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HOW MUCH EXERCISE IS SAFE?

A NEW STUDY FINDS EXCESSIVE EXERCISE IN VOLUME OR INTENSITY MAY BE ASSOCIATED WITH HIGH LEVELS OF CORONARY ATHEROSCLEROSIS

The study, presented in August at a meeting of the European Society of Cardiology, studied 169 veteran competitive endurance athletes against a control group of 171 relatively sedentary subjects. Compared with the control group, the study found lower level of coronary artery calcium in athletes who ran fewer than 35 miles a week or cycled fewer than 150 kilometers a week. But athletes who ran or cycled beyond that threshold were found to harbor higher levels of coronary artery calcium than did the control group.

The study, conducted by British physicians, is certain to intensity debate over one of the most controversial questions in modern medicine: **Can people exercise too much?** By all accounts, exercise lowers blood pressure, helps preserve coronary artery integrity, lengthens lifespan and otherwise promotes physical and mental health. Exercise is medicine, say public health officials.

But, unlike other medications, which is generally prescribed in scientifically determined doses, exercise typically receives a blanket more-is-better recommendation. Most health benefits occur with at least 150 minutes (2 hours and 30 minutes) a week of moderate intensity physical activity, such as brisk walking (*only one gravity hitting the pavement* whereas jogging produces a hip-jarring 3.1 gravities.)

Now a small but growing number of studies suggest that the benefits of exercise may diminish or even disappear beyond a point. Some evidence suggests that the longevity benefits of endurance exercise many disappear for some extreme athletes. Other evidence shows higher-than-expected coronary artery calcification in such athletes.

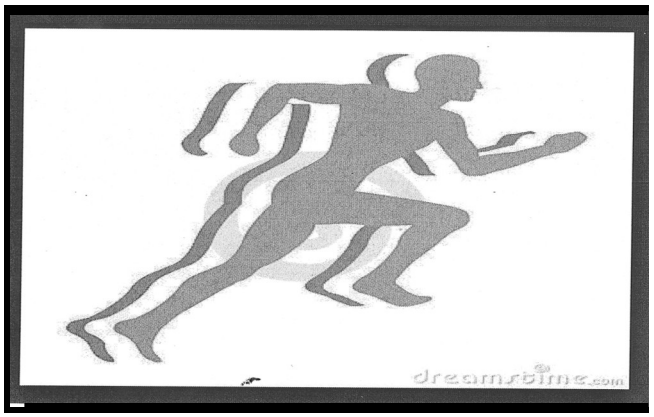
Any point of diminished returns would be far beyond the physical-activity habits of the vast majority of committed exercisers. Of the 169 serious endurance athletes examined in the British study, 41 men and 16 women ran more than 35 miles or cycled more than 150 kilometers a week.

Besides distance, the study found an association between coronary calcium levels and exercise intensity. Compared with the control group, the study found significantly lower levels of coronary calcium in the slowest men and women. In women, those levels rose as speed increased, though not to the levels of the relatively sedentary control group. The fastest men, however had significantly higher levels of coronary calcium than did men in the control group.

Yet within the bad news for extreme endurance athletes the study also found good news. The type of plaque found within the heavy exercisers was dense as opposed to soft, and recent research has shown that dense plaque is less likely to rupture and cause a heart attack or stroke. *"It is remarkable that the athletes in the study have less non-calcified plaque (the plaque that ruptures and causes heart attacks)* than the non-athletes," a cardiology and exercise-science professor at University of Texas SW Medical Center Dallas, said in an email.

Even so, plaque-free arteries are the ideal, and even dense plaque can

Continued on Page Two



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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.
(Tnx to Morton Plant Hospital, Clearwater, Florida, an associate of the University. of South Florida medical school.)
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LATE BREAKING NEWS

MARCO is asking you to vote in a new poll that asks the questions 1. Would you prefer your physician to wear a mustache, beard or be clean shave. 2. If you are a woman would you prefer your spouse to be clean-shaven, mustached or bearded?

Most Americans are unaware that in 1976 the Supreme Court upheld the right of employers to regulate their workers' facial hair. The justices recognized that mustaches and beards carried social significance that might undermine the *esprit de corps* in police departments,, corrode discipline in schools and threaten businesses' bottom line.

We are in a bearded revolution that is now peaking...should it continue or should professionals take to the razor? Email your vote to: warren.brown1924@gmail.com

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

MARCO NET SCHEDULE

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

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

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.

narrow arteries in a way that can pose danger during heavy exertion.

(Editor's note: It has long been advocated that there is a 7X chance of sudden death during heavy exercise but this results in a 7X chance of NO-death during normal activity—*take your pick?)*

"It's a very important study," said a veteran marathoner who is chief of cardiology at Hartford Hospital in Connecticut. *"It confirms prior reports of possible increased coronary calcium with increased amounts of exercise, implying more atherosclerosis, but it showed more calcified plaque, at least in male runners. Calcified plaque is probably more stable, less likely to rupture and thereby to cause heart attacks and sudden death."*

The British researchers recruited volunteers for the study via advertisements in athletic magazines. The 169 athletes chosen for the study were older than 40, had engaged in competitive endurance exercise for more than 10 years and were free of cardiovascular risk factors such as family history of heart disease. The control group was also older than 40 and free of cardiovascular risk factors, and its members exercised less than 150 minutes a week. **The researchers used CT coronary angiograms to determine calcium scores and also identify the nature of the plaque found within those arteries.**

Researchers speculate that potential cause of greater coronary calcium in extreme athletes could be ***inflammation*** changes in the structure of the heart or an excess secretion of certain proteins or hormones. "*It is true that exercise may increase parathyroid hormone levels, and thus MAY increase vascular calcification,"* acknowledge one doctor. *"But that, substantial research supports a more-is-better mentality. Aging athletes have youthful compliant (flexible) hearts and large blood vessels that have a biological age more than 25 years 'younger' than their chronological age compared with their healthy but sedentary counterparts."*

Other studies, along with the sudden deaths of famous runners such as Micah True, give other cardiologist pause. "*Chronic excessive strenuous exercise can exact a toll on the durability of the cardiovascular system, on how well the pump holds up through the decades*, " says another Missouri cardiologist.

Most cardiologist are awaiting more research. "*We know that there is some point where we reach diminishing returns"* from exercise, says a Northwestern cardiologist, but "*it remains very unclear whether exercise at some point poses danger."*

(Information for the above was taken from Kevin Helliker's fine article which appeared in the Wall Street Journal.)

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HOW MUCH PHYSICAL ACTIVITY DO OLDER ADULTS NEED?

If you are 65+ you should have 2 hours and 30 minutes of brisk walking every week AND muscle-strengthening activities on 2 or more days **OR** 75 minutes of vigorous aerobic activity (jogging) ***AND*** 2 or more days a week of muscle strengthening exercise.

For even greater health benefits…. Older adults should increase their activity to 5 hours each week of moderate-intensity aerobic activity and muscle-strengthening activities on 2 or more days a week.

Aerobic activity or "cardio" gets you breathing harder and your heart beating faster. From pushing a lawn mower, to taking a dance class, to biking to the store. Do this at least for 10 minutes at a time.

Intensity is how hard your body is working during aerobic activity.

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HOW SAFE IS MARATHON RUNNING

The more marathons you do, the more your body adjusts to it and your time improves. Until recently, the consensus among even dedicated marathoners and the exercise science community was that danger lurks for anyone who tries to run more than two races a year. But, medical experts are coming around to the idea that there is no concrete reason for many runners not to try more. They are accepting that it may actually help improve performance, so long as runners are experienced, have the right body type and incorporate strength training into their workouts.

On the other hand, if you are 30 lbs overweight, have a history of skeletal or joint problems or just starting your life as an endurance athlete, running multiple marathons close together isn't advisable.

Those who are lean and slight tend to have an advantage because they put less stress on their joints as they lug their weight around for 26 miles.

Current research suggest that healthy bodies can recover reasonably quickly from running long distances. Skeptical scientists cite a Danish study from 2007, in which the muscle capacity of eight elite athletes was tested before and after a marathon. Five days after the race, it remained 12% lower than before the competition. However a 2011 study of 22 runners before and after a 100-mile race showed that both their strength and the biological characteristics of their muscles, such as the level of certain enzymes that indicate inflammation, had returned to normal within 16 days.

Elite marathoners generally separate their races by five or six months. But their training schedules often include runs of 26 miles or more at a slower pace. They generally train by running 100 miles a week. The standard 26-mile marathon usually takes around 4 hours to run at 6.5 mph. Experienced runners can make the 26 miles in around 2.hours and a half.

Reasons for this discussion is the deaths of two fellow physicians while jogging and the fact that one other physician friend is 94 and still entering marathons—yes, he is lean and mean!—would the two who died have lived longer if they jogged more? Increased blood flow with increased blood pressure with increased running can result in dislodgement of plaques but as mentioned, increased jogging results in harder more stable calcium plaques. Perhaps moderation is the answer.

60 METERS— *CONTINUED….*

By Danny Centers, W4DAN

In the last edition of Aether, I covered the gruesome details of mode, frequency, power, and protocol for operation on the 60- meter band. I hope the following will be of interest to those wishing to give the band a try, if for no other reason than to take the challenge of working through the restrictions, and providing a diversion from the usual every day ham radio activity. Recent activity of the 5 MHz band has proven to be very interesting for me, while kindling memories of my early days in ham radio. The QSOs have been casual and "*laid back*," with friendly stateside and DX "*rag chew*" sessions.

Because power restrictions are 100 watts EIRP (*effective isotropic radiated power*), or less, the signal levels are not necessarily very high, therefore, a location with little QRN is important. If one experiences much static, then communication can be difficult. If so, try to track down, and reduce interference on this band.

It may be possible to use your existing antennas by using a tuner. The built in automatic tuner on your transceiver could prove to be insufficient, but it is worth a try. An outboard manual tuner might work better. Antennas designed to operate 5 MHz and below should work the best, but don't hesitate to experiment with other configurations. Don't worry too much about feed line losses causing reduced radiated power because the propagation is usually pretty good, and many stations on the band routinely run 50 watts or less with good results.

A resonant half wave dipole will be more efficient than antennas designed for other bands. An 87 foot (*43 1/2 feet each. Leg*) center-fed dipole with 50 ohm coax will make a very good antenna for this and band. I suggest that you cut each side 44 ' long, then trim for resonance. The antenna can be configured as a flattop, inverted vee, vertical, or sloping dipole. If you use the vertical, or sloping configuration, it is best to run the coax away from the antenna as close to a 90 degree angle as possible.

A ground mounted or elevated quarter wave (*43 1/2 feet*) vertical should be an efficient antenna for 60 meters. An inverted L with a good radial system will also be a good choice. An elevated L fed between the vertical and horizontal legs is a possible consideration for a space saving and simple vertical type antenna. Any of these can be constructed using a wire as the radiating elements. There are some commercially made 43' verticals on the market, in case you prefer a rigid antenna. They will probably work without modification, if not, a 6 to 12 inch "*stinger*" added to the top should resolve any tuning problems. You may prefer to make your own vertical using TV antenna mast, military surplus tent poles, or chain link fence piping.

The easiest antenna to make is probably a dipole fed with balanced line. Of course, you will need to use a tuner that can handle the balanced feeders (*window line*). If you decide to do this, make the two legs of the antenna at least 44' long. Trimming for resonance with this type of antenna is not necessary. It can be erected in a flattop, a sloping, or an inverted V fashion. If you have any question about any of these, please do not hesitate to contact me by sending an email message to Danny@W4DAN.us or phoning 423 665 2621. If emailing, please refer to this (*60 meter*) article.

Gain type antennas will result in higher EIRP than is indicated on a watt meter connected to the transceiver output, therefore, power should be reduced to less than 100 watts to compensate for antenna gain. Near maximum permitted power ca legally be used with most simple wire antennas because they don't usually posses gain.

During the November 2015 World Radiocommunication conference (WRC) in Geneva Switzerland, a secondary allocation was approved for amateur use on 60 meters. The allocation is for tunable frequencies from 5351.5 through 5366.5 KHz with a maximum powered limit of 15 watts EIRP (effective isotropic radiated power). Of course, this new privilege will not go into effect until the FCC approves it. This is a good band for QRP operation because QRM is hardly a problem. The present channels will remain as fixed frequencies with maximum permitted power of 100 watts EIRP.

If you are interested in exploring this band, <u>be sure to set the correct frequencies for each channel as outlined in my previous article</u>. I have each frequency programmed in my transceiver memory bank. Memories 1 through 5 are programmed for SSB, and memories 6 through 10 for CW. Many modern transceivers are equipped to scan selected memory channels, and can be used for scanning these 10 different frequencies. Sometimes just when you think he band is dead, you will hear the ether come alive, reminiscence of days gone by.

HOW EXERCISE WORKS

From W.J. Brown's book "Patient Guide to Medicine."

Exercise depends on the individual. Your heart is a muscle, like the muscles in your leg. If you don't use your legs the muscles "*dry up*." We think this is true of your heart muscle.

Studies by the Air Force have revealed that jogging and similar exercises may delay the aging process. Their theory is logical. It is best explained by comparing the human body to a city. The city has a main thoroughfare and broad avenues which flourish, but the dingy, dark alleyways tend to decay and rot. This is what apparently happens to our small blood vessels known as "*capillaries*." These small "*roads*" contact each cell in our bodies. When the "*traffic*" or blood flow, is diminished by lack of exercise the capillaries tend to deteriorate as do the cells they supply.

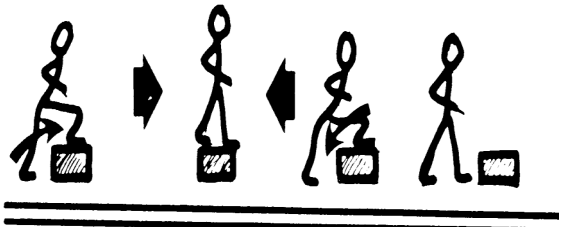
By increasing the pressure in the blood vessels, by running or jogging for instance, the inactive roadways reopen and supply needed oxygen to dying cells. Tests have indicated that the pulse rate should reach 130 beats per minute and should be maintained for about 5-10 minutes, daily if possible, to insure sufficient pressure to re-open the capillaries. In other words, you are going to have to work up a good sweat. Playing golf isn't enough.

Since we can use and abuse exercise, it is best to limit jogging to 3 miles, 3-4 X weekly. This produces maximum results without excessive wear and tear. It takes about 3 months to lose your fitness.

Remember, if you are going to set up an exercise program it must be <u>consistent</u> and should include activities on four or five days a week not just weekends. Too many poor souls are dropping dead from shoveling snow or playing tennis on weekends. The reason being the individuals did not build a regulated program of exercise. Instead, the blood vessel, unaccustomed to this sudden force or pressure, lost a piece of the wall of the blood vessel which in turn becomes clogged in the heart arteries—a heart attack has occurred.

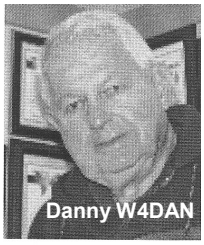
By running the individual builds up a "*collateral*" or additional blood supply to the heart. With a good detour system, chances of having a heart attack being fatal would be decreased.

Remember what Mae West once said, "*Itt isn't so much the men in my life 'as the life in my men!"*



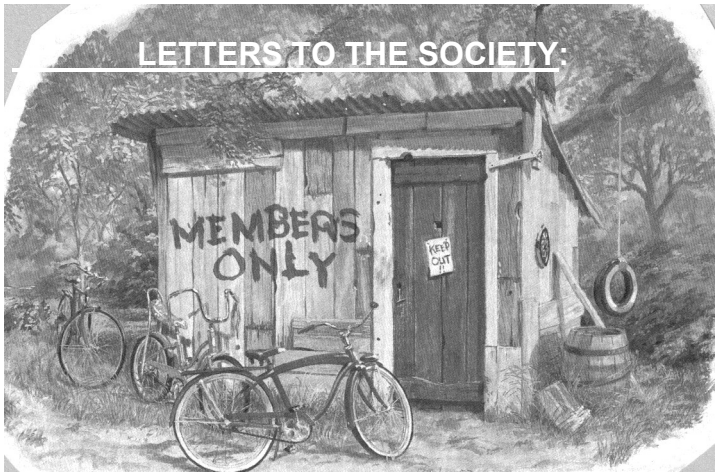
ONE METHOD OF MEASURING PHYSICAL FITNESS is by having the subject step up and down from a 9" stool 80 times in 3 minutes, then check the pulse rate.

Your pulse rate	Your state of fitness
140 or more	Poor
130 or more	Fair
120 or more	Good
110 or more	Very Good
Less than 110	Excellent



Danny W4DAN

<u>GOING TO DAYTON HAMFEST?</u>
MARCO suggests stay at
CLARION INN DAYTON AIRPORT HOTEL
10 Rockridge Rd., Englewood, Ohio 45322
PHONE: 937 832 1234 for reservations—ask for Marco discount.



LETTERS TO THE SOCIETY:

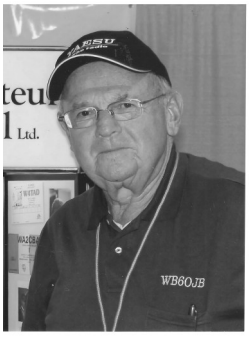
Kudos from (only complaints this issue.)

From Ian Kellman, K3iK, Shavertown, PA... Chagas disease sounds like a good topic for Grand Rounds, what with all the presents we have been receiving of late from our neighbors to the south thanks to our open door policy and insanity of the "*letemallin*" folks. My folks almost got sent back from Ellis Island because my aunt had a stye. Now they can bring anything in. Parasites, bacteria, untreatable TB—Isn't it great? My dog just had surgery for urinary calculi. His bladder was filled with "*struvite*" stones. Doing well, but seems dogs and cats get lots of stones. Wonder if it is diet related. My dog is on a raw food diet and eats lots of meats and veggies and raw chicken necks. They call it the BARF diet—bones and raw food—sent stones to lab and waiting to hear. Some of them looked like urate stones to me. Wonder how wild animals survive in the wild if eating raw food gives them stones. Maybe we could ask one of the vets. Take care and as my Dad always said, stay young.

From Bob Conder, Jr., K4RLC, Raleigh, NC…*(In regards to "Insomnia discussed on Grand Rounds, Jan. 10, 2016)* Alpha-Stim is a micro-current electrical stim device that helps with insomnia, pain and anxiety. The VA has bought lots of these units for vets with PTSD. They have a very good research basis. They have had battle with FDA but currently are legit when ordered by an appropriate healthcare provider, including psychologists. I use these with patients with concussion and insomnia. You simply clip an earclip (*with a saline solution*) to each ear lobe. You do not feel any current...if you do, the amplitude is too high. It operates on .5Hz with 100 mA using a proprietary bipolar square wave...although other researchers say it's not a specific waveform, but just the current at that freq and amplitude thru the brainstem. A word of caution about the benzos and geriatric set...they cause cognitive and memory problems that mimic dementia. We get these folks off the benzos, send them to the gym and have them practice "*good sleep hygiene*." CBT (*Cognitive Behavioral Therapy)* for insomnia is a primary recommendation by the sleep neurologists down the hall (*we have a full sleep lab on site)*. Here is a link to CBT-1 from the Mayo clinic: http: // www.mayoclinic.org/diseases-conditions/insomnia/indepth/insomnia-treament/art-20046677. Here is a link to Alpha-Stim: http://www.alpha-stim.com/healthcare-professionals/history-of-the-waveform/

From Mary Favaro AE4BX, Myrtle Beach, SC., MARCO Treasurer: Jay Garlitz sent a donation to MediShare in honor of the good work of Arnold and Jeff. I'll deposit it accordingly. In this new year, MediShare would appreciate all donations to the fund so that we have funds available if a worthy project comes our way. *(MediShare is the Fund donated to worthy health projects for the less fortunate.)*

MediShare chairman Arnold WB6OJB will present a report next edition of *Aether.*



NEWSENSE...Tantalizing News!

Originated by Columnist Walter Winchell

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

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Here is coinciding news….30% of women & 24% of young men aged 18 to 34 are married compared with 50% in 1980….rates of STD (sexually transmitted diseases) were up around 15% over last year….and depression (*loneliness the etiology?*) is the single most common cause of disability worldwide. **The median age for marriage is now 30,** many opting for more education and more (*around 36%)* living at home with their parents.

Mexicans moving out! Over 1 million Mexicans left the US with their families from '09 to '14, compared with 865,000 who came in! Maybe tomorrow's papers will feature a fence built by Mexico to protect their borders!

As predicted by this Marco Newsletter, the FDA has approved a study of 3,000 elderly people with high risks of cancer, heart disease or cognitive problems who will be given the 60-year-old drug Metformin (Glucophage) to see if it will prolong their life expectancy. A '05 observational study found a link between Metformin and a 23% decreased risk of developing cancer. The drug increases the number of oxygenmolecules released into a cell, which could boost robustness and longevity.

Sexy men wear beards? Men with beards are more likely to hold sexiest attitudes than clean-shaven men, according to researchers who polled men from the U.S. and India.

A company in Morocco is building a solar power complex the size of 35 football fields, largest in the world, capable of generating enough electricity to power 1 million Moroccans.

Never done before…"***Blue Origin***" a company created by Amazon co-founder and Washington Post owner Jeff Bezos, did something last October that no other spaceflight organization , public or private, has ever done before. It launched a rocket into space, separated an unmanned capsule from the rocket during the climb, then landed both the capsule (*under parachutes*) and the rocket (vertically) back on Earth. NASA's absence is being filled by the private sector. Blue Origin, SpaceX, Virgin Galactic, Boeing and others see a platinum business opportunity and are moving fast on it. Unlike NASA, which is bound and gagged by politics and bureaucracy, these companies are entrepreneurial, industrious and innovative. SpaceX duplicated this in December.

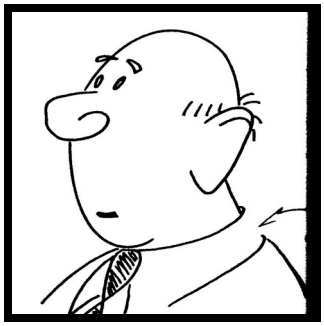
The University of Alberta researches say they've developed what is believed to be the first mathematical method of quantifying which word and word groups are funny and which aren't. The results may have commercial uses, such as in product naming.

Nearly 29% of medical residents suffer from episodes of clinical depression, a new study finds. Nearly 43% of resident physicians get depressed in any single year of their training. Only 6.7% of the overall population suffers from depression. Male physicians are 1.4 times more likely than the average American to commit suicide, female physicians are 2.7 times more likely.

Exercise strengthens the brain? Researchers had subjects wear an eye patch while watching a film and while exercising on a bike, and found more than 95% did better on a visual test after exercising.

FDA approves "cool cap" for cancer...that reduces hair loss following chemotherapy. The "Dignitana DigniCap Cooling System reduces hair loss by circulating cooling liquid in a head-worn cap.

THE WORD "CROCK" IS NO LONGER VALID
"DYSAUTONOMIA" OR AUTONOMIC DISEASES REIGNS



They didn't teach you about "dysautonomia" in medical school—why? Because it takes at least 3-6 years to make a diagnosis and many physicians called it "anxiety attacks!" (*Or "goldbricking*.) But the more you study it the more valid it becomes...here are the details:

Dysautonomia ***(or autonomic dysfunction, autonomic neuropathy)*** is a term for various conditions in which the autonomic nervous system does not work correctly.

Dysautonomia is a type of neuropathy affecting the nerves that carry information from the brain and spinal cord to the heart, bladder, intestines, sweat glands, pupils and blood vessels. Dysautonomia may be experienced in a number of ways depending on the organ system involved, for example difficulty adapting to changes in posture or digestive symptoms. **The body secretes either too much or too little hormone to do a subconscious job correctly** *Catacholamines norepinephrine, epinephrine, dopamine; acetylcholine.)*

The diagnosis is achieved through functional testing of the autonomic nervous system, focusing on the organ affected.

Signs and Symptoms: The symptoms of dysautonomia are numerous and vary widely from person to person depending on the nerves affected and underlying cause. Symptoms often develop gradually over years. Each patient is different—some affected mildly, while other are often left disabled.

The primary symptoms include:

Excessive fatigue. Excessive thirst. Lightheadedness or dizziness, often associated with orthostatic hypotension, low blood pressure on standing sometimes resulting in fainting. Rapid or slow heart rate. Blood pressure fluctuations. Difficulty with breathing or swallowing. Shortness of breath with activity. Distention of the abdomen. Blurry vision, Urinary incontinence. Delayed gastric emptying with nausea, acid reflux and vomiting. Constipation. Excessive sweating or lack of. Heat intolerance brought on with activity. Sexual problems. Difficulty standing still. Brain fog or mental clouding, unable to concentrate.

Sounds like a crock!!!! One of those patients that can drive you wild! **NOT YET, you must rule out Dysautonomia.**

Causes: Injury to the autonomic nervous system from an acquired disorder; side effects of drugs, but the most common causes include: **heavy metal poisoning. Autoimmune disorders including Sjorgren's syndrome, lupus, sarcoidosis. diabetes, MS.; Advanced Parkinsonism or early multiple system atrophy. Hereditary disorders including familial dysautonomia and Ehlers-Danlos syndrome. Pure autonomic failure. Amyloidosis, Botulism, Chronic alcohol misuse. Some bacterial infections such as Lyme disease, TB. Spinal cord injury. Surgery or injury to the nerves. Closed brain injury.**

Sympathetic nervous system-predominant dysautonomia is common in Fibromaylgia, chronic fatigue syndrome, irritable bowel syndrome and interstitial cystitis, raising the possibility that such dysautonomia could be their common clustering underlying pathogenesis.

Mechanism: The autonomic system is a component of the peripheral nervous system and is made up of two branches: the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). The SNS controls the more active "*fight or flight*" responses such as increasing heart rate and blood pressure. The PNS can be thought of as the "*rest and digest*" part of the autonomic nervous system, as it slows down the heart rate and aids in digestion. Symptoms typically arise from ***abnormal responses*** of either the sympathetic or parasympathetic systems based on situation or environment.

Diagnosis: There are no unique symptoms. It is the set of symptoms, taken together, that suggests that this state is present. *(This, in the past, has taken from 3-6 years)* The patient's individual complaints can each be part of another disease process which often leads to misdiagnosis. Collaboration between many specialists is often necessary. Care is primarily directed by a neurologist.

Routine autonomic nervous system dysfunction tests include: **Valsalva maneuver. Tilt table test. Gastric emptying tests. Quantitative pseudomotor axon reflex test. Thermo regulatory sweat test,. Urodynamic testing. Small fiber neuropathy biopsy. Endocrine testing. Orthostatic vital test where the patient lies down for 5 minutes sits up for 5 minutes and then stands for 5 minutes whereas heart rate and bp are measured for normalcy.**

Treating dysautonomia can be difficult. There is no one scientifically proven treatment. Since this condition is made up of many different symptoms a combination of drug therapies is often required to manage individual symptomatic complaints. This is called "*symptom management.*"

Drugs such as fludrocortisone, midodrine, ephedrine and SSRIs and anticonvulsants can also be used to treat an assortment of symptoms with varying degrees of success. Measures to combat orthostatic intolerance include elevation of the head of the bed, frequent small meals, a high-salt diet, fluid intake, and compression stockings. Proton-pump inhibitors and H2 receptor antagonist are used for digestive symptoms such as acid reflux.

For cardiovascular symptoms, a cardiac ablation, or balloon angioplasty can be performed for heart related symptoms.

Prognosis: The outlook for patients depends on the particular diagnostic category. Some autonomic nervous system disorders get better when an underlying disease is treated or offending agent is removed.

Cases secondary to autoimmune diseases, diabetes and MS are not life-threatening, through minor to major limitation in activities of daily living can occur.

Patients with chronic, progressive, generalized dysautonomia in the setting of central nervous system degeneration such as Parkinson's disease or multiple system atrophy have a generally poorer long-term prognosis. Death can occur from pneumonia, acute respiratory failure, or sudden cardiopulmonary arrest..

Often there is no cure. Damage to the nerves of the autonomic system is often not reversible and comprehensive disease management is essential to improving patient quality of life.

There is a clinic at Vanderbilt University for dysautonomia and specialists are now being trained.

During a presentation at Morton Plant Hospital in Clearwater, Florida in December, a patient described how she fainted on standing up and her pulse would vary in range from very low to very high. Needless to say, she spends most of her life in a chair. Testing for clinical orthostatic hypotension were negative. Apparently, her autonomic nervous system secreted either too little or too much or both to do the job correctly. She was normal on the outside but sick on the inside. After a complete work-up and years of doctor-jumping she is no longer termed a "*dead-beat."*

When balanced, the patient is normal.

Sympathetic nervous system ⚖ **Parasympathetic nervous system**

(For further information on understanding Autonomic Nervous System Disorders, order the book "THE DYSAUTONOMIA PROJECT," by Freeman, Goldstein & Thompson. ISBN 978-1-938842-24-5 from Amazon...price, about $15.)

****

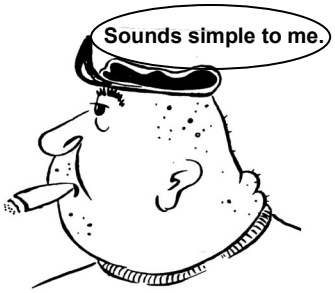
"ILLUMINA" SEEKS CANCER BLOOD TEST

The San Diego maker of gene-sequencing machines said it is forming a company, called "Grail" seeking to develop a blood test for detecting cancer.

The test will be designed to screen people who have no cancer symptoms and detect disease at its earliest stages when the chance to cure it is highest.

Researchers have long known that evidence of tumors lurks in the blood, either in the form of circulating tumor cells or in fragments of DNA that are shed from tumor cells. The test should be available in 2017.

THE SYRIAN CONFLICT EXPLAINED



President Assad (***who is bad)*** is a nasty guy who got so nasty his people rebelled and the Rebels (***who are good)*** started winning (***hurrah!).***

But then some of the rebels turned a bit nasty and are now called Islamic State (***who are definitely bad!)*** and some continued to support democracy (***who are still good.)***

So the Americans (***who are good)*** started bombing Islamic State ***(who are bad)*** and giving arms to the Syrian Rebels (***who are good)*** so they could fight Assad (***who is still bad)*** which was good.

By the way, there is a breakaway state in the North run by the Kurds who want to fight IS (***which is a good thing)*** but the Turkish authorities think they are bad, so we have to say they are bad whilst secretly thinking they're good and giving them guns to fight IS (***which is good)*** but that is another matter.

Getting back to Syria...so President Putin (w***ho is bad, because he invaded Crimea and the Ukraine and killed lot of folks including that nice Russian man in London with polonium poisoning sushi)*** has decided to back Assad (***who is still bad)*** by attacking IS (***who are also bad)*** which is sort of a good thing?

But Putin (***still bad***) thinks the Syrian Rebels (***who are good)*** are also bad, and so he bombs them too, much to the annoyance of the Americans (***who are good)*** who are busy backing and arming the rebels (***who are also good).***

Now Iran (***who used to be bad, but now they have agreed not to build any nuclear weapons and bomb Israel are now good)*** are going to provide ground troops to support Assad (***still bad)*** as are the Russians (***bad)*** who now have ground troops and aircraft in Syria.

So a Coalition of Assad (***still bad)*** Putin (***extra bad)*** and the Iranians (***good, but in a bad sort of way)*** are going to attack IS (***who are bad)*** which is a good thing, but also the Syrian Rebels (***who are good)*** which is bad.

Now the British (***obviously good, except that nice Mr. Corbyn in the corduroy jacket, who is probably bad)*** and the Americans (***also good)*** cannot attack Assad (***still bad)*** for fear of upsetting Putin (***bad)*** and Iran (***good/bad)*** and now they have to accept that Assad might not be that bad after all compared to IS ***(who are super bad)***.

So Assad (***bad)*** is now probably good, being better than IS (***but let's face it, drinking your own wee is better than IS so no real choice there)*** and since Putin and Iran are also fighting IS that may now make them Good. America (***still good)*** will find it hard to arm a group of rebels being attacked by the Russians for fear of upsetting Mr. Putin (***now good)*** and that nice mad Ayatollah in Iran (***also Good)*** and so they may be forced to say that the Rebels are now Bad, or a the very least abandon them to their fate. This will lead most of them to flee to Turkey and on to Europe or join IS (***still the only constantly bad group)***.

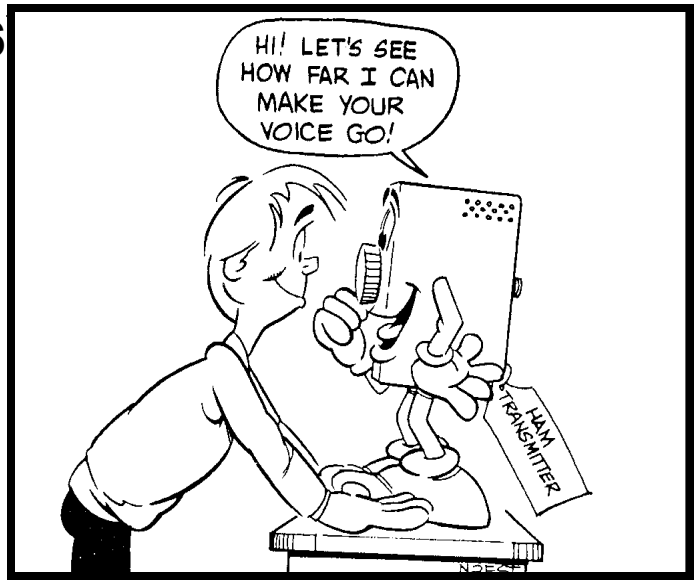
To Sunni Muslims, an attack by Shia Muslims (***Assad and Iran)*** backed by Russians will be seen as something of a Holy War, and the ranks of IS will now be seen by the Sunnis as the only Jihadis fighting in the Holy War and hence many Muslims will now see IS as Good

Sunni Muslims will also see the lack of action by Britain and America in support of their Sunni rebel brothers as something of a betrayal and hence we will be seen as Bad.

So now we have America (***now bad)*** and Britain (***also bad)*** providing limited support to Sunni Rebels (***bad)*** many of whom are looking to IS (***good/bad)*** for support against Assad (***now good)*** who, along with Iran (***also good)*** and Putin (***also now unbelievably Good)*** are attempting to retake the country Assad used to run before all this started?

Hope this clears it up for you.

****



SO YOU WANT TO BE A LID!

Submitted by Dave Justis KNOS via David Craft

"Lid"...a term used in amateur radio to denote a poor operator; one who is inept at the practice of the art.

A monumental problem facing amateur radio today is the alarming amount of poor operators filing the air waves. It is the opinion of many that one of the reasons for this is the fact that many of the new operators really have not been advised about proper operating procedures. Too many of the "*amateur radio classes*" produced today spend very little, if any, time correcting operating procedures. Their major thrust is to teach the code, cram the theory and fill out a 610 form!

It is easy to be a lid. If you are not yet a full fledged lid, you may learn some new material for your next transmissions.

Probably the most popular is "*QRZ the frequency*." Nobody can be quite sure what the exact meaning of this is. The ARRL Handbook lists QRZ as a CW "*shorthand*" signal meaning, "*Who is calling me?"* On phone it may mean something else, although one cannot imagine a frequency calling someone! I even heard a W5 utter "*QRZ the channel"* Now this guy is a chief lid. The frequency was silent for a while (*probably as most good operators were in a state of shock)* and then a signal from afar responded, "*This is the channel and I wasn't' calling you."*

Actually the use of "Q" signals on phone is in itself a true "*lidism."* The Q signals were devised by high speed CW operators as a form of "*shorthand*" in order to speed up their transmissions. What use they have on phone is questionable as in many cases you can say the actual meaning just as fast. In many cases they cause more confusion than if you would have said the actual meaning. Then you get the real lid who comes off with QRM-Mary or QRN-Nancy" Good heavens, why didn't he just say he had interference?

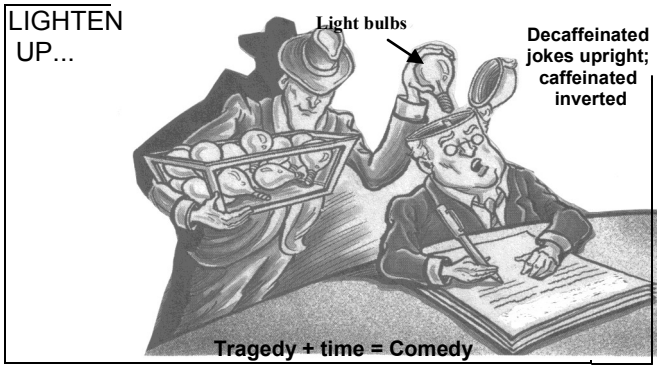
Another one. Always give your call sign phonetically when operating on phone, especially when conditions are good and signals are clear. It's another small way to take up valuable air time whiteout really adding any intelligence to a conversation.

Lastly, when giving your name, refer to it as your "*Handle*." And be sure to say "The handle here is Beaver." That's liddier than just plain, "My name is Beaver."

There are many ways to become a "lid." If more operators were to take a look at this disaster perhaps we'll all see just how ridiculous most of the phone operation on the ham bands is today. **Phone conversation should really not take on a much different atmosphere from talking to your friends on the telephone.** Do you say "*over*" and "*break*" or the worse "*Come back*" when you are on the phone? All of that is redundant.

Let's all pay more attention to this problem and put amateur radio operations back up to the more professional nature that it enjoyed before many poor habits of the CB band crept up on us.

LIGHTEN UP...



Acute observations…"Now that food has replaced sex in my life, I can't even get into my own pants…..I signed up for an exercise class and was told to wear loose fitting clothing. If I HAD any loose fitting clothing, I wouldn't need the class! Wouldn't you know it! Brain cells come and brain cells go but FAT cells live forever**.** The closest I got a 4.0 in college was my blood alcohol content. Snowmen fall from heaven unassembled.

****

After several karate lessons, I can now break a five-inch board with my cast!

A blonde, a brunette and a red head are discussing their pregnancies. "I'm going to have a boy, because I was on top," quipped the brunette. "I'm going to have girl because I was on the bottom," said the red head. "What about you blonde?" "I think I am going to have puppies."

If you live to be one hundred, you have it made….very few people die past that age.

****

Who says men don't remember? A couple went Christmas shopping. The shopping center was packed and as the wife walked around she was surprised to discover that her husband was nowhere to be seen. She was upset because they had a lot to do and hence, she became so worried that she called him on her mobile phone to ask him where he was. In a quiet voice he said: "*Do you remember the jewelers we went into about five year ago, where you fell in love with that diamond necklace that we couldn't afford, and I told you that I would get it for you one day?"* The wife choked up and started to cry and said, "Yes, I do remember that shop." He replied: "*Well, I'm in the pub next door!"*

MARINE CORPS PHYSICAL... When his son refused a job, his father insisted he join the Marines. At the physical the doctor directed the reluctant recruit to read the eye chart. "*What chart, Doc?"* the young man asked. "The one on the wall?" the doctor said. "*What wall*?" said the young man. Sensing he had a deadbeat on his hands the doctor asked his young nurse to disrobe…."Now what do you see son?" "*Doc, I can't see a thing, I'm as blind as a bat."* "Well you may not see anything, " the doctor said, "*but your organ is pointing straight towards Parris Island, **welcome to the U.S. Marines Corps!'***

My wife and I went to the Royal Show and one of the first exhibits we stopped at was the breeding bulls. We went up to the first pen and there was a sign attached that said, "THIS BULL MATED 50 TIMES LAST YEAR." My wife playfully nudged me in the ribs...smiled and said, "*He mated 50 X last year, that's almost once a week."* We walked to the second pen which had a sign attached "THIS BULL MATED 365 TIMES LAST YEAR." My wife gave me a healthy jab and said "*Wow, that's once a day...you could learn something from this one."* I looked at her and said,"Go over and ask him if it was with the same cow."

A man applied for a job at Hooters... They gave his a brassiere and asked him to fill them out.

All men like to think they are marrying nymphomaniacs. The problem is that after a few years the nympho leaves but the maniac doesn't.

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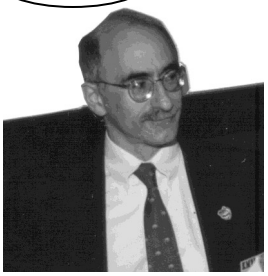
.**Doctor, Doctor, Ithink I am invisible. "***Who said that?"*

Hello, I'm Bruce



MEMORIES OF YEARS AGO IN MARCO

Our History Book

Bruce Small, KM2L

Marco Historian

25 YEARS AGO IN MARCO

Smitty, W6JZU, reported in the Jan. 1991 MARCO Newsletter that the Medial Resources Commission had possession of an ultrasound scanner to be shipped to Mugonero Hospital in Rwanda. Funds were needed to properly convert it to 220 volts 50 Hz service before shipping

Newsletter Editor **Ed Briner WA3TVG** had received 12 copies of AMSAT's Beginner's Guide to Oscar 13 for distribution to interested members. The books were a given from AMSAT in response to our monetary donation to them.

We welcome new members Ken Kirk-Bailey GJOKKB, Walt Williams, N7JX5, Jim Nicholas WA3FYR, Wayne Brenckman KM4JX, Don Stokes W2PZG, Brad Martin WA9JMX, Colin Holman N7IMD, Ed Rubin N2JBA, Will Ulmer N3HRB, Manny Grimaldi KC4MWL and Bob Minsek KD3TA.

Earl Weston W8BXO described his mono-DXpediton to Grenada.

20 YEARS AGO IN MARCO

The January 1996 edition of the MARCO Newsletter asked the lonely question "Where's everyone?" Apparently the low sunspot activity had kept net participation at low levels.

The 30th Annual Meeting was planned for Dayton in May and **Ed Briner WA3TVG** encouraged members to participate. Headquarters Hotel was the old Radisson.

The Editor also marveled at the possibilities inherent in the newly-developed wireless computer network unveiled at Carnegie-Mellon University.

15 YEARS AGO IN MARCO

Another telecommunications invention dominated the front page of the February 2001 Newsletter. **Warren Brown KD4GUA** described how XM satellite radio would work once it was launched.

Some technology does not last as long. Warren also reviewed coronary artery brachytherapy, the implantation of beta-ray emitting stents to treat coronary artery disease.

And some technology...well, you decide. The Newsletter reported on the Jan. 12, 2001 debut of Dean Kamen's revolutionary invention code-named "*Ginger*." This apparatus was going to totally change the way we live and be as significant as the personal computer. We know it today as the "***Segway***."

10 YEARS AGO IN MARCO

The Feb. 2006 edition of the MARCO Newsletter featured a detailed review of nonalcoholic steatohepatitis, or NASH.

Bill Stenberg, N5QF, MediShare Chairman, gave us an update on the project to supply communications equipment to General Hospital Polonnaruwa in Sri Lanka.

Smitty W6CS contributed a column recounting the decision by WWII-era Secretary of War Henry Stimson to spare the city of Kyoto from the atomic bomb. It turns out that Stimson had spent his honeymoon there.

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THE CUTTING EDGE

Benefits of Aspirin seen in prostate cancer... Add another disease to the list of ailments that may be thwarted by regular aspirin use—prostate cancer.

Researchers reported that men who took at last three aspirin a week reduced their risk of developing or dying from advanced prostate cancer. The aspirin didn't affect whether the men developed the disease to begin with, however.

FINAL 2015 CME RANKINGS
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
NU4DO	48	Norm	Largo, FL
KD4GUA	47	Warren	Largo, FL
KC9CS	46	Bill	Seminole, FL
N2JBA	45	Ed	Amenia, NY
KNOS	43	Dave	Virginia
W6NJY	43	Art	Beverly Hills, CA
N6DMV	42	Paul	Torrance, CA
N9RIV	42	Bill	Danville, IL
N5RTF	42	Chip	New Orleans, LA
KM2L	42	Bruce	Clarence, NY
W5AN	41	Bud	Lafayette, LA
WB6OJB	40	Arnold	Pacific Pal., CA
W3PAT	39	Marvin	Prosperity, SC
WB9EDP	39	Harry	Chicago, IL
N4TSC	38	Jerry	Boca Raton, FL
W1BEW	38	Bobbie	Maryville, TN
KK1Y	37	Art	Seminole, FL
KD5QHV	35	Bernie	El Paso, TX
WB1FFI	34	Barry	Syracuse, NY
K6JW	34	Jeff	Palos Verdes, CA
KE5SZA	33	John	Marietta, OK
N4MKT	33	Larry	The Villages, FL
W3MXJ	32	Joe	New Orleans, LA
W8LJZ	32	Jim	Detroit, MI
N2OJD	32	Mark	Sidney, Ohio
W4DAN	31	Danny	Cleveland, TN
K9CIV	28	Rick	Knox, IN
W1HGY	28	Ted	Massachusetts
N9GOC*	24	Pat	Champagne, IL
K9YZM*	24	Mike	Crystal Lake, IL
WA1EXE	24	Mark	Cape Cod, Mass.
KB5BQK	22	Linda	El Paso, TX
K4JWA	22	Jim	W. Virginia
W4MEA	22	Max	Hixon, TN
NOARN	22	Carl	Colorado
K0FS	21	Fred	St. Louis, MO
KD8IPW	20	Mary	W. Virginia
WA3QWA	19	Mark	Chesapeake, VA
K4RLC	18	Bob	Raleigh, NC
AE4BX	18	Mary	Myrtle Beach, SC
W9JPN*	16	Wally	Champagne, IL
W)RPH	15	Tom	Denver, CO
N4DOV	15	David	Ft. Lauderdale, FL
W8EYE	15	Darryl	New Philadelphia, O
W1RDJ*	15	Doug	Cape Cod, Mass
KE3XB	13	John	Arrington, TN
W4TX	9	Doc	Mississippi
K1WDR	8	Wayne	Parrish, FL.
WOUNZ	6	Paul	USA
K3IK	5	Ian	Shavertown, MS

* Not Marco members

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

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

*This was the year we had to change frequency due to the terrorist, thus losing a lot of stations in the freq. shift.

TELEHEALTH

Telehealth is the delivery of health-related services and information via telecommunications technologies. Telehealth could be as simple as two doctors discussing a case over the telephone or as sophisticated as doing robotic surgery between faculties at different ends of the Earth.

Telehealth is an expansion of **telemedicine,** and unlike telemedicine (*which focuses on the curative aspect*) it encompasses preventative, promotive and curative aspects. Originally used to describe administrative or educational functions related to telemedicine, today telehealth stresses myriad technology solutions. For example, physicians use email to communicate with patients, order drug prescriptions and provide other health services. One of the most significant increases in telehealth usage is the home monitoring of conditions by patients whose clinical trials in the UK have shown to improve mortality by around 47%, however the case for teleheath is still being actively debated, with a study on a separate US project showed remote telemonitoring was associated with increased mortality in vulnerable patients.

Clinical uses: Transmission of medical images for diagnosis. Teleconference between patient and doctor for assessments and history taking. Groups or individuals exchanging health services or education live via videoconference. Transmission of medical data for diagnosis or disease management. Advice on prevention of diseases and promotion of good health by patient monitoring and follow-up. Health advice by telephone in emergency cases.

Nonclinical uses: Distance education including continuing medical education, grand rounds, and patient education. Administrative uses including meetings among telehealth networks, supervision, and presentations. Research on telehealth. Online information and health data management. Healthcare system integration. Asset identification, listing, and patient to assist matching and movement. Overall healthcare system management. Patient movement and remote admission.

Modes: ***Store-and-forward:*** Digital images, video, audio, observations of daily living and clinical data are captured and stored on the client computer or mobile device; then at a convenient time they are transmitted to a clinic at another location where they are studied by specialists. The opinion of the specialist is then transmitted back. This roundtrip could take between 1 minute to 48 hours. In the simplest form of telehealth application, basic vital signs like blood pressure, weight, pulse oximeter and blood sugar values are monitored and trended for long term chronic care. In many specialties , such as dermatology, radiology and pathology, an immediate response is not critical, making these specialties conducive to store-and-forward technologies. Automated screening and diagnostic teleaudiology is fast becoming another specialty conducive to store-and-forward audiology.

Real time: A telecommunications link allows instantaneous interaction. Videoconferencing equipment is one of the most common forms of real-time telemedicine. Peripheral devise can also be attached to computers or the video-conferencing equipment which can aid in an interactive exam. With the availability of better and cheaper communication channels, direct two-way audio and video streaming between centers through computers is leading to lower costs.

Remote patient monitoring: In remote monitoring, the patient has a central system that feeds information from sensors and monitoring equipment, blood pressure monitors and blood glucose meters to an external monitoring center. This could be done in either real time or the data could be stored and then forwarded.

Examples of remote monitoring include: Home-based nocturnal dialysis. Cardiac and multi-parameter monitoring of remote ICUs. Disease management including COPD, Chronic Heart Failure, Diabetes, Coagulation, Arthritis, Depression, Obesity.

Remote training: Telehealth also provides opportunities for doctors in remote locations to receive training. In the U.S. the Extension for Community Healthcare Outcomes or ECHO project uses a telehealth platform to help urban medical center specialists train primary care doctors in rural settings The training allows these practitioners to provide specialty care, especially chronic conditions services, that would otherwise be unavailable to patients in these areas.

Benefits: Telehealth adds a new paradigm in healthcare, where the patient is monitored between physician office visits. This had been shown to reduce hospitalizations and visits to the E.R., while improving patient's quality of life. It also benefits patients where traditional deliver of health services are affected by distance and lack of local specialist clinicians to deliver services. In Alaska, the Alaska Federal Health Care Access Network connects about 180 native community village clinics, More than 3,000 doctors have engaged in 160,000 telehealth clinical consultations since 2001. The UK reports a 45% reduction mortality rates; 20% reduction in emergency admissions; 15% reduction in elective admissions; 14% reduction in in bed days.

A US study of 205 elderly patients with a high risk of hospitalization showed a significant increase in the mortality rate over 12 months, with rates over 12 months for the telemonitoring group at 14.7%, compared with 3.9% for the usual care group. **As a result, there is controversy in the UK regarding the government's determination to proceed with Telehealth despite conflicting findings from the studies undertaken.**

Reimbursement for Telehealth in the U.S.: Since 2014, telemedicine services are covered as long as they fall into Category 1 or Category 2. They are defined as such:

Category 1: Services that are similar to professional consultations, office visits, and office psychiatry services that are currently on the list of telehealth services. The request is evaluate based on the similarities between the services already eligible for reimbursement, and that of the requested service.

Category 2: Services that are not similar to the current list of telehealth services. The assessment will be based on whether the service is accurately described by the corresponding code when delivered via telehealth, and where the use of a telecommunications system to deliver the services produces a demonstrated clinical benefit to the patient. Supporting documentation should be included.

State of the Market: Projections for the growth of the telehealth market are optimistic, and much of this optimism is predicated upon the increasing demand for remote medical care. According to a recent survey, nearly three-quarters of U.S. consumers say they would use telehealth. At present, several major companies along with a bevy of startups are working to develop a leading presence in the field.

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FIRST VIRTUAL CARE CENTER OPENS

St. Louis, MO, October 2015…Mercy Hospital unveiled the world's first Virtual Care Center in the heartland of America.

Dr. Randall Moore stated "*Mercy is doing its part to make sure more doctors enjoy their private lives when they clock out of their offices.. Instead of getting a 2 a.m. call to come to the hospital they can now sleep an d still be fully covered."*

****

US POPULATION NOW 322.762,018, In 2016, the U.S. is projected to experience 1 birth every 8 seconds and 1 death every 10 seconds. Including inward migration, the U.S. will add a net 1 person every 17 seconds in 2016. The nations population is growing at the rate of 4.54% per year.

****

MEDISHARE REPORT, 2016
MARCO helping the less fortunate.

☆ **Gold ($200+ donated), Jay Garlitz AA4FL** ☆

Silver ($100-$199), Jeff Wolf K6JW

Bronze (under $100) Warren Brown KD4gua.

****

A DISEASE YOU HAVEN'T SEEN—*YET !*

As presented on MARCO Grand Rounds, Jan. 3, 2016

There are an estimative 400,000 cases of **Chagas disease** in the United States today, yet many of you who read this have never seen a single case—WHY? The disease is coming in with the surge in migrants from Central and South America. Are we looking for it?

Chagas disease, also known as American trypanosomiasis, is a tropical parasitic disease caused by the protozoan *Trypanosoma cruzi.* It is spread mostly by insects known as Triatominae or ***"kissing bugs."*** The symptoms change over the course of the infection. In the early stage, symptoms are typically either not present or mild, and may include fever, swollen lymph nodes, headaches, or local swelling at the site of the bite. After 8-12 weeks, individuals enter the chronic phase of disease and in 60-70% it never produces any further symptoms. The other 30 to 40% of people develop further symptoms 10 to 30 years after the initial infection, including enlargement of the ventricles of the heart in 20 to 30%, leading to heart failure. An enlarged esophagus or an enlarged colon may also occur in 10%.

T.cruzi is commonly spread to humans and other mammals by the blood -sucking "kissing bugs" of the subfamily Triatominae. The disease may also be spread through blood transfusion, organ transplantation, eating food contaminated with the parasites, and by transmission from mother to fetus. Diagnosis of early disease is by finding the parasite in the blood using a microscope. Chronic disease is diagnosed by finding antibodies for *T.crukz* in the blood.

This is a disease of the body similar to termites in your home.

Prevention mostly involves eliminating kissing bugs and avoiding their bites. Other preventative efforts include screening blood used for transfusions. A vaccine has not been developed as of 2014. Early infections are treatable with the medicines ***benznidazole*** or ***nifurtimox.*** Treatment with these drugs is over 3-4 months and results in about a 65% cure rate. If treated early, however, they are almost 100% effective.

It is estimated that 8 million people, mostly in Mexico, Central America and South America, have Chagas disease resulting in 12,000 deaths per year. **Most people with the disease are unaware they are infected.**

The disease presents itself in two stages: an acute stage, which occurs shortly after an initial infection, and a chronic stage that develops over many years.

The acute phase lasts for the first few weeks or months of infection. It usually occurs unnoticed because it is symptom-free or exhibits only mild symptoms that are not unique to Chagas. These can include fever, fatigue, body aches, muscle pain, headache, rash, loss of appetite, diarrhea, nausea and vomiting. On physical exam there can be mild enlargement of the liver or spleen, swollen lymph glands and local swelling (a "*chagoma*") where the parasite entered the body.

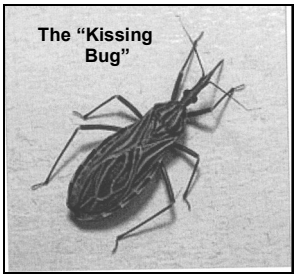
The most recognized marker of acute Chagas is called *Romana's sign*, which is swelling of the eyelids on the side of the face where the bite wound or where the bug feces were deposited or accidentally rubbed into the eye. Rarely, some may die from the acute disease due to severe inflammation/infection of the heart muscle (*myocarditis*) or brain (meningoencephalitis). The acute phase also can be severe in people with weakened immune systems.

If symptoms develop during the acute phase, they usually resolve spontaneously within 3-8 weeks in 90% of individuals. Although the symptoms resolve, even with treatment the infection persists and enters a chronic phase. Of individuals with chronic Chagas, 60-80% will never develop symptoms, while the remaining 20-30% will develop life-threatening heart and or digestive disorders during their lifetime.

The symptomatic chronic stage affects the nervous system, digestive system and heart. About 2/3 have cardiac damage, including dilated cardiomyopathy, which causes heart rhythm abnormalities and may result in sudden death. About 1/3 go on to develop digestive system damage, resulting in dilation of the digestive tract (megacolon and megasesophagus). Swallowing difficulties may be the first symptom of digestive disturbance and may lead to malnutrition.

Up to 10% of chronically infected develop neuritis that results in altered tendon reflexes and sensory impairment. Isolate cases exhibit CNS involvement, including dementia, confusion, and sensory and motor deficits.

Transmission: In Chagas-endemic areas, the transmissionis through an insect vector called a **triatomine bug.** This bug becomes infected with *T.cruzi* by feeding on the blood of an infected person or animal. During the day, these bugs hide in crevices in the walls and roofs. They emerge at night when the inhabitants are sleeping. Because they tend to feed on people's faces, they are known as "*kissing bugs*." After they bite and ingest blood, they defecate on the person. The *T.cruzi* parasites are left in the feces near the site of the bite wound and enter the blood stream when the individual scratches.



The "Kissing Bug"

Other modes of transmission include organ transplantation, through breast milk and by accidental lab exposure. Along with spread from a pregnant woman to her baby through the placenta and accounts for about 13% of stillborn deaths in parts of Brazil. Oral transmission is an unusual route of infection, but has been described since 1991.

Diagnosis: The presence of *T.cruzi* is diagnostic of Chagas. It can be detected by microscopic exams of fresh anticoagulant blood, for motile parasites or by preparation of thin and thick blood smears stained with Giemsa for direct visualization of parasites. Various immunoassays for *T.cruzi* are available and are used to diagnose the disease in its chronic form.

Treatment: Antiparasitic treatment is most effective early in the infection. Studies suggest antiparasitic treatment leads to cure in more than 90% of infants but only about 60-=85% of adults treated in the first year of acute phase Chagas. Children aged 6 to 12 years with chronic disease have a cure rate of about 60%.

Complications: In the chronic stage, treatment involves managing the clinical manifestations of the disease. Pacemaker and medications for irregular heart beats, such as the anti-arrhythmia drug amiodarone may be life saving for some patients with chronic cardiac disease, while surgery may be required for megaintestine. Chronic heart disease caused by Chagas is now a common reason for heart transplantation surgery.

The primary wildlife reservoirs for *T-cruzi* in the U.S. include opossums, raccoons, armadillos, squirrels, woodrats and mice.

TENTEC ROLLER COASTER

By Danny Centers, W4DAN

TenTec. Manufacturer and designer of American made fine amateur radio products located in Sevierville, TN became famous for their high quality and exquisite customer service in the early 1970's. The company founders were Al Kahn, K4FW (SK) and Jack Burchfield K4JU. Within the last year ownership of this company has been on a roller coaster ride akin to one of the famous rides at nearby Dollywood.

The company was first sold to RF Concepts, manufacturers of Alpha amplifiers. RF Concepts handled manufacturing, marketing and servicing of Ten Tec products under the Alpha TenTec names. After having a spectacular sale of reduced price TenTec transceivers and equipment, a company by the name of RKR made an offer, and acquired the Alpha TenTec company. Checking of the name RKR reveals that this company has very diverse holdings of many businesses. It is anyone's guess, but it looks like they may have made the acquisition for a quick resale of the company.

RKR has sold the company to Dishtronix located in Bellefontaine, Ohio. Dishtronix manufactures and markets the "*Prometheus*" solid state legal limit amateur radio amplifier. The Dishtronix web site displays this product line up, but the TenTec products have not been added as of this writing. Please have a good grip on your seat when you check the prices of their amplifiers. They entered the amateur radio market in 2001 and have plans to continue developing new products for ham radio.

Additional plans of Dishtronix are to manufacture a newer version of the Omni VII transceiver. The company states that new firmware updates for the Omni VII will be posted to the new TenTec web site as soon as it is up and running. They also indicate that a new Orion III is on the horizon. The TenTec team is working on production improvement while presently being occupied with commercial business. There are big plans for presenting new products and innovations at the upcoming Dayton Hamvention.

The www.TenTec.com website now displays mostly new servicing policies and pricing. At this time there appears to be a back log of TenTec equipment at their service center. According to the information on the web site, repair customers will have to either wait until February for service to résumé, or request a return. I took an Orion transceiver to their Servierville center in December and don't expect to receive their diagnosis until late February or March. The original TenTec manufacturing plant was bull dozed in recent months and a small shopping center is being built on the site.

"SIMPLE COURAGE"

A TRUE STORY OF PERIL ON THE SEA

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BACKGROUND: At a recent Marco meeting in Myrtle Beach, SC., Wayne Rosenfield, K1WDR came to the Aether News Editor with a wonderful story of the heroism by a ham operator named Capt. Kurt Carlsen W2ZXM of the "*Flying Enterprise,*" a ship caught in a hurricane in the North Atlantic in 1951. Ironically, the News Editor, at the time, was a Navy medical officer aboard the USNS General Leroy Eltinge that stood by to possibly rescue passengers aboard that very ship. On top of that, the News Editor's "Elmer" was a South African ham, Olliver Pierce WU4i, who at that time was corresponding by radio with Carlsen. Below, is this wonderful story, *"Simple Courage,"* written by Frank Delaney, ISBN 1-4000-6524-0, available at Amazon.com

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In late December 1951, Capt. Kurt Carlsen, 37, had run into a hurricane off the South English coast aboard his cargo vessel *Flying Enterprise.* The Captain ordered "abandon ship" and a line was passed from a rescue lifeboat and passengers and crew were ordered to jump into the raging waters with lifelines attached, but the Captain remained on board. Prior, by the time she was ready to return to New York from Hamburg, *Flying Enterprise* was loaded with consignments of which have contributed to the half century of questions hanging over her—*just why did Flying Enterprise become a mystery ship and why did her Captain refuse to leave his ship.* The ship left Hamburg on Dec. 21, 1951 for New York and the unexpected. A storm soon arose and in the midst of the storm the *Flying Enterprise* snapped open amidships and was quickly strapped and cemented back in place. Meanwhile the storm raged….a huge wave finally sent the ship listing 25 degrees on the left side….and the crew and passengers successfully left the ship—only the Captain remained aboard the *Flying Enterprise.* The tow-tug *"Turmoil"* had arrived and plans to tow the ship to Falmouth, England are taking place…..

The weather dropped noticeably—still cold, but with fewer wild gusts. *Turmoil* and Carlsen had now made seven efforts to get a line aboard—frustrating though the failure had been, they could see that it might work. After all, in last night's attempt the lines had actually taken around the bollard, but the pressure of the sea had ripped the shackle from the howser.

In the early afternoon, with new men on the winch and Carlsen refreshed and a little rested, they set up again—still aiming at the stern. On *Turmoil*, the stand-in first mate, Mr. Dancy, had been directly involved in all of the effort so far. Capt. Parker, from the moment he had accepted the *Flying Enterprise* job, had figured that Carlsen would need help, although he had never shared that thought. But should they ever attempt to get help over to the listing freighter he had already singled out this new fellow, Dancy , as the best candidate—young, fit, intelligent.

However, once Capt Parker of the *Turmoil* was standing beside *Flying Enterprise,* he concluded that they had no chance whatsoever of getting anyone over to help Carlson. How could they do it? A breeches buoy? They couldn't get a light nylon line to Carlsen at the moment, let alone a heavy contraption with a man sitting in it. A breeches buoy needed to be anchored heavily on the receiving vessel, but they could not fire the essential rocket. Nor could they guarantee that Carlsen—even if he caught a line that eventually hauled in the breeches buoy—would get enough footing too help aboard his ship the man sitting in the buoy. Parker dismissed the idea end went back to waiting and watching.

At around half past three, a moment came again when the swell briefly died down. A crewman, standing as far aft as he could on the tug, threw the thin leader line to Carlsen—who caught it and began to haul it in successfully. Loud, loud cheers on *Turmoil;* the entire crew, even those off duty and supposed to be sleeping , had come out on deck.

Slowly, Carlsen drew the light line in hand over hand, then looped a valid length over the neck of the bitt. He waved a signal and, on the deck of *Turmoil*, they started hauling. First they saw the leader line go fully aboard; Carlsen shepherded it through, until it wound around the bitt and left the ship on its journey back to *Turmoil*. Still they winched and still the lines kept coming—the second, slightly thicker line after the light nylon line, then the third, and then the messenger rope.

On *Turmoil*, every man held his breath as the hemp rope went through to Carlsen—and they saw it come back to them. With one hand Carlsen was steering these lines through the guiding chucks and around the bollard.

Then came the steel hawser. It lumbered through to Carlsen. He fed it—that heavy, icy cable—one-handed though the guides. It began to wind around the bollard. It wound farther around it and began its return journey to the tug.

Turmoil had a gearing system on its winch that automatically adjusted the strength of the tow. If the sea dragged a ship hard, the automatic system told the winch to slacken. If the rope sagged unsafely, the winch got a message to tighten. At the moment the hawser left Carlsen's care, *Turmoil* lifted on the swell; the winch responded to a signal from its dynamometer and tightened the tow. Too soon: the lighter messenger line was first stretched, and then snapped asunder from the hawser. Sparks flying metal to metal, the cable slammed backward round the bollard and snaked backward of the freighter into the sea.

Bizarrely, his ship's listing condition had saved Carlsen from loss of limb and possible loss of life. Since he was gripping a stanchion, trying to hold on to some kind of efficient balance, he was kept back from the path of the rampant cable. At that weight, at that tension and that speed, it would have cut his leg off—o sliced his body in two.

Once again, the *Turmoil* crew started over. They assembled the series of lines, each one attached to the one behind by a bowline knot or a figure-eight bight. And they weighed each length of line in their hands and they gauged whether it was too heavy or too light. And they attaché the messenger line, to which they then shackled the hawser, so tight you could loop it around a mountaintop and haul off the peak. And they looked at the ominous sky and they thought they had better make this one work.

And it did work, with Carlsen again risking every piece of skin on his hands to slide these ropes, these skinny and fat and unremittingly harsh snakes, to ease them around the tick bollard that looked like a huge collar stud. But when the hawser got back toward *Turmoil* and seemed ready to take to the drum of the winch, the sea came after it and a bitch of a wave snapped it like a pencil. In the stunned moment, Parkers' men leapt out of the way in case the hawser backwashed. Over on *Flying Enterprise*, Carlsen did something extraordinarily out of character—he swore the air blue.

The a fast movement took place in the corner of Turmoil's eye.

The night before, as he'd watched Carlsen's difficulty in accepting or controlling the towrope, Kenneth Dancy had already reached the same conclusion as his skipper: Carlsen would need help. But how could they make it happen? During the last effort, Mr, Dancy stood on the bridge of *Turmoil* and watched every motion of the freighter and the tug. The swells of the waves kept shoving them to and from each other, like great lumbering dancing partners.

There came a moment when everything suddenly appeared to simplify. *Flying Enterprise* was still listing to about 60 degrees, as well behaved as she had been all day. *Turmoil*, down in a trough, began to rise and in a few seconds would likely ride high above *Flying Enterprise*—or level with her decks.

Kenneth Dancy sprinted from the bridge. When he reached the farthest aft point on *Turmoil*, the vessels actually touched. He stretched out, climbed on Turmoil's rail—nobody quite realized what he was doing—and half-stepped, half-jumped toward *Flying Enterprise*.

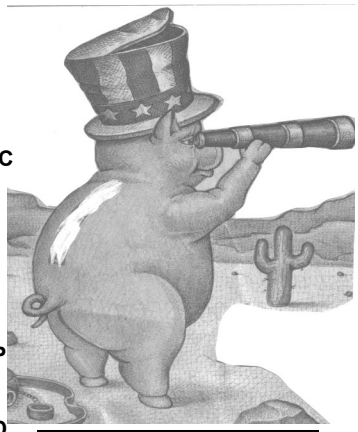
In his eighties now, Kenneth Roger Dancy offers no flamboyance when discussing that hectic and famous moment. A pleasant man, warmhearted and ready to laugh, he and his wife live outside Amsterdam in a neat, sweet, and, well, shipshape house.

When I call he answers the telephone with the words "*Mate Dancy*." As he greets me at his door, he hides any of the irritation that he must surely feel; he's about to be asked yes another bunch of questions on this old topic by someone who, irritatingly, remembers the story from childhood. Mr. Dancy may feel a reticence on the subject but his good manners never crack, not even when the word "*hero*" creeps into the conversations.

"So you're the man who jumped from one ship to another in the raging Atlantic" "No, no," he says, "It wasn't' a jump, more of a step really!"

NEW FACES* for MARCO & RENEWALS, as of Jan. 5, 2016

Anderson, Marvin	K3TVI
Anton, Dorothy	KE6OIO
Brewer, Tom	W0RPH
Brusco, Terry	K8IB
Custer, James	WOHJ
Favaro, Mary	AE4BX
Dolcourt, Jack	WAOPFC
Gonzalo, Laje*	AA2GL
Geiger, Marianne	KT9KS
Garlitz, Jay	AA4FL
Hensley, Gerald	K8AFP
Howell, Jeff*	KO9P
Jeutter, Dean	K3GGN
Johnson, Greg	N9GJ
Levine, G.	WB6JVP
Lifland, Thomas	W2FRU
Lind, Charles	N8CL
Manoli, Paul	KB1NCD
Nohava, Charles	N8GMB
Pavel, Forest	K4FTP
Powell, Louis	
Piccirilli, Alex	NV2Y
Rowland, Carlyle	NOARN
Rosenfield, Wayne	K1WDR
Rossio, Jeffrey	N5EQ
Reichman, Robt.	WA3IHV
Rabin, Barry	WB1FFI
Small, Bruce	KM2L
Shatz, Arnold	N6HC
Savage, Kathleen	KB1LPW
Villa, Douglas	WB8UUB
White, Elbert	W4TX
Wolf, Jeff	K6JW



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

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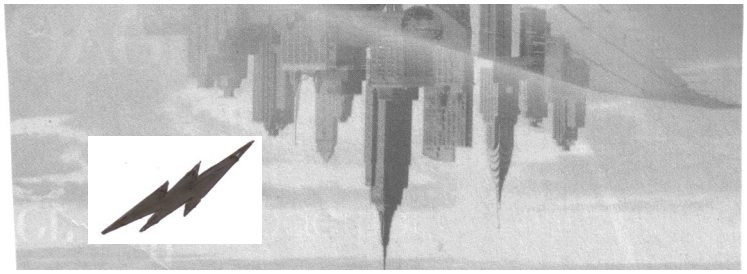

Your Renewal Date
Is January 1 of each year

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.

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DAY	EASTERN TIME	FREQ.	NET CONTROLS
Any Day	On the Hour	14.342	Hailing Frequency
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Sunday	11 a.m.	14.342	KD4GUA

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