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107TH
Edition
2000-2017

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

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Vol. XXXXII, (52nd year), Edition # 107 Since Year 2000, October. 2017

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

WHY CAN'T I LOSE WEIGHT ?

IT'S SIMPLE, YOU EAT LESS AND EXERCISE MORE EXCEPT IT DOESN'T WORK IN MOST CASES; WHAT IS LOST IS GAINED RIGHT BACK! WHY?

What most people don't realize is that when the conditions for weight loss are TV-perfect—with a tough but motivating trainer, tele-genic doctors, strict meal plans and killer workouts—the body will, in the long run, fight like hell to get that fat back. Over time most involved, gained weight and were heavier than they were before undertaking the torture.

What researchers are uncovering should bring fresh hope to the 155 million Americans who are overweight. And the overly simplistic arithmetic of calories in vs. calories out has given way to the more understanding that it's the composition of a person's diet rather than how much of it they can burn off working out—that sustains weight loss.

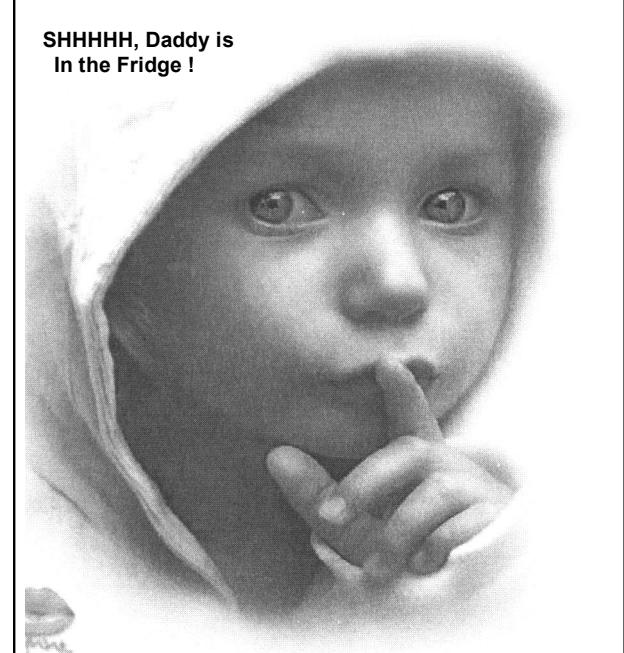
They also know that the best diet for you is very likely not the best diet for your next-door neighbor. Individual responses to different diets—from low fat and vegan to low carb and paleo vary enormously. Some people on a diet lose 60 lbs and keep it off for two years, and other people follow the same program rigorously and they gain 5 lb. The key to weight loss appears to be highly personalized rather than merely trendy diets.

The concept of the calorie count as a unit of energy had been studied and shared in scientific circles throughout Europe for some time. But it wasn't until WW I that calorie counting became popular in the US. Amid global food shortages, the American government needed a way to encourage people to cut back on their food intake, so it issued its first ever "scientific diet" for Americans, which had calorie counting at its core.

The 1960s saw the beginning of the massive commercialization of dieting in the US. That's when a New York housewife named Jean Nidetch began hosting friends at her home to talk about their issues with weight. Nidetch was a self-proclaimed cookie lover who had struggled for years to slim down. Her weekly meetings helped her so much—she lost 72 lb. in one year, that she ultimately turned those living-room gatherings into a company called "Weight Watchers." When it went public in 1968, she became a millionaire overnight. Nearly half a century later, Weight Watchers remains one of the most commercially successful diet companies in the world with 3.6 million active users.

Research show that 80% of people with obesity who lose weight gain it back. That's because when you lose weight, your resting metabolism (how much energy your body uses when at rest) slows down—possibly an evolutionary holdover from the day when food scarcity was common. What has been discovered is that even when the biggest weight losers gained back some of their weight, their resting metabolism didn't speed up along with it. Instead it remained low,,, burning about 700 fewer calories per day than it did before they started losing weight in the first place. How is that possible?

But a slow metabolism is not the full story. Despite the biological odds,



LATE BREAKING NEWS

EXTRA, EXTRA!! July 30, 2017....Marco President Richard Lochner K9QA announced today on MARCO Grand Rounds of the Air that the 2018 Annual meeting of MARCO will be held at the HamCation Event, February 9 –11th in Orlando, Fl. and not in Xenia, Ohio. He stated, "*In a poll, there were no votes to return to Xenia because of the mud, lack of hotel accommodations and poor transportation. Details pending....*

HURRICANE UPDATE....Due to damage from Hurricane Irma, this edition has been delayed. Net control for Grand Rounds, KD4GUA, Warren has sustained antenna damage which may put him off the air for some time. Now is the time for fellow hams to come to the rescue and keep our former late President's name, Bob Currier WB5D's call sign on the air.

NEED CATEGORY I CME?

Go to www.mpmcme.org enter; go to "medical surgical archives" and a list will pop up...pick the lecture you want (includes mandatory ones) & when completed take the simple test and submit it to "Lee" for accreditation. When your medical license is up for renewal, notify Lee & she will submit the papers required. Tell her you affiliated with the hospital through MARCO and Dr. Warren Brown.

(Txn to Morton Plant Hospital, Clearwater, Florida, an associate of the University of South Florida medical school.)

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.

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

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.

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

there are many who succeed in losing weight and keeping it off. The catch is that some appear to succeed with almost every diet approach—it just varies from person to person. Understanding what it is about a given diet that works for a given person remains the holy grail of weight-loss science. But experts are getting closer.

For the past 23 years, Rena Wing, a professor at Brown University, has run the National Weight Control Registry as a way to track people who successfully lose weight and keep it off. To qualify for initial inclusion in the registry, a person must have lost at least 30 lbs. and maintained that weight loss for a year or longer. Today the registry includes more than 10,000 people from 50 states with an average weight loss of 66 lbs. per person. On average people on the current list have kept off their weight for more than 5 years.

The most revealing detail about the registry: everyone on the list has lost significant amounts of weight—but in different ways. The researcher have identified some similarities among them: 98% of the people in the study say they modified their diet in some way with most cutting back on how much they ate in a given day. Another through line: 94% increased their physical activity and the most popular form of exercise was walking.

When asked how they've been able to keep the weight off, the vast majority say they eat breakfast, weigh themselves at least once a week, watch fewer than 10 hours of television per week and exercise about an hour a day.

The researchers have also looked at their attitudes and behavior. They found that most of them do not consider themselves Type A, dispelling the idea that only obsessive super-planners can stick to a diet. They learned that many successful dieters were self-described morning people. (Other researchers support the anecdotal for some reason, night owls tend to weigh more than larks.) They also noticed that those with long-term weight loss tended to be motivated by something other than a slimmer waist—like a health scare or the desire to live a longer life.

Dr. Wing agrees that perhaps the most encouraging lessons to be gleaned from their registry is the simplest: in a group of 10,000 real-life biggest losers, no two people lost the weight in quite the same way.

Exactly why weight loss can vary so much in people on the same diet plan still eludes scientists. It's the biggest open question in the field.

Some speculate it's people's genetics. Over the past several years, researchers have identified nearly 100 genetic markers that appear to be linked to being obese or being overweight and there's no doubt genes play an important role in how some people break down calories and store fat. But experts estimate that obesity-related genes account for just 3% of the differences between people's sizes and those same genes that predispose people to gain weight existed 30 years ago and 100 years ago, suggesting that genes alone cannot explain the rapid rise in obesity.

Another area that has some scientists excited is the question of how weight gain is linked to chemicals we are exposed to every day—things like the bisphenolA found in linings of canned-food containers and cash-register receipts, the flame retardants in sofa and mattresses, the pesticide residues on our food and the phthalates found in plastic and cosmetics. What these chemicals have in common is their ability to mimic human hormones and some worry that may be wreaking havoc on the delicate endocrine system driving fat storage.

Another frontier scientists are exploring is how the microbiome—the trillions of bacteria that live inside and on the surface of the human body—may be influencing how the body metabolizes certain foods. Some believe the variation in diet success may lie in the way people's micro biomes react to different foods. (*Is the gut flora more hungry in*

patient A than the flora in patient B?)

Researchers have found that blood-sugar levels varied widely among people after they ate the exact same meal. This suggest that umbrella recommendations for how to eat could be meaningless.

The researchers developed an algorithm for each person in the trial using the data they gathered and found that they could accurately predict a patient's blood-sugar response to a given food on the basis of their microbiome. That's why some believe the next frontier in weight loss science lies in the gut; they believe their algorithm could ultimately help doctors prescribe highly specific diets for people according to how they respond to different foods.

(Encapsulated flora of thin people are being transfused orally into obese individuals hoping to reproduce mouse studies. Time will tell.)

Unsurprisingly, there are enterprising businesses trying to cash in on this idea. Online supplement companies already hawk personalized probiotic pills, with testimonials from customers claiming they lost weight taking them.

So far, research to support the probiotic pill approach to weight loss is scant. Ditto the genetic tests that claim to be able to tell you whether you're better off on a low-carb diet or a vegan one. But as science continues to point toward personalization, there's potential for a new weight-loss products to flood the zone, some with more evidence than others.

HINT...The latest information that seems to work is the "stomach-free lunch the following noon. Worth a trial?"
14 hour diet", where the patient skips breakfast from 6 pm to

Information for the above was taken from
Alexandra Sifferlin's fine article that appeared in the June 5, 2017 edition of TIME and clinical experience.)

Chip Keister, N5RTF reports that the past 8 MARCO Grand Rounds are archived at the following address:
<http://marcoaudio.ddns.net:2199/start/tkeister> Click on any audio file to listen to that week's net. Download if you like. No passwords are required. Feel free to share this link. There is room for 100 listener at a time.



ATRIAL FIBRILLATION

3

Atrial Fibrillation (AF) is an abnormal heart rhythm characterized by rapid and irregular beating. It is the most common serious abnormal heart rhythm affecting about 2% of the population and is found mostly in those over 80. It is sometimes only identified with the onset of a stroke or a “TIA.”

Often it starts as brief periods of abnormal beating which become longer and possibly constant over time. Most episodes have no symptoms. Occasionally there may be heart palpitations, fainting, lightheadedness, shortness of breath, or chest pain. The disease is associated with an increased risk of heart failure, dementia and stroke. It is a type of supraventricular tachycardia.

High blood pressure and valvular heart disease are the most common alterable risk factors for AF. Other heart-related risk factors include heart failure, coronary artery disease, cardiomyopathy and congenital heart disease. In the developing world valvular heart disease often occurs as a result of rheumatic fever. Lung-related risk factors include COPD, obesity and sleep apnea. Other factors include excess alcohol intake, diabetes mellitus, and thyroidotoxicosis. However, half of cases are not associated with one of these risks. A diagnosis is made by feeling the pulse and may be confirmed using an ECG. A typical ECG in AF shows no P waves and an irregular ventricular rate.

The primary pathologic change seen is the progressive fibrosis of the atria. This fibrosis is due primarily to atrial dilation; however, genetic causes and inflammation may be factors in some individuals. Dilation of the atria can be due to almost any structural abnormality of the heart that can cause a rise in the pressure within the heart. This includes valvular heart disease, hypertension and congestive heart failure. Any inflammatory state that affects the heart can cause fibrosis of the atria. This is typically due to sarcoidosis but may also be due to autoimmune disorders that create autoantibodies against myosin heavy chains.

Once dilation of the atria has occurred this begins a chain of events that leads to the activation of the renin aldosterone angiotensin system (RAAS) and subsequent increase in matrix metalloproteinases and disintegrin, which leads to atrial remodeling and fibrosis, with loss of atrial muscle mass. This process is not immediate, and experimental studies have revealed patchy atrial fibrosis may precede the occurrence of atrial fib and may progress with prolonged durations of atrial fib. Normal aging is also a factor.

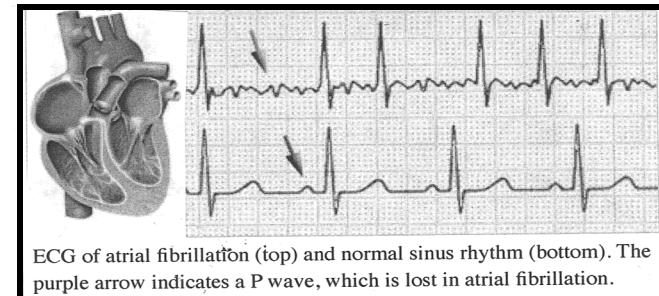
Fibrosis is not limited to the muscle mass of the atria and may occur in the sinus node (SA node) and atrioventricular node (AV node), correlating with sick sinus syndrome. Prolonged episodes of atrial fib have been shown to correlate with prolongation of the sinus node recover time, suggesting that dysfunction of the SA node is progressive with prolonged episodes of atrial fib.

Atrial fibrillation can be distinguished from atrial flutter which appears as an organized electrical circuit usually in the right atrium. This produces characteristic saw-toothed F-waves of constant amplitude and frequency on an ECG whereas AF does not. In flutter, the discharges circulates rapidly at a rate of 300 beats per minute around the atrium. In AF there is no regularity of this kind.

Management: The main goals of treatment are to prevent circulatory instability and stroke. Rate or rhythm control are used to achieve the former, whereas anticoagulation is used to decrease the risk of the latter. If cardiovascularly unstable due to uncontrolled tachycardia, immediate cardioversion is indicated. An exercise program may be useful.

Anticoagulants can be used to reduce the risk of stroke from AF. It can be achieved through a number of means including warfarin (Coumadin), heparin, dabigatran (Pradaxia), rivaroxaban (Xarelto), edoxaban (Savaysa), and apixaban (Eliquis). Aspirin is less effective in reducing the risk of stroke and may not be safer with respect to major bleeding than well-managed warfarin or a non-vitamin K oral anticoagulant (NOAC). For those with non-valvular atrial fibrillation, the NOACs (rivaroxaban, dabigatran, apixaban) are neither superior to nor worse than warfarin in preventing non-hemorrhagic stroke and systemic embolic events. They have a lower risk of intracranial bleeding compared to warfarin; however, dabigatran (Pradaxia) is associated with a higher risk of g.i. bleeding.

Rate control to a target heart rate of 110 bpm is recommended. Lower rates may be recommended in those with left ventricular hypertrophy or reduced left ventricular function. Rate control is achieved with medications that work by increasing the degree of block at the level of the AV node, decreasing the number of impulses that conduct into the ventricles. This can be done with: Beta blockers (preferably the “cardioselective” such as metoprolol, atenolol, bisoprolol, nebivolol. Or by non-dihydropyridine calcium channel blockers such as diltiazem or Verapamil. Or cardiac glycosides (digoxin)—have less use apart from use in older people who are sedentary. They are not as effective as beta blockers or calcium channel blockers. Amiodarone has some AV node blocking effects also.



ECG of atrial fibrillation (top) and normal sinus rhythm (bottom). The purple arrow indicates a P wave, which is lost in atrial fibrillation.

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Cardioversion is the attempt to switch an irregular heartbeat to a normal heartbeat using electrical or chemical means. **Electrical cardioversion** involves the restoration of normal heart rhythm through the application of a DC electrical shock. Exact placement of the pads does not appear important. **Chemical cardioversion** is performed with drugs, such as amiodarone, dofetilide, ibutilide, propafenone, or flecainide. After successful cardioversion the heart may be in a stunned state, which means that there is a normal rhythm but restoration of normal atrial contraction has not yet occurred.

SURGERY Ablation... In those young people with little structural heart disease and cannot be maintained by medication or cardioversion, then radiofrequency ablation or cryoablation may be attempted and is now preferred over years of drug therapy. Although radiofrequency ablation is becoming an accepted intervention in younger patients, there is currently a lack of evidence that ablation reduces all-cause mortality, stroke or heart failure.

Left atrial appendage occlusion... There is tentative evidence that the left atrial appendage occlusion therapy, such as the permanent “**Watchman Implant device**,” may reduce the risk of stroke in those with non-valvular AF more so than warfarin. (use only warfarin anti-coagulant as an adjunct with the Watchman).

Mechanism of thrombus formation. In AF the lack of an organized atrial contraction can result in some stagnant blood in the left atrium or left atrial appendage. This lack of movement of blood can lead to thrombus formation. If the clot becomes mobile and is carried away by the circulation, it is called an embolus. An embolus proceeds through smaller and smaller arteries until it plugs one of them. This results in end organ damage.

More than 90% of cases of thrombi associated with non-valvular AF evolve in the left atrial appendage (LAA). However, the LAA lies in close relation to the free wall of the left ventricle and thus the LAA’s emptying and filling, which determines its degree of blood stagnation, may be helped by the motion of the wall of the left ventricle, if there is good ventricular function. If the LA is enlarged, there is an increase risk of thrombi that originate in the LA. Moderate to severe, non-rheumatic, mitral regurgitation (MR) reduce this risk of stroke. This risk reduction may be due to a beneficial swirling effect of the MR blood flow into the LA.

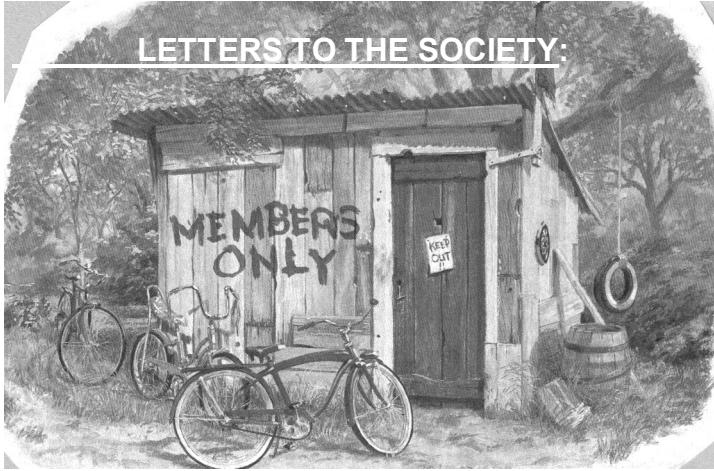
Prognosis... AF increases the risk of heart failure by 11 per 1000, kidney problems by 6 per 1000, death by 4 per 1000, stroke by 3 per 1000 and coronary heart disease by 1 per 1000. Women have a worse outcome overall than men.

The number of new cases each year of AF increases with age. In individuals over the age of 80 it affects about 14% or one in seven.

TYPES OF ATRIAL FIBRILLATION

First detected	Only one diagnosed episode
Lone Atrial Fib	Absence of clinical or echo findings of other CV Disease (<i>including high bp</i>), age under 60.
Paroxysmal	Recurrent episodes that stop on their own in Less than 7 days.
Nonvalvular AF	Absence of rheumatic mitral valve dis., a prosthetic heart valve or mitral repair.
Persistent AF	Recurrent episodes lasting more than 7 days.
Secondary AF	Occurs with AMI, pericarditis, myocarditis etc.
Permanent AF	An ongoing long-term episode.

LETTERS TO THE SOCIETY:



Kudos from Stephen Dubbing V.M.D., Ph.D. W3UEC.

Richard Lochner, Knox, IN., our MARCO President informs us of a call change from K9CIV to K9QA. He also mentions the good luck he has had with a dead-ringer on his R8 vertical antenna by lightning.

Bruce Haskell, WD4MLM, Prospect, KY. Had his newsletter bounce....After request he responded, "Still trying to get my rig and antenna together at the new location. Had to get permission from the Home Owners Association to put up a simple vertical in the backyard!" Bruce had moved from Louisville to Prospect, KY and was a former "regular" on the Sunday Grand Round net.

Peter E. Chadwick G3RZP writes: "Barry WB1FFI suggested that I contact you. In a few weeks I'm giving a lecture to the Gloucestershire Branch of the Institution of Engineering and Technology on "Advances in the use of Radio in Medical Electronics." I am splitting the talk into three areas—communications, which involves advice and sometimes arranging evacuation etc. Therapy, including the use of Diathermy as well as other RF Heating and telemedicine and Monitoring and Telemetry which will include such items as Capsule Endoscopes and Cardiac Telemetry. However, to speak of advances one needs to define the base line from whence one has advanced!"

Where I have a problem is finding when radio was first used for providing medical advice....I am wondering if there has been any information on the history of how ship's medical advice by radio started in the records of the Medical Amateur Radio Council."

Peter was referred to the book "*Empire of the Air, The Men Who Made Radio*" in which 1/3 of it is devoted to David Sarnoff, who started RCA, Lee de Forest, and Henry Armstrong (FM radio) by Tom Lewis. It gives the history of radio in the 1920s.

From **Joe Breault WB2MXJ...** "Off in early AM and will be in the air during rounds (Aug. 19th, 2017) so will miss it. Flying to Orlando where my brother who lives in Port St. Lucie will meet me and we will drive to Columbia, SC for the solar eclipse. Will be exciting to have more than 2 minutes of total darkness during daytime and see the solar corona (clouds permitting).

Danny Centers W4DAN, Cleveland, TN. writes: My wife Carolyn watched with glee when I was gathering junk to take to a local hamfest. She said, "I am glad you are finally trying to get rid of some of the clutter around here!" I returned her sentiment by requesting that when I die she immediately destroy my "stuff." She replied, "Why do you say that?" "Well," I said, "I don't want some jerk using my things." "What makes you think I would marry ANOTHER jerk? She responded.."

FOOTLONG SUB ONLY 11 INCHES... An Australian teenager posted a photo of a Subway footlong sandwich lined up against a tape measure, showing it to be an inch shorter than advertised. Within days, lawsuits were filed. "Plaintiff and the class members received less food than they were promised by defendant," read one of the complaints. Eventually lawyers were awarded \$525,000 in plaintiff attorney fees but nothing to the plaintiffs. Subway claimed baking shortened the bread. On 25 August three-judges intervened mocking the case as being "half-baked." and withheld payment. The court said the only ones benefiting from the settlement were the lawyers.

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.



Ellen Musk gets verbal approval to build Hyperloop tunnel from N.Y. to Washington D.C. with a travel time of 29 minutes. All he needs now is the money. Prototype reported successful.

In the Netherlands, the Doctor will kill you now... Healthy people who consider their lives "full" may soon be eligible for assisted suicide. In 2002 the Netherlands became the first country to legalize euthanasia and physician-assisted suicide for those suffering deadly diseases or in the late stages of life. Now, healthy people can contemplate taking a "suicide pill." The bill is under scrutiny.

Abbott Labs released new software updates designed to protect hundreds of thousands of implanted pacemakers from external hacking that could harm heart patients and to guard against dangerous battery depletion in a different cardiac device linked to two patient deaths. **Electronic screen alert:** Computer vision syndrome results from staring at a screen for long periods of time. That can lead to two problems: One is dry eyes, caused by a lack of blinking. When you look at a screen, you're so involved that you forget to blink. The blink rate goes from 15X a minute to 5... you need to blink to re-establish the tear film on the eyes. The other main problem is eye-strain from staring at a screen too long. Artificial tears and an electronic screen to dim the light—especially if you have cataracts—are the answers. **Remember when Mom warned you** not to sit too close to the TV when you were a kid? In the past, screens were bombarded with energy. That emission back in the 1950s was too strong. In the '60s, they made safer TVs. . Now with LCD or LED TVs, there's nothing coming out of the screen to hurt you

The "Who's Who of Brain Cells..." Glial cells outnumber neurons by 9 to 1. Once thought of as mere helper cells, glia are now known to play key roles in shaping brain circuitry and controlling neurons behavior. **Neurons** form networks with other neurons and transmits messages through rapid electrochemical signals across synapses. **Astrocytes** are providers of structural support, nutrients and oxygen to neurons. Enable synapse formation and prunes weak synapses. Can help heal or destroy injured or diseased neurons. **Microglia**s prune excess synapses in developing nervous system. Removes molecular debris. During infections gobble up invading pathogens. May also prune functional synapses in cases of neurodegenerative disease. **Oligodendrocytes** insulates axons (nerve fibers) with myelin, improving transmission of nerve impulses. Damage to oligodendrocytes leads to demyelination, implicated in neurological disorders such as multiple sclerosis.

Opdivo approved for bladder cancer... The PD-1 immune checkpoint inhibitor that uses the body's own immune system to fight cancer reported a 3% complete response with 17% undergoing a partial response. Another PD-1 checkpoint inhibitor **Keytruda** was approved for second-line therapy for non small cell lung cancer.

Millennials are ruining everything... due to lack of interest in golf, motorcycles, home ownership, bars of soap, diamonds, eating out, napkins, Breastaurants (*Ike Hooters*), and banks (*don't trust them, now using Credit Bureaus.*) When they get older things should straighten out.

A NUCLEAR WEAPON EXPLODES 300 KM ABOVE NEBRASKA, THE BLAST IS TOO HIGH TO KILL BY HEAT OR RADIOACTIVITY, BUT IT DOES SOMETHING WORSE— IT SENDS THE U.S. THE WORLD'S MOST ADVANCED NATION INTO THE STONE AGE

This isn't science fiction. The technology for launching this version of Armageddon exists and is ridiculously low tech.. Even an ordinary, low-yield nuclear bomb exploded in the upper atmosphere by terrorists, with help from dysfunctional nuclear powers, would unleash a deadly electromagnetic pulse (EMP) that will take only a nanosecond to knock out an entire country's electrical grid.

That means every microchip will be fried and electronic systems will fail. The result would be "fundamental collapse" as the United States EMP Commission describes it. All phones and mobiles will stop functioning, the transport system would come to a halt, the banking system, airports, food and fuel distribution systems would collapse. The fabric of modern society would be ripped apart.

Terrorists and terrorist states, want something that will give them more bang for the buck. It makes one wonder, what & when is next?

The Russians were the first to understand the implications of EMP as a weapon. Soviet physicist Andrei Sakharov proposed using this principle in a bomb in the 1950s. On **October 22, 1962**, during one of their ABM tests, the Russians detonated a **300 kiloton** hydrogen warhead (20 times more powerful than Hiroshima) at an altitude of 300 km over Kazakhstan. The destruction was massive to electrical circuits.

The U.S. military realized EMP's potential as a weapon the same year, in the **Starfish Prime test** of a much larger **1.44 megaton** warhead at a height of 400 km over the Pacific. The pulse knocked out street lights and damaged telephones in Hawaii. Four day after the explosion the UK satellite Ariel was unable to generate sufficient electricity to function properly.

People are more venerable today because virtually everything now runs on microchips, which are a million times more vulnerable to a power surge than the thermionic valves used in electronics in 1962. Today most people around the world be unable to function normally without access to mobile phones and computers.

How does it work? A nuclear explosion in the upper atmosphere releases EMP that spreads out and radiates a large area underneath it. The area affected by the EMP depends on the height at which it is detonated. The higher in the atmosphere the explosion occurs, the larger the radius of damage.

It's like a powerful lightning bolt that surges into your house. The strength of the pulse—30,000 to 50,000 volts per meter—is more than enough to burn your circuits and make your TV set explode.

Such damage cannot be repaired—everything would need to be replaced. But wait, even that won't be easy. According to one study, if the US. lost its large transformers, 40% of the country's population would be without electrical power for as long as four to 10 years.

That isn't farfetched as it sounds. Several countries, including the U.S., no longer manufactures large power transformers. They are all sourced from abroad. Typical sort of delays from the time you order until the time you have a transformer in service are one to two years, and that is with everything working great.

According to a report prepared for the U.S. Congress, Russia and China and possibly North Korea are now capable of launching a crippling high EMP strike against the U.S. with a nuclear tipped ballistic missile, and other nations such as North Korea, could possibly have the capability by 2017. Other nations that could possibly develop a similar capability over the next few years include France, Israel, India, the UK and Pakistan.

China could either blanket the area over Taiwan to paralyze the country or above a US Navy aircraft carrier to cripple carrier groups. Israel can dispatch Iran or any Middle Eastern challenger to the Stone Age and what North Korea can do is anybody's guess.

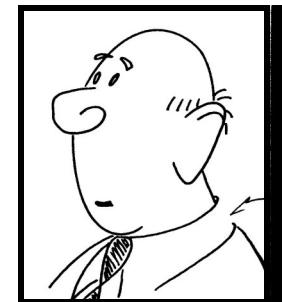
EMP can be produced on a smaller, non-nuclear scale using a device with batteries or chemical explosives. A group of Russian scientists have developed a series of unique compact generators capable of producing high-energy pulses of thousands of megawatts.

5

MAYO CLINIC on DRINKING WATER

A cardiologist determined that heart attacks can be triggered by dehydration. How many of you don't want to drink water before going to bed because you'll have to get up during the night?

Drinking one glass of water before going to bed helps avoid stroke or heart attacks (*most attacks occur between 6 am and noon*)—**interesting!** Also, helps prevent leg cramps.



Why do people urinate more at night? Gravity holds water in the lower parts of your body when you are upright. When you lie down and the lower body seeks level with the kidneys, it is then that the kidneys remove the water because it is easier and more physiologic.

When is the correct time to drink water? Drinking water at a certain time maximizes its effectiveness on the body: Best to drink 2 glasses of water after waking up since you become dehydrated during sleep. One glass of water before a meal to help digestion.

If you take an aspirin or a baby aspirin once a day take it at night because aspirin has a 24-hour "half-life", therefore, if most heart attacks happen in the wee hours of the morning the Aspirin would be strongest in your system. Bayer is now making crystal aspirin to dissolve instantly on the tongue. They work much faster than the tablet.

NOTE: There may be NO pain in the chest during a heart attack. The majority of people (about 60%) who had a heart attack during their sleep did not wake up. However, if it occurs, the chest pain may wake you . If that happens, immediately dissolve two aspirins in your mouth and swallow with water. Then call 911, say "heart attack!" Say you have taken two aspirin and take a seat on a chair near the front door and wait for their arrival and do not lie down.

The U.S. has also ramped up its research on non-nuclear EMP weapons. In October 2012, Boeing tested a missile system that does not use any explosives, thereby limiting damage to its intended goal of directing microwave energy that can cause instant blackouts. Aimed at taking out Iran's nuclear plants, it is codenamed CHAMP—Counter-electronics High Power Advanced Missile Project.

However, there's one bomb that could be the ultimate doomsday weapon—an ordinary nuclear warhead packed with common cobalt. The bomb transforms the cobalt into highly radioactive cobalt-60, which has a half-life of over 5 years.

You can run but you can't hide from such a weapon because unlike the radioactivity of Hiroshima type bombs that remains local the radioactivity of cobalt-60 would spread around the world and slowly kill all life.

The average supermarket stocks food for two years and regional food warehouses may have a few weeks supply. What are you to do for the next five years? Compared with the madness that modern maniacs can unleash, the horrors of WWII and 9/11 are but mere sideshows.

U.S. AIR FORCE CONFIRMS BOEING'S ELECTROMAGNETIC PULSE WEAPON

Stepping out of the realm of science fiction and into reality is the joint U.S. Air Force and Boeing electromagnetic pulse weapon, capable of targeting and destroying electrical system without the collateral damage often associated with traditional firepower—this new weapon is a bomb—but without the bomb. The new missile system would pinpoint buildings and knock out their electrical grids, plunging the target into darkness and general disconnectedness.

Military forces have been actively developing next-generation weapons that take warfare well beyond the guns and rockets that populate modern arsenals. Lasers have been a key area of advancement: Lockheed Martin test fired a laser weapon recently.

FIELD DAY

By Danny Centers, W4DAN



I don't always have the opportunity to participate in Field Day because the date in June sometimes corresponds with a family reunion in Kentucky that I attend. This year there was a date shift which allowed the privilege of operating along with several others, in activity at one club. After that, I visited two other club operations during the weekend.

As I observed the setup of the various stations, I couldn't help but think of how radio communication technology has advanced over the years. The famous June 1957 cover of QST depicting the Podunk Hollow radio club field day event almost always comes to mind when I think of the way things once were, and how they are today.

A few things were lacking at Podunk Hollow such as synchronized computer logging, air conditioned campers, and elaborate mobile communication units. One thing that never seems to be lacking is good food. There seems to be almost as many great amateur chefs as there are amateur radio operators at these events. Of course, the 3 plus KW generators of today are no match for some of apparatuses used to rev up some of the 12,000 volt spark gap transmitters used in the first Field Day. High voltage and low current has given way to low voltage and high current, I guess.

The first ARRL Field Day was held in 1933, and to this day is the most popular on the air annual event in the U.S. and Canada. The highest scoring station in the first field day was a non club group of 6 hams in Florida using call sign W4PAW. They operated 27 hours, made 62 QSOs, worked 28 sections, and had a final score of 1826.

Until 1940 the Field Day event was strictly for portable operations. In 1940 home stations were allowed to participate. This was done mainly to encourage the use of batteries and generators in the home in case of emergencies if and when needed.

Under orders from the federal government, the FCC shut down all amateur radio operating from 1942 to 1945 for security purposes during WW II. Other than this leave, field day has been anticipated, planned for, and enjoyed by man, including non-hams every year since 1933.

Ham radio operators have weathered the occasional torrential rains, winds, and storms during field day events from the beginning. They fought Murphy's Law by requiring antennas, generators and electronic gas. This is why the slogan "*When all else fails*" remains to be a truism, and somehow has a patriotic ring to it.

WHERE ARE MARCO MEMBERS FROM?



According to latest figures MARCO's circulation bounces between 240-255. We are mostly from the large States with Ohio topping off with the highest number—18. This is followed by California with 17, Illinois, Florida and New York with 16 and Maryland & Pennsylvania with 12 members.

Massachusetts, Michigan and Texas follow with 10 members followed by Tennessee with 9, Kentucky with 7 and North Carolina, Wisconsin and Oklahoma with 6. Then comes Louisiana, Indiana and Virginia with 5 followed by West Virginia, South Carolina and Mississippi with 4. Arizona, New Jersey, Colorado, Minnesota and Oregon follow with 3.

The low member states are Connecticut, Georgia, Utah, Iowa, Alabama and the Virgin Islands with 2 each. Those States with only one member include Rhode Island, Nebraska, Missouri, Kansas, North Dakota, Hawaii, Puerto Rico and Washington.

States without Marco members include: Arkansas, South Dakota, Nevada, Vermont, Idaho and Wyoming.

We have six members in Canada, two in Japan and one each in Denmark, Brazil, Israel and Finland.

Americans, reputed to be the most litigious people in the world, are filing far fewer lawsuits. Fewer than two in 1,000 people—the alleged victims of inattentive motorists, medical malpractice, faulty products and other civil wrongs—filed tort lawsuits in 2015. That is down sharply from 1993, when about 10 in 1000 Americans filed such suits.

A host of factors are fueling the decline, including state restrictions on litigation, the increasing cost of bringing suits, improved auto safety and a long campaign by businesses to turn public opinion against plaintiff and their lawyers. The nationwide ebb in lawsuits, which confounds the public perception of courts choked with tort claims, has broad ramifications for businesses, doctors, patients, lawyers and the courts themselves.

Companies and insurers on the receiving end of such lawsuits welcome the decline.

Torts are civil wrongs that cause someone to suffer loss or harm. Most tort lawsuits seek damages for negligence rather than deliberate injury and fall into one of three categories: auto cases, medical malpractice or product liability.

Nearly 2/3rds of tort cases involve automobiles. Motor-vehicle deaths and hospitalizations from crashes have declined since the 1990s, likely contributing to fewer lawsuits.

Researchers at Northwestern University recorded a 57% nationwide decline in malpractice claims paid by doctors or their insurers between 1992 and 2012, and a similar drop in the number of malpractice lawsuits. Claims of less than \$50,000 fell the most.

Plaintiffs' lawyers typically front the cost of litigation and take their fees off the back end, usually 1/3 of what ever their clients receive.

In tort lawsuits, damages come in three varieties. **Economic damages** are meant to make the plaintiff whole. They cover lost wages, medical costs or other economic harms caused by others. **Noneconomic damages** ameliorate intangible harms such as pain and suffering, while **punitive damages** are meant to punish and deter.

More than 30 states have capped damages in medical malpractice or other cases since the 1970s. In 2003, Texas capped damages in medical malpractice at \$250,000.

Arbitration may be siphoning some tort cases from the courts. Judges have steered personal injury claims out of court based on mandatory arbitration clauses contained in contracts entered into by patients, employees, home buyers and others.

A committee appointed by the Conference of Chief Justices recently concluded that state judicial systems are getting fewer cases because many disputes cost more to litigate than they are worth. A study conducted for the group found that .2% of civil cases resulted in judgments of more than \$500,000, while most tort cases ended in judgments of \$12,000 or less.

(Information for the above was taken from the fine article by Joe Palazzolo which appeared in the July 25th, 2017 edition of the Wall St. Journal.)

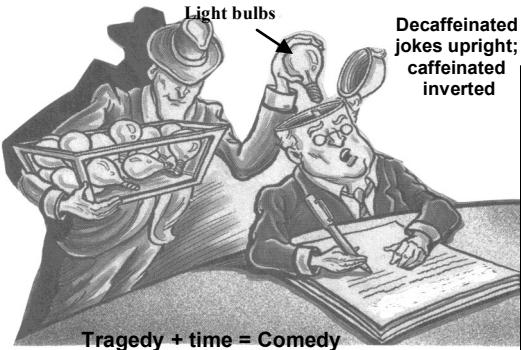
GOOD NEWS FOR COFFEE DRINKERS

Two large studies offer fresh evidence of coffee's health benefits....**The Multiethnic Cohort Study:** Results from this study of 185,855 Americans from different ethnic groups found coffee consumption was associated with a lower risk of death due to heart disease, cancer, stroke, diabetes and respiratory and kidney diseases. What's more, drinking decaf didn't seem to affect the outcome.

The European Prospective Investigation in Cancer and Nutrition study of 521,330 people from 10 European countries found that higher levels of coffee were associated with a reduced risk of death from all causes. More research is needed to determine which of the compounds in coffee provide these health benefits. But in the meantime, the research suggests that moderate drinking up to three cups per day is not detrimental to your health and may even improve it.

The bottom line? Bottoms up!

LIGHTEN
UP...



7

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Will Rogers, ageless wonder of the 1930s stated: *Good judgment comes from experience and a lot of that comes from bad judgment.* Democrats never agree on anything, that's why they're democrats. If they agreed with each other they would be republicans. *If you find yourself in a hole, the first thing to do is stop digging.*

Will Rogers & aviator Wiley Post were killed in a plane crash at Point Barrow, Alaska on Aug. 15, 1935. Will became famous through his radio broadcasts in which he used an alarm clock to remind him his time was up. A statue of Rogers resides in the Capitol Building in Washington D.C. with the inscription, "I never met a man I didn't like."

More Rodney Dangerfield one-liners—With my old man I got no respect. I asked him, "How can I get my kite in the air?" He told me to run off a cliff. **I'm so ugly I stuck my head out of the window and got arrested for mooning.** My wife is such a bad cook, in my house we pray after the meal. **It's been a rough day. I got up this morning and put a shirt on and a button fell off. I picked up my briefcase, and the handle came off. I'm now afraid to go to the bathroom.** Last night my wife met me at the front door. She was wearing a sexy negligee. The only trouble was, she was coming home.

News from N. Korea... While watching the news I could not help but notice that every North Korean general has at least forty medals pinned to their chests. The North Korans haven't fought a war in 64-years. We could defeat them with a magnet. (Tnx Pete May!)

back at Wisconsin." Tip of the hat to Stephen Dubin, V.M.D., Ph.D.)

Michigan." "Actually, no," the patient replied. "He was a quarter at the physicien remarked, "I suppose your husband played at once of wearing his varisty blazer during our intimate moments." Inquiry the woman answered, "My husband has a peculiar preference a rash on her abdomen in the form of the letter 'M.' Upon During a routine physical of a young woman, her physician

MENSA, is a national organization for those who have an IQ of 140 or higher. Several of the Mensa members went out for lunch at a local cafe. When they sat down, one of them discovered that the salt shaker contained pepper and the pepper shaker was full of salt. How could they swap the contents of the two bottles without spilling any? and using only the implements at hand? The group debated the problem, presented ideas and finally came up with a solution involving a napkin, a straw and an empty saucer. They called the waitress over, ready to dazzle her with their solution. "Miss," they said, "we couldn't help but notice that the pepper shaker contains salt and the salt shaker . . . , "but before they could finish, the waitress interrupted, "Oh! Sorry." She leaned over the table, unscrewed the caps of both bottles and switched them. There was dead silence at the Mensa table. Reminds one of politicians, doesn't it? (Tip of the hat to Joe Barron.)

EAT, DRINK, and RE-MARRY !

The doctor called Mrs. Cohen saying, Mrs. Cohen, your check came back." Mrs. Cohen answered, "So did my arthritis!"

A drunk was in front of a judge. The judge says, "You've been brought here for drinking." The drunk says, "Okay, let's get started."

DEFINITIONS: Burglarize... What a crook sees through. **AVOIDABLE...** What a bull fighter tries to do. **EYEDROP-PER...** Clumsy ophthalmologist. **COUNTERFEITER...** Workers who put together kitchen cabinets. **LEFT BANK...** What the bank robbers did when their bag was full of money. **HEROES...** What a man in a boat does. **PARASITES...** What you see from the Eiffel Tower. **PARADOX...** Two physicians. **PHARMACIST...** A helper on a farm. **RUBBERNECK...** What you do to relax your wife. **SUDAFED...** Brought litigation against a government official.

MEMORIES OF YEARS AGO IN MARCO

Our History Book

Fifteen years ago in Marco

October 2002...**Christine Haycock, WB2YBA** wrote, "I noticed in the Marco NL that several people were looking for **Ed Briner's files** (the late Ed Briner was the previous NL editor). They are all in my basement. I would appreciate if someone younger than I had them and the time to sort them. I also have my files dating back to the first Marco meeting in Atlantic City about 1967...if anyone is interested please contact me." (**Bruce Small KM2L** took over & served Marco for many following years as "historian.")

Robin Staebler WE1MD reported he is 80% back to normal after being stricken at the HAMFEST in Dayton in May. Former President **Bob Currier WB5D** is back home in Jackson, MS after spending the summer in Bois Blanc Island, MI and **Ed Westcott W4UVS** appeared on the History Channels documentary on the Manhattan Project of WW II.

Ten years ago in Marco

October 2007...The mystery of the Bermuda Triangle was featured on the front cover of *Aether*. An undeseas volcanic release of bubbles of CO₂ gas was thought to be the culprit just as a toothpick cannot float on beer foam nor can a ship float on gas. Experiments at the Univ. of Michigan verified the theory.

Bill Stenberg N5QF has been reassigned to Alaska and will be leaving his leadership role as Exec. Director of Marco's MediShare. **Robert Smithwick W6CS** has volunteered to take-over the job for the duration of President Arnold Kalan's term of office which ends in May 2008.

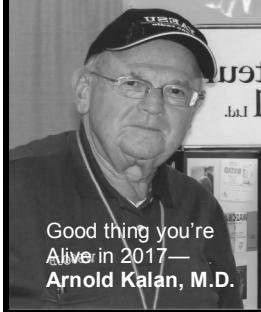
Five years ago in Marco

October, 2012..."Why you don't sleep so well..." was the headline in Marco...We also mourned the passing of lovable **Dr. Lou Wiederhold**, our treasurer, He was 88.

Danny Centers W4DAN has made arrangements at the "Mystic Dunes Golf Resort, in Orlando's *Celebration City* for Marco members attending the Orlando HamFest, AND our CW nets wre averaging around 4-5 members per Sunday sessions using the 14.140 frequency.

Jeff Wolf K6JW had a nice article, "What we did on our Summer Vacation," whereas he and XYL Rowie traveled to Machu Picchu and the Galapagos Islands.

In the CME rankings, **Bobbie Williams WA1BEW** was leading the pack with 31 check-ins to the Grand Rounds of the Air, while **Bob Smithwick W6CS** was keeping us current in his column "Smitty's Corner, the Busy Bee!"



Good thing you're
Alive in 2017—
Arnold Kalan, M.D.

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
N5AN	31`	Bud	Lafayette, LA
NU4DO	31	Norman	Largo, FL.
KD4GUA	29	Warren	Largo, FL
KC9CS	29	Bill	Largo, FL
N5RTF	28	Chip	New Orleans, LA
N4DAN	27	Danny	Cleveland, TN
N2JBA	27	Ed	Amenia, NY
WB6OBJ	26	Arnold	Pac. Pal., CA
KK1Y	26	Art	Seminole, FL
KNOS	26	Dave	Virginia
N4TSC	25	Jerry	Boca Raton, FL
WB9EDP	25	Harry	Batavia, IL
K9QA	24	Rich	Knox, IN
WA3QWA	24	Mark	Chesapeake, VA
WB1FFI	24	Barry	Syracuse, NY
WORPH	23	Tom	Denver, CO
N9RIV	23	Bill	Danville, ILL
KM2L	23	Bruce	Clarence, NY
N6DMV	22	Paul	Torrance, CA
N2OJD	22	Mark	Sidney, Ohio
KE8GA	22	George	N. Carolina
W8LJZ	21	Jim	Detroit, MI
KE5SZA	20	John	Marietta, OK
W6NYJ	20	Art	Beverly Hills, CA
NOARN	20	Carl	Colorado
WOUNZ	19	Paul	Warsaw, MO
K4RLC	19	Bob	Raleigh, NC
WB2MXJ	19	Joe	St. Metairie, LA
K6JW	18	Jeff	Palos Verde's, CA
N8CL	17	Chuck	Albany, NY
WA1EXE	15	Mark	Cape Cod, Mass.
K3IK	15	Ian	Shavertown, PA
WA1HGY	13	Ted	Massachusetts
KD5QHV	12	Bernie	El Paso, TX
N9GOC	12	Pat	Champagne, IL
N4MKT	12	Larry	The Villages, FL
K9YZN	11	Mike	Crystal Lake, IL.
W6BPP	11	Susan	Colorado
W1RDJ	9	Doug	Cape Cod, Mass.
K0FS	9	Fred	St. Louis, MO.
W4MEA	8	Max	Tennessee
KB5BQK	7	Linda	El Paso, TX
K1WDR	6	Wayne	Parish, FL
AE4BX	6	Mary	Myrtle Beach, SC
W3PAT	5	Marvin	S. Carolina
N4DOV	5	David	Ft. Lauderdale, FL
KC9ARP	5	Michelin	Batavia, NY
N9HIR	4	Bill	Berwyn, IL.

THE 10 WORST EPIDEMICS OF ALL TIME

1. **The Black Death**, Europe/Asia, 1347-1351 AD killed 75 million
2. **Influenza**, worldwide, 1918-1920, killed 21,650,000.
3. **AIDS**, worldwide, 1981-....., killed 16,300,000
4. **Bubonic Plague**, India, 1896-1948, killed 12 million.

5. **Typhus**, Eastern Europe, 1914-1915, killed 3 million
6. **"Plague of Justinian,"** Europe/Asia, 541-590 AD.
7. **Cholera**, worldwide, 1846-1860, deaths in millions.
8. **Cholera**, Europe, 1826-1837, deaths in millions.
9. **Cholera**, worldwide, 1893-1894, deaths in millions.
10. **Smallpox**, Mexico, 1530-45, deaths in millions

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 (Year of Terrorist)
2014	1756 (47 nets)	37.36
2015	1722 (49 nets)	35.14
2016	1687 (46 nets)	36.67
2017	1081 (31 nets)	34.87

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

"LOOK MA, NO BRAKES ! YOU'LL DRIVE ELECTRIC CARS WITH NO BRAKES !

Tesla's mass-market Model 3 now underway means a raft of changes: plugging in at night instead of hitting the gas station, keeping an eye on a battery meter instead of a fuel gauge, and most importantly, a change in the way they drive.

To get the maximum benefit out of driving an electric car, the accelerator (you can't call it a gas pedal anymore) controls both the speeding up and slowing down. Pressing the pedal makes the car go, as usual but lifting your foot makes the car slow down, hard, not coast.

It's a quirk that takes some getting used to. At first, it can feel like the parking brake has been accidentally left on. But most drivers eventually prefer it because it makes inching forward in traffic much easier than swapping your foot back and forth between pedals.

In a conventional car, brake pads clamp onto a metal disc, with friction converting the kinetic energy of a speeding car into wasted heat. But when electric cars slowdown, the electric motor runs as a generator, recovering some of that previously wasted energy to top up the battery. Depending on how much regeneration the software engineers allow when designing the car, the force can be powerful enough to slow the car most of the way to zero, meaning drivers only need to use the brake pedal to come to a full stop.

Nissan will become the first automaker to introduce fully one pedal driving in the latest iteration of the electric Leaf, due later this year. It will have an "e-Pedal" option. The pedals will still look the same, but the brake will be pretty much redundant, and computer controls will give the traditional accelerator extra functions. Lifting off won't just slow the car with regenerative braking, but will bring the car to a full stop, and will even hold without rolling backwards on hills.

"I think this is the logical next step," says Jeffrey Miller, an engineering professor at USC. In a Tesla, owners can already choose exactly how much lifting off the accelerator slows the car on the giant touch screen. In Chevrolet's Volt, drivers have a paddle behind the steering wheel to request extra regeneration, just as they'd tap to downshift and slow down with a sporty automatic gearbox.

A next-gen Leaf driver will never need the brake pedal, although it will still be there, for those "aggressive braking situations."

The advantages of maximizing regen braking are huge. Maintenance costs are lower because barely-used brake pads last for many thousand more miles. There are fewer particles of dust created which pollute the air and waterways. Stopping distances will be shorter too, as the car will start slowing down as soon as the driver begins to lift off the accelerator, rather than when he moves his foot to another pedal.

Most importantly, energy is recaptured rather than wasted, so the range in electric cars is improved (A Tesla engineer described the experimental regen braking system on the Roadster in 2007, and calculated it was round 65% efficient at recapturing energy.)

Regenerative braking does mean electric car owners need to take extra care on slippery roads, because slowing the car aggressively can cause the tires to slip. For drivers, learning to ease off the accelerator rather than jerk a right foot over to the brake means forgetting many years of expecting a car to coast.

The concept isn't new. Engineers experimented with regen brakes on the very earliest horse-free carriages, and it's widely implanted on electric trains. A boost in the number of electric cars on the roads is going to make it much more common though, and mean a modern generation of drivers is going to have to forget what they known about pedals and learn a new way to stop.

(Information for above was taken from Wired on the Net)

YOU KNOW YOU'RE IN PERFECT SHAPE, WHEN....

You and your teeth don't sleep together...you try to straighten out the wrinkles in your socks and discover you aren't wearing any....your back goes out but you stay home...your idea of weight lifting is standing up...it takes longer to rest than it did to get tired...you sit in a rocking chair and can't get it going....it takes twice as long to look half as good...everything hurts, and what doesn't hurt—doesn't work...you sink your teeth into a steak and they stay there...you finally get your head together and your body starts falling apart...you look for your glasses for half an hour and they were on your head the entire time.....Alas, you are only young twice!

Greetings from Knox, Indiana....Marcia and I have just returned from Portland, Oregon. We spent two days on the train there and back in a sleeper room. This was the room and not the roomette which you cannot turn around in when the beds are set up. This was a nice trip with meals included but too much good food. We are thinking about the train when we come to Orlando in February, probably with a layover in Washington, D.C.

So, yes I checked in from Portland with **Remote Ham Radio** on one of the newer modes of radio. Since my antenna has been having problems, I signed up for the remote service so I can keep my hand in and Marcia says it makes me happier.

This service allows me to work from my desk top and my smart phone. Kinda neat to work Dx with my cell phone. In order to go to church with Marcia I check in, into the church Narthex taking advantage of the church's WiFi on my phone.

Remote Ham Radio has stations in the northeast, Californian and Haiti with SWL too. It covers 2 through 160 meters and has two levels of access. I have the \$100 per year subscription which gives me access to a K3 and sometimes a 500 watt KPA amplifier—this has been more than enough. Antennas range from wires to large beams including SteppIR's. The higher level at \$1,000 per year has access to 4-squares and larger amps—more contesting stations. Though I like competition I am not a competitor. I am looking for the Honor Roll. This system has not given me the few I need for a number of reasons. So for purists this is more of a mood mellowing plan for me. CW and Digital are available but I have not tried that. There is a per minute charge ranging from \$0.019 to \$0.49. This has been fine for my needs. Their service is great.

All in all it works for me. Maybe when they won't let me put-up an antenna I can have a computer and go remote. We all do Ham Radio in different ways, that is what make our group so interesting, just as we practice medicine in different ways.

The antenna controller was in Washington while we were in Oregon. Seems it got hit by lightning and my investment in a protection board was well worth it.

That's it for now—looking forward to my antenna being on the air soon—guess I have said that before.]

73 de Rich, K9QA

MANY OF YOU ARE UNAWARE OF REMOTE CONTROL HAM RADIO

Using the internet to remotely control our amateur equipment is' rapidly becoming a hot topic. Ten Tec recently introduced their new Omni VIII with "plug and play" remote capability. There have been several articles on the subject published recently but most of them seemed to stop short of actually telling you how to do it, or, just seemed to be too complex for the average Joe Ham to implement.

If you are one of those, turn your computer on and go to "**Remote Ham Radio**." There are several articles telling you it is not complicated, one of which is *Remote Control Your HF Rig via the Internet* by Alfred T. Yerger II, WA2EHI.

If you are using this mode perhaps you would like to submit your experience using it—as it is a subject of major importance to all of us..

GETTING THE RIGHT ONE....

Number 1: It is very important to find a woman that cooks and cleans.

Number 2: It is of great importance to find a woman that makes good money.

Number 3: It is extremely important that you find a woman that likes to have sex.

Number 4: It is absolutely of the utmost importance that these three women shall never meet.



WHAT TO DO WHEN THE HEART FAILS

As presented on MARCO Grand Rounds, July 16, 2017

Outcomes of traditional support when the heart fails in acute heart failure have generally been suboptimal. Use of intra-aortic balloon pumps and permanent left ventricular assist devices have not been the complete answer to the problem.

New approaches, such as minimally invasive therapy such as the *Impella 5.0 device*, promise less invasive but equivalent hemodynamic support. However, it is yet unknown whether the outcomes with such devices support widespread acceptance of this new technology. The Ochsner Clinic recently started utilizing the right subclavian artery for acceptance of the new *Impella 5.0* implantation and have reported on their experience.

A single-center retrospective review was performed of 24 patients with acute or chronic decompensated heart failure who received the *Impella 5* from June 2011 to May 2014. The device was implanted via a cutdown through an 8 mm vascular graft sewn to the right subclavian artery. The device was positioned with fluoroscopy and transesophageal echocardiography.

The mean age of the patients was 51 years and 75% were male. At implantation, all patients were mechanically ventilated on at least 2 inotropes (adrenaline-like drugs) with possible persistent cardiogenic shock. Post implantation, 21 (88%) tolerated extubation. The endpoint of support included recovery in 6 patients, permanent left ventricular assist devices implanted in 9 and heart transplantation in 2. Death occurred in 7 as a result of multisystem organ failure, infection or patient withdrawal of care.

Minimally invasive therapy using the *Impella 5.0* via the arm cutdown is an attractive option in acute or chronic decompensated heart failure. Improvement in end organ function allows for transition to recovery or to advanced surgical therapies such as permanent left ventricular assist devices and heart transplantation.

Mechanical circulatory support in the setting of acute decompensated heart failure is typically associated with significant morbidity and mortality. Adverse outcomes are often the result of further exacerbation of underlying end organ dysfunction typical of patients with chronic heart failure. Traditional treatment options include inotropes, intraaortic balloon pumps, extracorporeal membrane oxygenation, and permanent left ventricular assist devices. In the last few years, minimally invasive therapy with the *Impella 5.0* has emerged as a realistic option with growing experience of its use as a temporary support option.

The device sits across the aortic valve with the inlet portion in the left ventricle and the outlet portion in the ascending aorta. The *Impella* is designed for temporary support and is used as a bridge to decision, for myocardial recovery, or as a bridge to a long term solution such as Left Ventricular Assist Device. Currently, the US FDA has approved this device for 6 hours of support. In Europe the device is approved for use of up to 10 days. Most commonly, the femoral approach is utilized for implantation although interest in using the right subclavian artery approach has been growing.

At the time of implantation of the device, all patients were on at least 2 inotrops, were mechanically ventilated and were still in persistent cardiogenic shock. The device was initiated at its lowest speed setting and slowly increased to maximal support with simultaneous down-titration of vasoressor and inotropic agents. Anticoagulation was initiated 6 hours after the surgical implantation and consisted of a continuous infusion of unfractionated heparin to achieve a partial thromboplastin time of 40-50s.

The mean duration of support was 18 days. All patients developed some level of hemolysis as reflected by elevated serum LDH levels; however, no patient had hemolysis significant enough to mandate discontinuation of the device.

In addition to the *Impella* device, another available FDA approved percutaneous LVAD therapy is the *Tandem Heart System* which is a continuous-flow centrifugal pump, capable of delivering flows of 3.5-4 L/min. *TandemHeart* utilizes a transeptal puncture for a cannula to be positioned in the left atrium to allow for direct unloading of the left heart. It also requires anticoagulants. This system is typically inserted using the femoral vessels for cannulation as a bridge to cardiac recovery. The *TandemHeart*

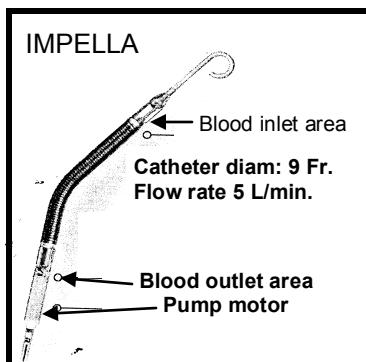
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has a lower flow rate and requires femoral arteries of sufficient size. Furthermore, the need for specialized personnel to perform the trans-septal puncture of placement of the left atrial cannula and the potential for left atrial thrombus formation and stroke create significant disadvantages.

Although improvement in hemodynamic parameters can be expected and is often seen after institution of temporary mechanical circulatory support, these changes are only relevant if they translate to improvement in end organ function. For this reason we have focused less on the improvement in the hemodynamics after the implantation of the device and more on how those hemodynamic changes impact end-organ function.



Creatinine levels before and after *Impella 5.0* support show a statistically significant improvement in renal function. Multiple studies have demonstrated renal function as a risk factor for morbidity and mortality with the use of LVADs. An extremely important highlight of this study shows that an improvement in renal function before implantation of a permanent device and in transplant patients leads to a much better survival than the usual anticipated survival in patient with poor renal function.



YOU ARE TOLD YOU HAVE 3 CLOGGED ARTERIES AND NEED HEART SURGERY...Your cardiologist recommends a percutaneous coronary intervention (PCI) procedure using either the Impella 5.0 heart pump, the Tandemheart or the Intra Aortic Balloon Pump (IABP).

These devices are used to help the heart pump blood during the PCI procedure. The major difference between them is that the IABP works by using the force of each heartbeat to

increase blood flow while the others function independently of how your heart beats pumping up to 5 liters of blood per minute using its own motor.

The Impella has fewer adverse events and helps take over the heart action if cardiac shock (drop in BP, tachycardia, lactate up) occurs. Since it is continual flow the heart beat tends to diminish or disappear. After a few days it is removed as the danger from surgery has subsided.

What is the cost of the Impella? \$48,000 (\$300 less than the balloon pump.)

The FDA has approved the Impella for 6 hours but current data has revealed off-label use in patients ranging from a few hours to an average of 12 days with the longest recorded duration of 35 days.

Mortality using the Impella was 28% at 30 days, 36% at 90 days and 39% at one year

Duraton of hospital stay averaged 11 days after the device was removed.

Complicaitons...anemia most often due to blood loss from use of heparin and hemolysis from rapid motor speed usually in first 24 hours.

Contraindications...Peripheral artery disease with small femoral artery lumen; severe aortic valve calcifications where the device can trigger embolization of calcium fragments.

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MEDICAL BOARDS AND HIGH EXAM FEES 11

After the grueling medical school residency and fellowship, Dr. Smith was ready to start paying down his debt. Then the hand surgeon faced another \$5,660 in board certification fees. It didn't seem right, considering what he got in return.

"Let's say you finished journalism school, went through another five years of training, and had to pay over \$5,000 to take tests to be a certified journalist," said Smith, an assistant plastic surgery professor at a University Medical Center. "You'd be curious why it was necessary at the end of all that training."

A new study in the JAMA raises still more questions about those exam fees. Boards representing medical specialties are nonprofits, yet they're building substantial assets.. Members of the American Board of Medical Specialties reported a combined surplus of \$24 million in fiscal year 2013, the most recent year studied in the report. What's more, the boards' net balance more than tripled between 2003 and 2013.

Most of that money come from exams , which account for 88% of the boards' revenues. By contrast, administering the exams accounts for only about a fifth of their overall expenses.

Physicians typically get board certified hoping to hone their skills and increase their standing in a specialty. In some cases, medical institutions require it for employment.

The study found that doctors in two dozen specialties spend an average of \$5,600 for the exam, which often includes a written test, an oral test, and subspecialty verification. Those who paid the highest member board fees included allergists, dermatologists, otolaryngology's and radiologists. ER doctors and orthopedic surgeons paid the lowest member board fees. It cost between \$110 and \$610 a year to renew certification.

"Although some evidence suggest board certification may improve performance and outcomes, the costs to physicians are substantial," the study concluded.

What is your opinion? Is the next step, boards to validate the boards? Is this something that started with good intentions and got greedy? How much is this costing you?

(One opinion: It took me six months to study for the periodic Board exams which were required for my hospital privileges. After taking them for the third time I began to wonder what I was paying for. I decided to stop paying. Did my hospital privileges end? No. Did it affect my patient flow? No. Did I become a less efficient doctor? No. Instead, I took the money and it helped pay for my children's education. The system, in my opinion, had gone too far...enough is enough.)

WHO INVENTED THE INTERNET?

On Dec. 16, 1997, the President presented the U.S. National Medal of Technology to **Vinton G. Cerf** and his partner, **Robert E. Kahn**, for their founding and developing the internet.

In 1974, Cerf and Kahn (both Ph.D's) co-published "*A Protocol for Packet Network Interconnection.*" Their TCP/IP communications protocol is the computer language that gave birth to the internet.

The internet grew out of an experiment begun in the 1960's by the U.S. Dept. of Defense. The DoD wanted to create a computer network that would continue to function in the event of a disaster, such as a nuclear war, if part of the network were damaged or destroyed, the rest of the system still had to work. That network was ARPAnet which linked U.S. scientific and academic researchers.

The **World Wide Web** (which is a media of the internet) was developed in 1989 by English computer scientist **Timothy Berners-Lee** to enable information to be shared among international teams of researchers at the Europe Laboratory for Particle Physics (formerly known as CERN) near Geneva, Switzerland. It was further developed by the WWW Consortium based at MIT.

The first **Web Browser**, called "**Mosaic**" was developed by March Andreessen, an undergraduate at the University of Illinois. Andreessen was interested in combining the existing internet framework with the multimedia applications made available by hypertext and the World Wide Web.

"GIRLS GONE WILD"
Katrina & Rita (Both Hurricanes),
AUGUST 29.-SEPTEMBER 24th, 2005.



This is the story of Lafayette, Louisiana from Aug. 29, 2005 till 58 days later, as depicted in the new book, "The Day of the Cajundome Megashelter" by the late Jefferson Hennessy aided by the leader of the Medical Unit, our own **Paul "Bud" Azar N5AN**.

It was the time when Hurricanes Katrina & Rita made history as the worst natural disasters of its kind ever to occur in the United States.

Soon thereafter, the Cajundome, which normally seats 13,500, in Lafayette, Louisiana, became the first *mega-shelter* as thousands of evacuees poured into the facility in the heart of the Cajun country, 135 miles west of New Orleans.

Almost overnight, this sports and entertainment arena blossomed into a small city with a population of more than 7,000. It included a bona fide medical clinic, and featured a well-stocked pharmacy, a commissary, and a post office with its own zip code.

Today, more than a decade later, the Cajundome Mega-Shelter serves as a model for the rest of the nation—a blueprint of how to care for a large number of people for a long period of time in the wake of a major natural disaster.

And they kept coming to the Cajundome shelter, in cars, in vans, on buses. Some even walked up to the "dome in the middle of the night, looking like traumatized refugees from a war zone. Then, when Hurricane Rita struck on September 24th they kept coming.

And just as the mighty storms made history, so too did the Cajundome as it took in such a large number of evacuees that it became known as a "*mega-shelter*"—the first of its kind in the U.S.

This mega-shelter was a small city unto itself, springing up practically overnight, like a boom-town. "Neighborhoods" were quickly formed within this densely populated city. Police and sheriff's deputies came "to protect and serve." There was a dry good store, offering clothing and other items free of charge, a lost-and found station, and even a post office with its own zip code, 70595.

A medical clinic was quickly though carefully organized , and a well-stocked pharmacy was opened on the premises to fill prescriptions without delay. Three square meals a day were served, not with bland institutional food but with south Louisiana favorites, such as red beans and rice and sausage, fried catfish and the like. Counseling services were offered—of both the psychological type and the financial kind and church services were held on Sunday, as were regular AA meetings.

Evacuees living in the Cajundome got the distinct impression that they were welcome and expected. Recognizing that these people were under immense physical and emotional strain, the director of the dome instructed his staff to refer to the visitors as "*residents*," not "*evacuees*." His mantra for dealing with those in his charge—which his staff took to heart and acted upon—was equally considerate: "*Don't be driven by fear, but by compassion.*"

Now more than a decade later, the Cajundome mega-shelter serves as a model for the rest of the nation. Disaster-relief organizations and various government agencies look to the Cajundome experience for guidance in setting up and operating large-capacity evacuation shelters that are made necessary by the awesome power of Mother Nature.

Keep tuned to MARCO's "*Grand Rounds of the Air,*" as Bud Azar has promised to give us and "up-front" report of his experiences running the medical center at this historical site.

(“The Day of the Cajundome Mega-Shelter, The “small city” that sprang up in the wake of Hurricane Katrina” by Jeffersib Hennessy” ISBN 10: 0-925417-95-5. \$17.95, is available from Amazon.com.)

**NEW FACES* for MARCO &
RENEWALS, as of Sept. 17, 2017**

The list is not available at this time....
It will appear in the next edition of Aether.

Here is the contact information for accessing the MARCO net streaming audio and archives:

1. Use a browser to go to the following web page which has a player app and links to the audio stream: <http://marcoaudio.ddns.net.2199/start/tkeister>
2. The second way is to manually enter:<http://marcoaudio.ddns.net:8011/> stream into a standard music player on computer, phone, or portable device.



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