DPP-4 INHIBITORS, Sitagliptin (*Januvia*) (available as combo with *Metformin*). **Saxagliptin** (*Onglyza*), **linagliptin** (*Tradjenta*), **alogliptin** (*Nesina*)...Also known as *GLiptions*

These medications help your pancreas to release more insulin after meals. They also lower the amount of glucose released by the liver.

SGLT2 INHIBITORS, Caagliflozin (*Invokana*), **dapagliflozin** (*Farxiga*), **empagliflozin** (*Jardiance*).

These drugs work on the kidneys to remove extra sugar from the body.

BILE ACID SEQUESTRANTS, Colesevelam (*Welchol*)

Bile acid sequestrants lower cholesterol and blood sugar levels in patients who have diabetes.

DOPAMINE AGONISTS, Bromocriptine (*Cycloset*).

This medication lowers the amount of glucose released by the liver.

KEY ISSUES

A repaglinide (*Prandin*) and metformin (*Glucophage*) combination tablet is indicated as an adjunct to diet and exercise to improve glycemic control in adults with Type 2 diabetes mellitus who are already treated with a medlitinide and metformin or who have inadequate glycemic control on a meglitinide alone or metformin alone.

Repaglinide, an insulin secretagg, and metformin, an insulin sensitizer, targets two different pathophysiological mechanisms underlying Type 2 diabetes, reduced insulin secretion and insulin resistance.

The combination of repaglinide and metformin provides comprehensive glycemic control, as well as a stable weight profile and fewer hypoglycemic episodes.

The single-tablet combination of repaglinide and metformin is safe and well tolerated and offers enhanced dosing convenience and therapy increased patient adherence.

Other combinations include: (28 in all) **Metformin & glipizide** (*Metaglip*); **Roislitazone & glimepiride** (*Avandaryl*); **Pioglitazone & metformin** (*ACTOplus Met*); **Metformin & glyburide** (*Glucoavance*); **Rosiglitazone & metformin** (*Avandamet*); **Pioglitazone & glimepiride** (*duetact*)

The development of the mRNA vaccine—a breakthrough in its field, instructing cells to produce their own protection without the risk of giving someone the virus—was fast and furious, made possible through rapid genome sequencing.

Its origins go back to the late 1980s, when Kati Kariko, a researcher at the Univ. of Pennsylvania, began experimenting with placing mRNA into cells to instruct them to produce new proteins. Eventually, Kariko also discovered that **pseudouridine**, a molecule of human tRNA (“t” for “transfer”), could help a vaccine evade an immune response when added to the mRNA. It laid the groundwork for a first-of-its-kind antidote that helped save thousands of lives.

Now, cells could be harnessed into producing protein without triggering an immune attack. **Furthermore, synthetic mRNA could now be used instead of putting an actual virus into the body to produce a vaccine.**

Within mere hours of Chinese scientists posting the coronavirus’ genetic sequence in January 2020, BioNTech had developed its mRNA vaccine. Days later, Moderna had its own.

By November 2020, clinical results found that the Pfizer-BioNTech vaccine was a potent antidote to Covid-19 showing a 95% efficacy against the virus.

So how does it work? Once mRNA (encased in a lipid bubble) is injected, the vaccine attaches to a cell, instructing it to produce a harmless replica of the spike protein—the significant marker of the coronavirus, which allows COVID-19 to inject itself into human cells—triggering an immune response. Because mRNA does not enter or interact with the cell nucleus, it does not alter human DNA. Once the cell uses the instructions, it breaks down the mRNA .

As opposed to the time it takes to produce traditional vaccines, created with inactivated viruses and therefore time-consuming, mRNA can be produced almost instantly.

The development of mRNA technology has implications far beyond COVID-19, and could be used to combat HIV, influenza and malaria. It also shows promise against new viruses with epidemic potential, such as avian influenza and other respiratory viruses. **But its potential to treat cancer, which it can do by providing the immune system to target cancer fields is especially exciting. Most traditional immune therapy for cancer uses “passive immunity”, where a drug acts as the antibody and doesn’t always last long. But active immunity, achieved with mRNA, means the body can remember how to creat the response on its own and fight cancer itself.**

| <u>YEAR</u> | <u>TOTAL CHECK-INS</u> | <u>AVERAGE PER SUNDAY</u> |
|------------------------------|---------------------------|---------------------------|
| 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 the 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 |
| 2021 | Pending | pending |

SPLENOMEGALY

As presented on Marco Ground Rounds, Oct. 24, 2021

9

The spleen is part of the hepatoportal system and is the largest organ of the lymphatic system. Functions include removing aging or abnormal blood cells, storing platelets and red blood cells, and producing and distributing immune cells and antibodies. The spleen is a major site of blood production outside of the bone marrow, especially during times of stress. Several general pathophysiologic mechanisms cause splenic enlargement. Hyperplasia and hypertrophy cause splenomegaly due to increased function of the spleen. Infiltrative processes can cause accumulation of abnormal cells in the spleen, which can be malignant, benign, or caused by glycogen storage disorders. Congestive processes result in blood pooling due to blockage of venous outflow. These mechanisms can lead to transient splenomegaly, such as with blood loss, infection, and during pregnancy, but in these cases the spleen returns to normal size after the condition resolves.

The most common etiologies of splenomegaly are chronic liver disease, malignancies, and infections. Malignancies—usually leukemia or lymphoma—are common causes of splenomegaly, seen in close to one-third of affected patients. As many as one-third of patients with splenomegaly have cirrhosis, where abnormal liver parenchyma leads to congestive splenomegaly. Several infections can lead to splenomegaly. In the U.S., infectious mononucleosis is a common etiology of splenomegaly in adolescents and young adults. It is common in patients with HIV, as a response to the virus or bearer of secondary infections. People who are born in tropical regions, global travelers, and military personnel deployed to tropical regions are at risk for parasitic infections that can lead to splenomegaly, most commonly schistosomiasis and chronic malaria.

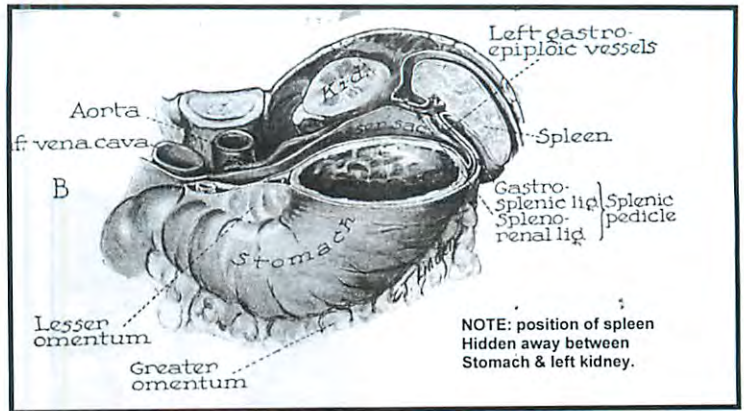
Splenomegaly is a common finding in college freshman in North America with rates of up to 3%, because of their prevalence of infectious mononucleosis. Splenomegaly can affect up to 80% of people in tropical areas where malaria and schistosomiasis are endemic. People who have recently immigrated from overseas, children who are adopted from endemic areas, refugees, and travelers with splenomegaly often have chronic parasitic infections.

Pertinent History... Personal and family history can suggest the etiology of splenomegaly. Fullness in the left upper quadrant can be due to an enlarged spleen. Family history of malignancies, liver disease, lipid storage disorders, or hematologic diseases can suggest an etiology. Personal history may contain risk factors for splenomegaly, including alcohol consumption, intravenous drug use, and high risk sexual behavior. Immigration from or travel to tropical areas increases the risk of infectious diseases, such as malaria or schistosomiasis. Medical history of cancer, hematologic disorders, heart failure, or chronic liver disease increases the chance of splenomegaly. Recent flu-like symptoms, sore throat, abdominal pain, fever, weight loss, night sweats, and fatigue can suggest infection or malignancies, whereas bleeding, easy bruising, pallor, jaundice, and petechial rashes can be attributable to hematological etiologies.

Splenomegaly is often found on physical exam. The spleen is best evaluated with the patient supine with knees bent and feet on the table to relax the abdominal wall musculature. Percussion and palpitation can determine splenomegaly because the spleen cannot be detected by either technique if it is not enlarged. Dullness to percussion in the lowest intercostal space at the left axillary line has an 82% sensitivity for splenomegaly. Splenomegaly should be confirmed with ultrasonography. Normal spleens tend to be larger in men and taller people. Although there is no accepted definition of splenomegaly, a splenic diameter larger than 10 cm is generally considered enlarged.

Splenic tenderness on exam can indicate infection, rupture, or infarct. Physical exam findings such as lymphadenopathy, peripheral edema, ruddy complexion, splinter hemorrhages, or elevated temperatures can suggest infectious etiologies, whereas hepatomegaly, caput medusae, ascites, pallor, bruising or petechial can suggest liver or hematological diseases.

Diagnostic Approach: A young adult with splenomegaly, a sore throat, testing for heterophile antibodies can often confirm the diagnosis. Without an obvious cause, imaging and further lab tests are often necessary. A complete blood profile checking for abnormal liver function tests should lead the physician to evaluate for causes of liver disease and con-



tinue the work-up. Be on the lookout for congestive heart failure, portal hypertension, renal failure, splenic vein thrombosis. Also, metastatic disease such as Essential thrombocytopenia, Hodgkin/non-Hodgkin lymphoma, leukemia, metastatic disease, multiple myeloma, myelofibrosis, polycythemia vera and primary splenic tumors.

Blood Tests: A complete metabolic panel and CBC provide an initial evaluation for hepatic and hematologic etiologies of splenomegaly. Prompt referral to oncology is necessary when blasts or abnormal red cell morphology or composition is identified. Abnormal liver function tests should lead the doctor to evaluate for causes of liver disease.

Imaging: Sonographic measurements of the spleen length can estimate spleen volume. The accuracy, cost-effectiveness and lack of radiation make abdominal ultrasonography a first-line step for confirmation of size. When attempting to evaluate the spleen with more detail or when there is concern for malignancy, contrast-enhanced computed tomography is recommended. If portal vein thrombosis is suspected, then contrast-enhanced computed tomography is indicated. If peripheral edema or cirrhosis occurs or a focal lesion is suspected, MRI may be needed.

In a patient with pulmonary symptoms, chest imaging can help identify pulmonary or mediastinal masses suggesting malignancy, cavity lesions suggesting tuberculosis, or bilateral hilar adenopathy suggesting sarcoidosis.

Some causes of splenomegaly are ultimately revealed by splenic biopsy or diagnostic splenectomy.

Management: Management of splenomegaly involves treating the underlying disease process. Spleen reduction therapies (e.g., irradiation, chemotherapy, transfusions and splenectomy) are occasionally used for painful splenomegaly or in malignancies. Splenectomy can be performed to control esophageal varices in liver disease or to control pain. In some cases, splenectomy can also improve thrombocytopenia and leukopenia.

In impaired splenic function caused by conditions such as sickle cell, HIV, splenic infarct, malignancy, or splenectomy, risk of infection increases. Febrile patients with impaired splenic function should receive empiric antibiotic therapy. Daily antibiotic prophylaxis is indicated for one to two years after splenectomy, before respiratory tract procedures, and in any splenic patient who has sepsis. Oral penicillin twice daily is typically used for antibiotic therapy after splenectomy and before procedures (Levaquin can be used in penicillin-allergic patients.)

Vaccination against *Streptococcus pneumoniae*, *Neisseria meningitidis*, *Haemophilus influenzae type b*, and *influenza virus* lowers the risk of infections. A dose of 13-valent pneumococcal conjugate vaccine followed by 23-valent pneumococcal polysaccharide vaccine eight weeks later, H. influenzae type b conjugate vaccination and Men ACWY should be given at least two weeks before planned splenectomy if the patient has not been previously vaccinated with an age-appropriate regimen.

Complications: Acute infections, anemia, and splenic rupture are the most common complications of splenomegaly. Any trauma to an enlarged spleen carries the risk of rupture with blood loss. Up to one in every 200 cases of infectious mono is complicated by splenic rupture. Current recommendations are to restrict contact activity for at least 21 days after symptom onset. It would be prudent to recommend avoidance of strenuous activity or participation in contact sports in patients with any spleen pathology, including splenomegaly.

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.*)

With my second term as MARCO's President drawing to a close, I would like to take the opportunity to reflect on nearly 40 years as a member of this remarkable organization.

First, let me thank the current offices and Board for sharing their wisdom and their help during these difficult two years. Recall that at the beginning of my term, I predicted trouble. My first go-around in this office included the 9/11

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| WB1FFI | 35 | Barry | Syracuse, N.Y. |
| N5AN | 35 | Bud | Lafayette, LA. |
| W1RDJ | 35 | Mark | Cape Cod, MA. |
| KD5BQK | 34 | Bernie | El Paso, TX. |
| N6DMV | 34 | Paul | Torrance, CA. |
| N2OJD | 34 | Mark | Sidney, Ohio. |
| KD5BQK | 34 | Linda | El Paso, TX. |
| NU4DO | 33 | Norm | Largo, FL. |
| N3IM | 32 | Keith | Millhouse, PA. |
| N8CL | 30 | Chuck | The Villages, FL. |
| WA3QWA | 29 | Mark | Chesapeake, VA. |
| WB9EDP | 29 | Harry | Batavia, IL. |
| W5EXA | 29 | Mark | Cape Cod, MA. |
| KE5SZA | 28 | John | Marietta, OK. |
| WB6OJB | 28 | Arnold | Pac. Pal., CA. |
| KC9ARP | 27 | Michaline | Batavia, IL. |
| KE8GA | 27 | George | N. Carolina. |
| N4MKT | 26 | Larry | The Villages, FL. |
| KEOPIE | 25 | Trina | Boulder, CO. |
| N9GJ | 25 | Greg | Wisconsin. |
| N5RTF | 25 | Chip | New Orleans, LA. |
| W4DAN | 24 | Danny | Cleveland, TN. |
| W6NYJ | 22 | Art | Beverly Hills, CA. |
| N3OMD | 19 | Tom | Buffalo, N.Y. |
| W8LJZ | 17 | Jim | Detroit, MI. |
| KD4MD | 17 | Carol | USA. |
| N9RIV | 16 | Bill | Danville, IL. |
| W4EMB | 14 | Asef | N. Carolina. |
| W6GZ | 13 | Bill | Hysteria, CA. |
| K3IRY | 12 | Roy | Bedford, MA. |
| WW9F | 11 | Jeff | Chicago, IL. |
| AA1Y | 10 | Gonzo | Maryland. |
| NM2K | 9 | Dianne | New York. |
| AA4FL | 7 | Jay | Hawthorne, FL. |
| N9GOC | 6 | Pat | Wisconsin. |
| KS4CSQ | 5 | Ralph | Alabama. |
| AA4BX | 3 | Mary | S. Carolina. |

(ANY CORRECTIONS?)

Please notify Dr Brown, KD4GUA if you require a certificate of attendance to submit to your medical board at warren.brown1924@gmail.com.

Attacks on the World Trade Center and the Pentagon. This time, we have been mired in the Covid pandemic. You can't say that I didn't warrrrrn you.

MARCO has a roster of intelligent, creative, energetic and dedicated members. Some are "interesting" characters as well. This has always been the case. Permit me to wax nostalgic about some of the extraordinary people, all silent keys, who have populated our ranks and who it was my pleasure to have known. New members of MARCO are excused, but old-timers will remember these personalities with fondness.

Bob Currier WB5D. Bob preceded me as MARCO President. His good humor, friendliness and modesty belied his enormous professional accomplishments. Bob was a Professor at the University of Mississippi Medical School and the Editor of the Yearbook of Neurology. Our Sunday morning Grand Rounds are dedicated to his memory.

Bob "Smitty" Smithwick, W6JZU/W6CS, Some people collect stamps. Smitty collected acquaintances. He met Lee DeForest's widow, served as a Deputy Commissioner of Health for California Governor Ronald Reagan and was Steve Wozniak's pediatric dentist. A photo of him with Indira Gandhi used to hang in his study. He was a founder of Foothill College in the San Francisco Bay area and had the institution's performing arts center named in his memory. Smitty's chance encounter on the air with a dentist in Rwanda led to the formation of MediShare, and he was the long-time Director. Those who attended MARCO board meetings may still be traumatized by his exhaustively complete activities reports. I got to visit Smitty several times at his spectacular QTH in Los Altos Hills.

Ed Breiner, WA3TVG. Ed was MARCO's Newsletter Editor for many years. He printed and assembled each issue in his basement, with the help of his wife **Ruby**, who was the Postmistress of Acme, PA. Ed wrote an op-ed column in each issue and in most of them he gloomily predicted the imminent demise of MARCO. He was correct about a lot of things, but fortunately that was not one of them.

Robin Staebler. Robin changed his callsign more often than most people change their underwear. I won't list them for fear of missing a few! A family practitioner in Pennsylvania and later in Maine he was President of MARCO and later served simultaneously as Secretary and Treasurer. This turned out to be a bad idea, as with his typical flair he developed a proprietary approach to managing our finances, and then, sadly, died well before his time. Our next Treasurer, **Lou Wiederhold WA1HGE** was left to untangle the mess. A crusty old timer New Englander, Lou expertly got us back on our fiscal feet, while complaining about the difficulty of the task to anyone who would listen.

Gene WB3FTJ and Judy N3MBW Hoenig. I loved Gene because he made me feel tall! They were both super bright, engaging people with a wicked sense of humor. They jointly served as MediShare Co-Directors for a time. The Hoenigs graciously hosted my wife and me and I got to operate an Elecraft K2 for the first time in their shack

Bob Morgan, VE3OQM and his wife Marian. He was a regular contributor to the NL and to Grand Rounds. **Polycarp Gadegbeku WB4LPC** was from S. Carolina by way of Liberia. A former Marco President, he always had a huge signal.

Time and column-inches are short, so I will offer my apologies to **K2UK, WA2CBA, WA2YBA, WA3AJC, N9IGB, WA6CRN, K0FS,** and others as I say 73.

Hepatomegaly is a non-specific medical sign having many causes, which can be broken down into *infectious, tumors, & metabolic disorders*. It may sometimes present along with jaundice.

The individual may experience many symptoms, including weight loss, poor appetite and lethargy, jaundice and bruising.

Infective causes: *Infectious mono, Hepatitis A,B,C or pyogenic abscess, Malaria, Amoeba, hydatid cysts, leptospirosis. Actinomycosis*

Neoplastic: *Metastatic tumors, Hepatocellular carcinoma, Myeloma, Leukemia, Lymphoma.*

Biliary: *Primary biliary cirrhosis, Primary sclerosing cholangitis.*

Metabolic: *Hemochromatosis, Cholesteryl ester storage disease,*

Porphyria, Wilson's disease (a genetic disorder that causes copper to accumulate in your liver), Niemann Pick disease, (a rare inherited inability to metabolize fats), Non-alcoholic fatty liver disease, Glycogen storage disease, Congestive heart failure, pericarditis, large doses of medicines such as Tylenol (Acetaminophen), Herbal supplements such as huang and valerian.

Drugs (including alcohol): *Alcohol use disorder, Drug-induced hepatitis.*

Others: *Hunter syndrome (Spleen affected), Zellweger's syndrome.*

Carnitine palmitoyltransferase I deficiency, Granulomatous Sarcoidosis, Budd-Chiari syndrome (blockage of the veins that drain the liver).

Mechanism: Vascular swelling, inflammation and (1) non-hepatic cells or (2) increased cell contents (such due to iron in hemochromatosis, or hemosiderosis and fat in fatty liver disease.

Diagnosis: History & physical, abdominal ultrasonography, liver function blood tests, CT scan.

Treatment: Depends on the cause and accurate diagnosis. In the case of auto-immune liver disease, prednisone and azathioprine may be used. In the case of lymphoma the treatment options include chemo and regional radiotherapy. Also surgery may be an option in specific situations. In primary biliary cirrhosis ursodeoxycholic acid helps the bloodstream remove bile which may increase survival in some.

Hepatitis A: Is a short-term illness and may not require treatment. If symptoms cause discomfort, bed rest may be necessary.

Hepatitis B: There is no specific treatment for acute Hep B.

However, if you have chronic Hep B may require antiviral meds.

Hepatitis C: Antiviral meds can treat both acute and chronic forms. Usually a combination of antiviral drugs are required.

Hepatitis D: The WHO lists pegylated interferon alpha but this can cause severe side effects. Best to treat with bed rest.

Autoimmune hepatitis: Corticosteroids. They are effective in about 89% of cases.

A vaccine for Hep. A is available and can help prevent the contraction of HAV (*Hep. A Virus*) The Hep A vaccine is a series of two doses and most children begin vaccination at age 12 to 23 months. This is also available for adults and can also contain Hep. B vaccine.

The CDC also recommends the vaccine for all healthcare and medical personnel. Vaccination against Hep B. and also prevent Hep D. There are currently no vaccines for Hep C or E.

Hepatitis viruses can transmit from person to person through contact with bodily fluids, water, and foods containing infectious agents. Minimize your risk of contact with these substance can help prevent contracting hepatitis viruses. Advise avoiding contaminated water, ice, raw or undercooked shellfish and oysters and raw fruit and vegetables.

You can reduce your risk by not sharing needles, not sharing razors, not using someone else's toothbrush and not touching spilled blood.

Hep B and C can carry through sexual intercourse and sexual contact. Using barrier methods, such as condoms and dental dams (latex sheet used between mouth & vagina or anus), during sexual activity can help decrease the risk of infection.

Complications of hepatitis: When your liver stops functioning normally, liver failure can occur. Complications of liver failure include: bleeding disorders, buildup of fluid in your abdomen, known as ascites. Increased blood pressure in portal veins that enter your liver, (known as portal hypertension), kidney failure, hepatic encephalopathy, which can involve fatigue, memory loss and diminished mental abilities. Also, hepatocellular carcinoma, and death.

Suggestions: Eat a healthy diet. Alcohol in moderation, Follow directions on medications, limit contact with chemicals & toxins and maintain a normal weight.

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

Weekly DV Net: (Digital Voice), Saturdays at 1500 UTC. We have chosen to use the QuadNet Array, an IRC, or internet Chat Facility that acts like a universal translator between difference digital modes and allows hams who identify by call sign to connect with other users of digital radios world-wide through interconnected reflectors and talk-groups. See their website for more details, including how to connect within the <https://www.openquad.net/webpage>. Net Controller Jeff AA4F

Special COVID-19 Member Net: Thursdays, 7.222 MHz, 0300 UT
Net Controls: Harry WB9EDP assisted by Jerry N4TSC.

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

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

To Listen:

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

OVER-THE-COUNTER BENADRYL FOR COVID-19?

Dr. Ostrov & colleagues at the University of Florida reported finding the reason certain drugs are active against the virus that causes COVID-19. "Then, we found an antiviral combination that can be as effective, economical, and has a long history of safety," Ostrov said.

Due to his earlier research with colleagues at UF, Ostrov already knew diphenhydramine was potentially effective against the SARS-CoV-2 virus. The latest discovery has its roots in a routine meeting of scientists with the Global Virus Network's COVID-19 task force. One researcher presented unpublished data on federally approved compounds that inhibit SARS-CoV-2 activity, including Lactoferrin.

Like diphenhydramine, lactoferrin is available without a prescription. Ostrov thought about pairing it with diphenhydramine and ran with the idea. In lab tests on human and monkey cells, the combination was particularly potent: Individually, the two compounds each inhibited SARS-CoV-2 virus replication by about 30%. Together, they reduced virus replication by 99%!

The findings, Ostrov said, are a first step in developing a formulation that could be used to accelerate COVID-19 recovery. It also raises the prospect of further study through an academic-corporate partnership for human clinical trials focused on COVID-19 prevention. Additional research into the compounds effectiveness for the virus prevention is already underway in mouse models.

To establish their findings, the team focused on proteins expressed in human cells known as sigma receptors. In COVID-19 cases, the virus "hijacks" stress-response machinery, including sigma receptors, in order to replicate in the body. Interfering with that signaling appears to be the key to inhibiting the virus's potency. "We now know the detailed mechanism of how certain drugs inhibit SARS-CoV-2 infection," Ostrov said.

Data from the experiments show that a highly specific sigma receptor binding drug candidate (with pain relieving properties), and formulated combinations of over-the-counter products (such as diphenhydramine and lactoferrin) has the potential to inhibit virus infection and decrease recovery time from COVID-19, the researchers said.

<https://scitechdaily.com/two-common-over-the-counter-compounds-reduce-covid-19-virus-replication-by-99-in-early-testing/>

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

NEW MEMBERS*

RENEWALS

| | |
|--------------------|--------|
| Anderson, Levi | KD8SKZ |
| Berman, Mel | W8GTR |
| Hollingsworth, C. | N8YSB |
| Clairmont, Toby | KH7FR |
| Daily, Richard | KB5FLA |
| Kaufmann, Rob | VE4GV |
| Lind, Bed | N9TR |
| Levine, Gordon | WB6JVP |
| McNew, William | N9RIV |
| Milazzo, Carol | KP4MD |
| Petit, James | KB8KEI |
| Przekop, Harry | WB9EDP |
| Przekop, Michaline | KC9ARP |
| Rowlett, William | WM4R |
| Toor, Dalvinder | VA7DST |
| Wilmerding, Jim | W2NNU |
| Ziperstein, Jerry | N4TSC |



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

DONATIONS

| | |
|--------------|--------|
| Breland, Al | KA7LOT |
| Garlitz, Kay | AA4FL |
| Kalan, Arnol | WB6OJB |
| Kukas, Paul | N6DMV |

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

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

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

Check your preference:

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

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

5 year membership \$100 (USD); prorated.

Name: _____

Address: _____

Call Sign _____ Type License: _____

Phone: _____

Internet Address: _____

Your Birthday _____ (Year optional.)

Member ARRL _____

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

WHY NOT SEND A HAM FRIEND A MEMBERSHIP IN MARCO,

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 | Hailing Frequency |
| Any Day | 10:30 a.m. | 14.140 | NSRTF (CW-net) |
| Sunday | 11 a.m. | 14.342 | KD4GUA |
| Sunday | 8:30 p.m. | 7.22 | WB9EDP |

134th

Edition

April 2022



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MARCO'S

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