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

IS THERE A DOCTOR IN THE HOUSE?

IT IS YOUR DECISION IN AN EMERGENCY TO ASSIST. THERE IS NO LEGAL STATUTE THAT A DOCTOR MUST PROVIDE EMERGENCY CARE WHEN THEY ARE OFF-DUTY. IS THERE AN ETHICAL OBLIGATION?

The term "Good Samaritan Law" came from a parable in the Bible where a traveler from Samaria helped another traveler who had been beaten and robbed. It has a different meaning in various countries...in China and many European countries, the law can criminalize failure to assist a person in need. In the U.S. (except for Vermont, Wisconsin and Minnesota), Canada (except Quebec) and Australia, the law is to protect the person who gives assistance from legal liability.

If you choose to assist, introduce yourself and ask if your assistance is wanted. Always call or delegate another person to call 911 for any emergency.

In Florida we have the *Good Samaritan Act* which was passed in 2004. Part 1, provides immunity from civil liability to ANY person, including doctors, "who gratuitously and in good faith" provide care during an emergency and act as "any ordinary reasonably prudent person would have acted under the same or similar circumstances" without objection by the victim, and outside a hospital, doctor's office or place having proper medical equipment."

Part 2 relates to EMTALA (*Emergency Medical Treatment and Labor Act*), a Federal law enacted in 1986 as part of the COBRA (*Consolidated Omnibus Budget Reconciliation Act*) Act of 1985. This mandates that any person coming to an ER for emergency care must be stabilized and treated regardless of the ability to pay.

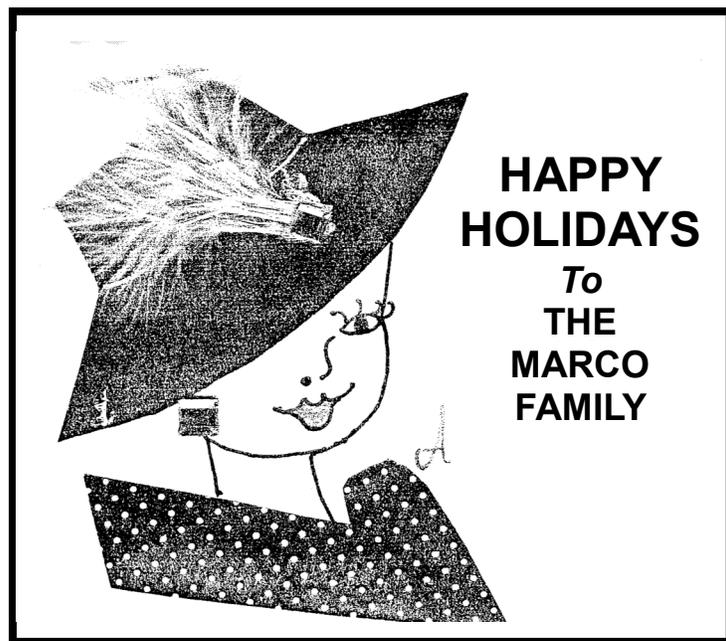
Three main obligations are: Any person who comes to an ER must receive a medical exam to determine whether an emergency exists. If an emergency exists, treatment must be provided until the condition is resolved or stabilized. If the hospital does not have the capabilities to treat the emergency, then an appropriate transfer must be made. Hospitals with specialized capabilities are obligated to accept transfers from hospitals who lack the capabilities to treat the emergency.

Part 3 states, "Any health care provider who voluntarily provides emergency care to a *hospital patient* whom they have no prior patient practitioner relationship with shall not be held liable for civil damages unless the care is "proven to amount to a conduct that is willful and wanton and would likely result in injury so as to affect the life or health of another."

Duty to Act...If there is no compensation, there is no duty to act. In Florida there's a duty-to-rescue law that requires individuals to at least contact emergency personnel and/or seek aid when they see another person in immediate danger. (In most states, this duty-to-rescue only applies to certain relationships such as parents/caretakers of children, spouses and emergency workers on duty.

INFLIGHT EMERGENCIES...Health care providers are protected if they assist during an in-flight emergency by the 1998 US Aviation Medical Assistance Act. Which states: Persons providing assistance without compensation in cases of emergency are not liable unless they are guilty of gross negligence or willful misconduct.

Continued on Page Two



LATE BREAKING NEWS

Sunday Grand Rounds now on 14.342 MHz, 11 am Eastern.
Reminder: All MARCO member dues are now payable in January of each year. If you have paid in advance, or if you do so in the future, the next renewal date will be indicated on your mailing list.

Category II CME certificates will be attached to your next *Aether* Newsletter. To receive, make sure your membership is active.

Marco Grand Rounds of the Air attendance is slowly returning to *normal* since having to change frequencies from 14.307 to 14.342. On page 8 of this edition you will note we hit an all-time high on Feb. 24, 2013 when 51 stations checked in. Marco members with interesting topics should make an appointment to present them on-the-air—the more stations participating, the more educational the subjects.

Members should be alerted to the fact that we will be choosing a new *President-elect* as Jeff Wolf, K6JW will be taking over the Presidential reigns from Mary Favaro, AE4BX, at the Dayton meeting this coming May.

Readers can alert *Aether* to any errors in news or educational articles by emailing warenbrown@aol.com

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

MARCO NET SCHEDULE

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

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

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

Page 2

MARCO Grand Rounds is held Sunday at 11 a.m. Eastern Time; 10 a.m. Central; 9 a.m. Mountain, and 8 a.m. Pacific Coast time on 14.342. You qualify for one hour Category II CME credit with your check-in.

Emergencies in flight may be under-reported because the FAA only requires that an incident be recorded if a passenger dies or a plane is diverted.

One must remember that cabin pressure is equivalent to 6,000-8,000 feet. Decreased partial pressure of O2 causes a 5-8% drop in oxygen saturation in the average traveler. Recommendations are: If a patient can walk 50 yards at a normal pace or climb one flight of stairs without chest pain or significant shortness of breath, they are probably okay to fly without supplemental oxygen.

FAA regulations on first aid kits and emergency medical kits: Every flight must have approved first aid kits, at least one kit, one approved AED (*Automatic External Defibrillator*) and supplemental oxygen. More first aid kits are required for more passengers: 0-50 passengers = one kit; 51-150 passengers, 2 kits; 151-250 passengers 3 kits; greater than 250 passengers, 4 kits.

New England Journal of Medicine article: Of 2.75 billion passengers flown worldwide annually, there were 11,920 medical emergencies documented from 5 domestic and international airlines from January 1, 2008 to Oct. 31, 2010 among an estimated 744 million passengers. This data looked at about 10% of the global passenger population.

It was found there were 16 emergencies per 1 million passengers flown, an incidence of one involved flight per each 604 flights. Most common problems were syncope (37%), respiratory symptoms (12%), nausea/vomiting, 10%. Doctors provided care in 48% of cases, nurse passengers 20% and EMS passenger assistance was rendered in the rest.

Aircraft were diverted due to the emergency in 7.3%. 10,914 patients had post-flight follow-up data available of which 26% were transported to the hospital via EMS, 9% were admitted, .3% died.

There were 30 total deaths during flight mostly cardiac arrest. If you are confronted with such an emergency be creative and ask for assistance. **Think about using another passenger's medications if not available in the kit.** Be sure to contact the ground services available, usually there is a physician directed medical communications center. Use the AED to monitor cardiac rhythms and look for signs of ischemia, not available on all AEDs.

EMS and on-the-scene situations...EMS personnel work under their medical director and follow pre-approved protocols depending on their level of care and the patient's status. EMS will need approval from their medical director to diverge from a protocol based on the recommendation of an on-scene physician.

When EMS arrives you have two options: Transfer care of the patient to the EMS providers who will provide care based on their protocol and transport the patient OR accompany the patient to the hospital. Then the patient remains in your care during transport. EMS can/will carry out your specific orders if they are consistent with the scope of their practice, seem reasonable and medically prudent, and no change in the patient's condition arises that would warrant a deviation from the orders.

When you offer assistance to EMS on the scene they can decline your assistance (*which will be the most likely situation unless the EMS personnel knows you as a physician.*) They can accept your assistance, but then you must accompany the patient to the hospital if you provided care outside of the EMS protocol.



HOW DO BLIND PEOPLE DISCRIMINATE BETWEEN DIFFERENT DENOMINATIONS OF PAPER MONEY?

The Government defines "legally blind" as possessing 10% or less normal vision. Legally blind people with partial vision usually have few problems handling paper money. They may be able to see the numbers on bills. Some with low vision must hold the money up to their noses in order to see the numbers causing others to ask "Why are you smelling the money?"

Our government doesn't make it easy for blind people to identify currency. Virtually every other nation varies the size and color of denominations. Some have asked for introduction of slight differences in texture, a blind person can't now discriminate between bills by touching them.

Initially blind people must rely on bank tellers or friends to identify the denomination of each bill, and then they develop a system to keep track of which bill is which. The American Foundation for the Blind, uses a popular system with their clients: One dollar bills are kept flat in the wallet. Five dollar bills are folded in half crosswise, so that they are about 3" long. Ten dollar bills are folded in thirds crosswise, so that they are approximately two inches long. Twenty dollar bills are folded in half lengthwise, so that they are half the height of the other bills and sit down much farther in the wallet or purse than the other bills.

Machines have been created to solve this problem as well. The relatively inexpensive *Talking Wallet* reads out the denomination of bills it receives. The more expensive *Talking Money Identifier* can be hooked up to cash registers and be used for commercial use. Many newspaper vendors are blind, and the *Money Identifier* can save them from being shortchanged.

Blind people have so many pressing problems imposed on them by a seeing culture that identifying paper money is a minor irritant. As one blind person put it, "Frankly, of all the things I do daily, identifying money is one of the easiest."

STATIC ELECTRICITY was the first kind of electricity to be discovered. The Conservation of Charge states that electric charge is neither crated nor destroyed. The total amount of electric charge in the universe remains constant.

ELECTROMAGNETISM is the relationship between electricity and magnetism. Electric currents can produce magnetic fields and magnetic fields can produce electric currents.

ALZHEIMER'S DISEASE

As presented on MARCO Grand Rounds Nov. 3, 2013

3

A SIMPLE TEST FOR ALZHEIMER'S

1. What is the date today?
2. What day of the week is it?
3. What is the name of this place?
4. What is your telephone number?
5. What is your address?
6. How old are you?
7. What is your birthdate? (month, day and year)
8. Who is the President of the United States?
9. Who was the previous President?
10. What is your mother's maiden name?
11. Subtract 3 from 20, serially. (20,17,14,etc.)

Scoring: 0-2 mistakes, O.K.; 3-4 errors, borderline; 5-7 errors, probable Alzheimer Disease but can live alone, unable to handle finances or medicines; 8-11 errors, severe impairment, cannot live alone.

Alzheimer's disease is the most common form of dementia 63% (Other forms are vascular 12%, Lewy bodies, 4%, mixed, 10% & Parkinson dementia 2%). For most of the 20th century, the diagnosis was reserved for those between the ages of 45 and 65. This changed after 1977, when a conference concluded the manifestations of presenile and senile dementia were almost identical. This eventually led to the diagnosis of *Alzheimer's disease independently of age*. The term *senile dementia of the Alzheimer type (SDAT)* was used for a time in those over 65. Eventually, the term Alzheimer's disease was formally adopted to describe individuals of all ages with a characteristic common symptom pattern, disease course and neuropathology.

Although Alzheimer's disease develops differently for every individual, there are many common symptoms. Early on they are often mistakenly thought to be "age-related" concerns, or manifestations of stress. This condition can usually be picked up early, within 8 years prior to onset if looked for. In the early stages the most common symptom is difficulty in remembering recent events. Diagnosis is usually confirmed with tests that evaluate behavior and thinking abilities often followed by a brain scan. However, examination of brain tissue is required for a definitive diagnosis. On average fewer than 3% of individuals live more than 14 years after diagnosis and the average life expectancy is 7 years. It is currently the number six leading cause of death in the USA.

The cause and progression of Alzheimer's are not well understood. Research indicates that the disease is associated with plaques and tangles in the brain. Current treatments only help with the symptoms as there are no available treatments that stop or reset the progression of the disease. Mental stimulation, exercise and a balanced diet have been suggested as a way to delay cognitive symptoms in healthy older individuals, but there is no conclusive evidence supporting this effort.

Progressive deterioration eventually hinders independence, with subjects being unable to perform most common activities of daily living. Speech difficulties become evident due to an inability to recall vocabulary, which leads to frequent incorrect word substitutions.

The cause for most Alzheimer's cases is still mostly unknown except for 1-5% of cases where genetic differences have been identified, such as in Down's Syndrome (*trisomy-21*) where Alzheimer's usually sets in at about age 40. The pathology seems to be first inflammation, then tauopathy and then neuron death by destruction of synapses and neuronal function.

The Cholinergic Hypothesis... The oldest, on which most currently available drug therapies are based, is the *cholinergic hypothesis*, which proposes that AD is caused by reduced synthesis of the neurotransmitter acetylcholine. The cholinergic hypothesis has not maintained widespread support, largely because medications intended to treat acetylcholine deficiency have not been very effective. Other cholinergic effects have also been proposed, for example, initiation of large-scale aggregation of amyloid leading to generalized neuroinflammation.

In 1991, the *amyloid hypothesis* postulated that extracellular beta-amyloid deposits are the fundamental cause of the disease. Support for this postulate comes from the location of the gene for the amyloid precursor protein on chromosome 21 together with the fact that people with trisomy 21 (Down Syndrome) who have an extra gene copy almost universally exhibit AD by 40 years of age. An experimental vaccine was found to clear the amyloid plaques in early human trials, but it did not have any effect on dementia. In 2009, this theory was updated, suggesting that a close relative of the beta-amyloid protein, and not necessarily the beta-amyloid itself, may be a major culprit in the disease.

The Tau Hypothesis... The *tau hypothesis* is the idea that tau protein abnormalities initiate the disease cascade. In this model, hyperphosphorylated tau begins to pair with other threads of tau. Eventually, they form *neurofibrillary tangles* inside nerve cell bodies. When this occurs the microtubules disintegrate, collapsing the neuron's transport system. This may result first in malfunctions in biochemical communication between neurons and later in the death of the cells.

Neuropathology... AD is characterized by loss of neurons and synapses in the cerebral cortex and certain sub cortical regions. This loss results in gross atrophy of the affected regions, including degeneration in the tempo-

ral lobe and parietal lobe, and parts of the frontal cortex and cingulate gyrus.

Prevention... At present, there is no definitive evidence to support that any particular measure is effective in preventing AD. Although cardiovascular risk factors, such as hypercholesterolemia, hypertension, diabetes, and smoking, are associated with a higher risk of onset and course of AD, statins, which are cholesterol lowering drugs, have not been effective in preventing or improving the course of the disease. The components of a Mediterranean diet, which include fruit and vegetables, bread, wheat and other cereals, olive oil, fish and red wine, may all individually or together reduce the risk of and course of AD. The diet's beneficial CV effect has been proposed as the mechanism of action. There is limited evidence that light to moderate use of alcohol particularly red wine, is associated with lower risk of AD. Long-term usage of non-steroidal anti-inflammatory drugs is associated with a reduced likelihood of developing AD. Hormone replacement therapy, although previously used, may increase the risk of dementia. Smoking is a significant AD risk factor.

Management... Five medications are currently used to treat the problems of AD: four are acetyl cholinesterase inhibitors (*tacrine (Cognex)*, *rivastigmine (Exelon)*, *galantamine (Reminyl)* and *donepezil (Aricept)* and the other *memantine (Nemenda)* is an NMDA receptor antagonist. The benefits from their use is small. No medication has been clearly shown to delay or halt the progression of the disease. The combination of memantine (*Nemenda*) and donepezil (*Aricept*) has been shown to be of statistically significant but clinically marginal effectiveness. There are several medical foods on the market, *Axona (Caprylic acid or coconut oil)* and *Cerefolin NAC*, a fancy vitamin.

Meds that don't work include ginkgo biloba and cannabis. The ingestion of aluminum has no effect and caffeine seems to have a palliative effect.

Non-pharmacologic therapies that are being used include: mental stimulation, cognitive training; use of memory devices; aerobic exercise; social activities; managing cardiovascular risk and a brain-healthy Mediterranean diet.

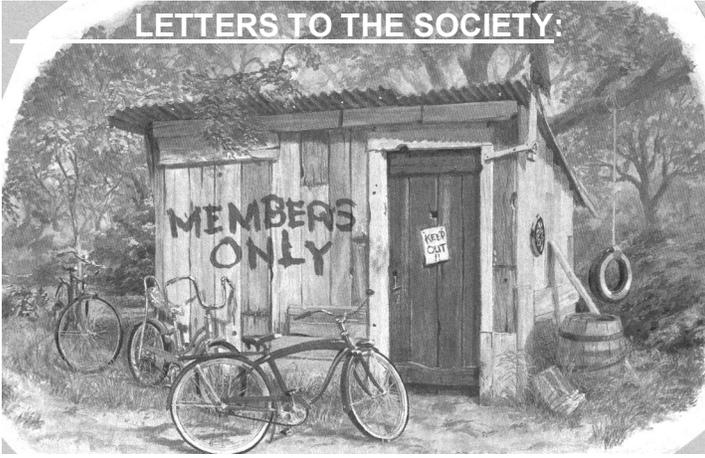
Prognosis... The disease is the underlying cause of death in 70% of all cases. Pneumonia and dehydration are the most frequent immediate causes of death, while cancer is a less frequent cause of death than in the general population

Research directions... As of 2012, the safety and efficacy of more than 400 pharmaceutical treatments had been or were being investigated in 1,012 clinical trials worldwide, and about a quarter of these compounds are in Phase III trials, the last step prior to review by regulatory agencies.

The common herpes simplex virus HSV-1 has been found to collocate with amyloid plaques. This suggested the possibility that AD could be treated or prevented with antiviral medication. This is ongoing. Recently florbetapir, which is currently used in an investigational study has been approved to help image Alzheimer's brain plaques but will require further studies.

ADDENDUM: Chip Keister N5RTF, our NP expert states he helps diagnose Alzheimer's by having the patient draw a clock and then place the hour and minute hands on twenty past seven.

LETTERS TO THE SOCIETY:

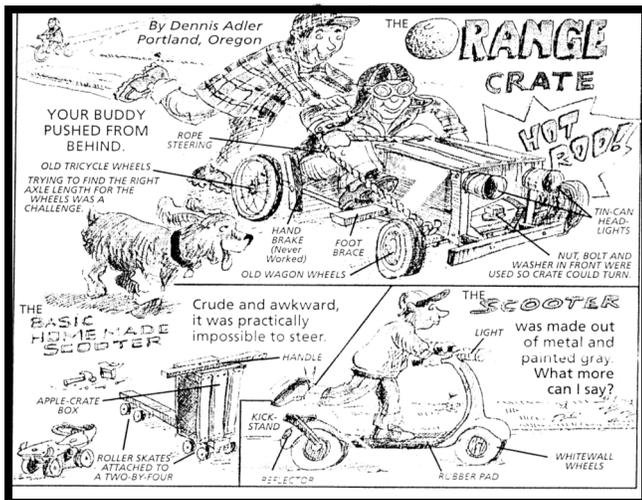


Kudos from : (none this issue.)

From Jeff K6JW: This past Sunday evening, Arnold and Joan Kalan and Rowie and I had the pleasure of having dinner with Jay AA4FL during the layover in L.A. before heading off to Fiji, Tarawa and his ultimate destination, Banaba, for a major DXpedition. The callsign for the EXpedition will be T33A. Jay is an integral member of the team and hopes to get time operating on SSB, CW and RTTY. He has shipped a full complement of dental equipment to the island, and he will be providing dental care on as needed basis to the population. This will be under less than ideal conditions. Among other inconveniences, the island has no electricity and so he will be using a Honda Eu-2000 portable generator to meet the needs of his powered dental equipment. He's also indicated he will have no suction, a major issue when doing dental work. MediShare has made a donation toward his dental care efforts, and we're helping he'll have lots to tell us when he returns. So turn your antennas to the SW—Banaba is just south of the equator at .8594 degrees S — and prepare to work T33A. When you do, be sure to send greetings to Jay. The team hopes to be on the air from 11/5 to 11/18. Also, there's a website at www.t33a.com and there will be online log posting as well as a DXA display.

Again, from Jeff K6JW: To All: It's about 1818 UTC and Banaba is up on 20 CW. They're on 14.030 and I worked them split up on 14.033.66. I don't know which operator I worked—probably not Jay since he didn't recognize my call sign but just ran the contact with a "599 TU." anyway, they're up and running. I heard them very faintly on 17 SSB last night—too weak to work from here on the West Coast.

NOW IS THE TIME TO SEND THAT \$15 HOLIDAY GIFT SUBSCRIPTION TO YOUR FRIENDS—keep the organ vibrating! ACT now.



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.



REPEAT: The origin of the term "HAM." In 1908, three Harvard members started one of the first wireless stations. The members, Albert Hyman, Bob Almy and Poogie Murray, first used all three last names fully spelled out to identify their station. Tapping this in code got laborious so they shortened their call sign to "HYLAMU" but this became confused with the Mexican steamship "HYALMO" so they decided to use only the first letter of their last names. The "HAM" station was later called to testify before Congress and the name stuck.

How did Xmas come to stand for Christmas? The "X" in "Xmas" is actually the descendant of the Greek equivalent of *Ch*, as in "Christos," which means "Christ." The letter X has stood for Christ since at least 1100 A.D., and the term "Xmas" was first cited in 1551. So many people dislike "Xmas" for its supposed crassness that its use is now virtually confined to commercial literature and banners.

Anesthesiologists to be replaced by machines...A new system by Johnson & Johnson called "Sedasy's," has been approved by the FDA. This would eliminate anesthesiologists in the colonoscopy room, thus eliminating the big source of income for these specialists who average a whopping \$286,000 a year. The dispute over the machine could be a harbinger of health-care battles to come. Intensifying efforts to control spending present a commercial opportunity but the new technologies threaten to disrupt physicians livelihoods.

Doctors of medicine ranked third in a recent poll of trusted professions. The military came first, followed by teachers, doctors, scientists, clergy...lawyers finished last.

The dissolving Heart Stent...U.S. clinical trials began earlier this year with approval expected in 2015 of a dissolving heart stent. If the stent allows a patient's artery to fully heal and return to its normal state in two years, it could revolutionize patient care. Cost \$1800 compared to \$1,100 for a metal stent.

How a chance at being hired goes up in smoke...Lost productivity from smoking breaks, higher absenteeism, extra health care costs...do you think an employer would want to hire someone who would bring those debits to the organizations? A study says U.S. businesses pay an average of \$5,816 more a year for each employee who smokes—\$3,088 in lost productivity because of smoking breaks, \$2,056 in added medical and insurance costs because smokers tend to have more health problems.

Whatever happened to pay toilets? Pay toilets used to be the rule in airports and train stations. The death knell came with several lawsuits filed against municipalities by women's groups. "Pay toilets were sexually discriminatory," they argued, because women, unlike men, were forced to pay to urinate. Instead of putting women on the honor code most cities abandoned the pay toilet.

Why is Royalty referred to s "Blue Blooded?" In the 8th Century, a group of Islamic warriors, the Moors, invaded and occupied Spain and they ruled over the country for five centuries. This didn't sit too well with the aristocrats of Castile, who began referring to themselves as *sangre azul* ("blue blood") to differentiate themselves from the Moors. The Castilians' blood was no different in color than the Moors, but their skin complexion was lighter than their conquerors. The Castilian pride in their "blue blood" was a thinly veiled proclamation of pride in their light complexions for the paler the complexion, the more blue the veins appear.

MULTIPLE SCLEROSIS

As presented on Marco Grand Rounds, Sept. 22, 2013

5

Multiple Sclerosis is an inflammatory disease in which the insulating covers of nerve cells in the brain and spinal cord are damaged. This damage disrupts the ability of parts of the nervous system to communicate, resulting in a wide range of signs and symptoms. MS takes several forms with new symptoms either occurring in isolated attacks (relapsing forms) or building up over time (progressive forms). Between attacks, symptoms may go away completely, however, permanent neurological problems often occur, especially as the diseases advances.

While the cause is not clear, the underlying mechanism is thought to be either destruction by the immune system or failure of the myelin-producing cells. Proposed cause for this include genetics and environmental factors such as infections. MS is usually diagnosed based on the presenting signs and symptoms and the results of supporting medical tests such as MRI.

There is no known cure for multiple sclerosis. Treatments attempt to improve function after an attack and prevent new attacks. Medications used to treat MS while modestly effective can have adverse effects and be poorly tolerated. Many pursue alternative treatments, despite a lack of evidence. The long-term outcome is difficult to predict with good outcomes more often seen in women, those who develop the disease early in life, those with a relapsing course, and those who initially experienced few attacks. Life expectancy is 5 to 10 yrs lower than that of an unaffected population.

As of 2008, between 2 and 2.5 million people are affected globally with rates varying widely in different regions of the world and among different populations. The average American has a 1 in 750 chance of getting MS. The disease usually begins between ages 20 and 50 and is twice as common in women as in men. MS is more common in Caucasians. The name multiple sclerosis refers to scars particularly in the white matter of the brain and spinal cord. MS was first described in 1868 by Charcot. His three signs of MS now known as "Charcot's triad" are nystagmus, intention tremor and scanning speech. MS usually appears in adults in their late twenties or early thirties but it can rarely start in childhood and after 50 years of age. The primary progressive subtype is more common in people in their fifties.

Signs and Symptoms

A person with MS can have almost any neurological symptoms or sign; with visual, motor and sensory problems being the most common. The specific symptoms are determined by the locations of the lesions and may include loss of sensitivity or changes in sensation such as tingling, pins and needles or numbness, muscle weakness, pronounced reflexes, muscle spasms, or difficulty in moving; difficulties with coordination and balance; problems with speech or swallowing, visual problems (*nystagmus*, *optic neuritis* or ***dou-ble vision***), feeling tired, acute or chronic pain, and bladder and bowel difficulties. Difficulties thinking and emotional problems such as depression or unstable mood are also common. Worsening with exposure to higher than usual temperatures and an electrical sensation that runs down the back when bending the neck.

Geography

MS is more common in people who live further from the equator, although exceptions exist. MS is more common in regions with northern European populations. Decreased sunlight resulting in ***decreased vitamin D*** has been put as an explanation. Fewer people born in the northern hemisphere in November as compared to May being affected later in life. People who move to a different region of the world before the age of 15 acquire the new region's risk. If migration takes place after 15, the person retains the risk of his home country.

Genetics

MS is not considered a hereditary disease; however, a number of variations have been shown to increase the risk. The probability is higher in relatives of an affected person. In identical twins both are affected about 30% of the time, while around 5% for non-identical twins and 2.5% of siblings are affected. If both parents are affected the risk in their children is 10X.

Infectious Agents & Others

Many microbes have been proposed as ***triggers*** not causes but none have been confirmed. Herpes viruses are a candidate group of viruses along with the Epstein-Barr virus if infected at a young age. Other viruses may be involved such as measles, mumps and rubella.

Smoking has been shown to be an independent risk for MS. Stress may be a risk factor...association with occupational exposures to toxins, mainly solvents has been evaluated but no clear conclusions have been reached. Vac-

inations show no association. Gout seems to be a protective factor.

The three main characteristics of MS are the formation of lesions in the CNS (plaques), inflammation and the destruction of myelin sheaths of neurons. Additionally MS is believed to be an immune-mediated disorder that develops from an interaction of the individual's genetics and as yet unidentified environmental causes. Damage is believed to be caused, at least in part, by the person's own immune system attacking the nervous system.

Diagnosis is made by history and Px, MRI of the brain and spinal cord and examination of the spinal fluid. Lesions on MRI are usually in the white matter, ovoid or round, less than 3 mm and at right angles with the corpus callosum.

Management

Acute Attacks...High doses of i.v. corticosteroids helps in the short term.

Disease-modifying treatments...Eight treatments have been approved for ***relapsing-remitting MS*** including *interferon beta-1a*, *interferon (Avonex, 1996; Rebif, 2003)* *beta-1b* (Betaseron, 1993), *glatiramer acetate* (Copaxone 1995), *mitoxantrone*, *natalizumab* (Tysabri 2004), *fingolimod* (Gilenya, the first oral drug for MS, 2010), *teriflunomide* (Aubagio, 2012, Temso) and *dimethyl fumarate*. Their cost effectiveness is not clear. The interferons and glatiramer (Copaxone) acetate are 1st-line treatments and are roughly equivalent, reducing relapses by 30%. The others are used if the first-line drugs don't work since they have relatively bad side-effects. The role of the newer agents such as fingolimod, teriflunomide and dimethyl fumarate are not yet entirely clear.

No treatment has been shown to change the course of primary progressive MS and as of 2011 only one medication, mitoxantrone, has been approved for secondary progressive MS. Side effects includes, irritation at the injection site for glatiramer (Copaxone) and the interferons associated with lipoatrophy. Interferons may produce flu-like symptoms. Glatiramer may produce flushing, chest tightness, palpitations and anxiety which usually lasts less than 30 minutes. More dangerous but much less common are liver damage from interferons, systolic dysfunction (12%), infertility and acute myeloid leukemia (.8%) from mitoxantrone and progressive multifocal leukoencephalopathy with natalizumab (1 in 600).

Use of **alternative therapy**, includes yoga, herbal medicine (*including medical cannabis*), hyperbaric oxygen, self-infection with hookworms, and acupuncture. Users are found most frequently in women who have had MS for a long time and tend to be more disabled and have lower levels of satisfaction with conventional healthcare.

The average life-expectancy is 30 years from onset, being 5 to 10 years lower than that of unaffected people. Almost 40% of MS patients reach the seventh decade...2/3 of the deaths are directly related to the consequences of the disease. Suicide is more common, while infections and other complications are dangerous for the more disabled. Although most lose the ability to walk before death, 90% are capable of independent walking at 10 years from onset, and 75% at 15 years.

Rates of MS appear to be increasing probably due to better diagnosis with MR scanning.

Research

Recently there has been approval of several oral drugs. Several others are being investigated, one being ***laquinimod*** (2012).

Monoclonal antibodies have shown promise but exhibit potentially dangerous side-effects mostly opportunistic infections and their future role may be limited.

The use of two or more drugs is now being tried since different drugs attack different aspects of the disease. No progress so far.

Use of stem cells are in the early stages

THE FIRST MEDICAL COLLEGE IN THE U.S. WAS—The College of Philadelphia Department of Medicine, now the University of Pennsylvania School of Medicine.

It was established on May 3, 1765. The first commencement was held June 21, 1768, when medical diplomas were presented to the ten members of the graduating class.

SARCOIDOSIS

As presented on Marco Grand Rounds, Sept. 29, 2013

Sarcoidosis is a syndrome (*group of symptoms*) involving abnormal collections of chronic inflammatory cells (*granulomas*) that can form as nodules in multiple organs. The granulomas that appear are usually not of the caseating variety and are most often located in the lungs or the lymph nodes, but virtually any organ can be affected. Onset is usually gradual. Sarcoidosis may be asymptomatic or chronic. **It commonly improves or clears up spontaneously.** More than two-thirds of people with lung sarcoidosis have no symptoms after 9 years. About 50% have relapses. About 10% develop serious disability. Lung scarring or infection may lead to respiratory failure and death. In chronic cases, symptoms may fluctuate over many years. ***Sarcoidosis seems to be caused by an immune reaction to an infection that continues after the cause of the infection is gone.***

Symptoms: mostly vague, which include fatigue, weight loss, aches and pains, arthritis, dry eyes, swelling of the knees, blurry vision, shortness of breath, a dry hacking cough or skin lesions. The skin symptoms vary, and range from rashes and noduli to erythema nodosum, granuloma annulare or lupus pernio. **Sarcoidosis and cancer may mimic one another.**

Lungs: Pulmonary localizations are by far the most common in individuals with sarcoidosis. About 90% have an abnormal chest X-ray. Overall, about 50% develop permanent pulmonary abnormalities and 5-15% have progressive fibrosis of the lung tissue.

Liver: Although liver biopsy reveals liver involvement in 60 to 90%, liver dysfunction is usually not significant. Raised levels of alkaline phosphatase and elevations of bilirubin and transferases are only mildly elevated. Jaundice is rare.

Skin: Sarcoidosis involves the skin in about 25% of patients. The most common lesions are erythema nodosum, plaques, maculopapular eruptions, and subcutaneous nodules.

Heart: Although cardiac involvement is present in 30% of patients with sarcoidosis, only about 5% are symptomatic. Asymptomatic conduction abnormalities can arise and lead to fatal ventricular arrhythmias. Myocardial sarcoidosis can be a rare cause of sudden cardiac death.

Eye: Manifestations in the eye include uveitis, uveoparotitis and retinal inflammation which may result in loss of visual acuity or blindness.

Blood: Abnormal clinical blood tests are frequent but not diagnostic. Anemia occurs in 4-20%. Leukopenia occurs in 40%. In the absence of splenomegaly leukopenia may reflect bone marrow involvement, but the most common mechanism is a redistribution of blood T cells to sites of disease. Monocytosis occurs in the majority of cases.

Lymph Nodes: Lymphadenopathy is very common. Intrathoracic nodes are enlarged in 75 to 90% of all patients; usually this involves the hilar nodes in the chest.

Nervous System: Neurological findings are observed in about 5% of cases.

Parotid Gland enlargement is a classic feature of sarcoidosis but clinically apparent parotid involvement occurs in less than 10%. Bilateral involvement is the rule.

Causes: No genetic association has been found so far. No infectious organisms have been found but mycobacteria are found in about 26% of cases. High levels of Vitamin D may implicate an immune-system dysfunction. Prolactin elevation is found in between 3 and 32% of cases. This frequently leads to amenorrhea, galactorrhea and mastitis in women. There seems to be an association with hypothyroidism. Autoimmune disorders have been frequently observed.

Pathophysiology: Glaucomatous inflammation is characterized primarily by accumulation of monocytes, macrophages and activated T-lymphocytes.

Diagnosis: Often a case of exclusion. To exclude sarcoidosis in a case presenting with pulmonary symptoms might involve chest X-ray, CT scan of chest, PET scan, CT-guided biopsy, mediastinoscopy, open lung biopsy, bronchoscopy with biopsy, endobronchial ultrasound and endoscope ultrasound with views of mediastinal lymph nodes.

Differential diagnosis includes metastatic disease, lymphoma, septic emboli, rheumatoid nodules, Wegener's granulomatosis, varicella infection and atypical infections such as Mycobacterium avium complex, cytomegalovirus and cryptococci. Sarcoidosis is confused most commonly with neoplastic diseases such as lymphoma or with disorders characterized also by a mononuclear cell granulomatous inflammatory process, such as the mycobacterial and fungal disorders. (Continued on Page 9)

6 THE STORY OF MGM'S "LEO the LION."

Leo the Lion is the mascot for the Hollywood film studio Metro-Goldwyn-Mayer and one of its predecessors, Goldwyn Pictures, featured in the studio's production logo, which was created in 1924.

There have been seven different lions used for the MGM logo; they include **Slats** (1924-1928); **Jackie** (1928-1956; Two-Strip Technicolor Lions **Telly & Coffee**, (1927-1934); **Tanner** (1934-1956); **George** (1956-1957); **Leo** (1957-present).

Why didn't MGM use the one lion for all their films? The first lion, publicly known as "**Leo the MGM Lion**," and socially as "**Slats**" was born in the Dublin Zoo in 1919 and died in 1936 at age 17. He did not ROAR as he was depicted in only silent films.

The second "**MGM LEO**" was "**Jackie**" and he reigned from 1928 through 1956 and was the first to roar. Jackie growled softly; this was followed by a louder roar, a brief pause, and then a final growl, before he looked off to the right of the screen. Jackie appeared on all black-and-white MGM films from 1928-1956. In addition to appearing in the MGM logo, Jackie appeared in over a hundred films, including the *Tarzan* movies that starred Johnny Weissmuller. MGM began experiments with two-color shorts in 1927 and animated cartoons in 1930. Two two-strip Technicolor variations of the MGM logo were created with two different lions being used, named **Telly** and **Coffee**.

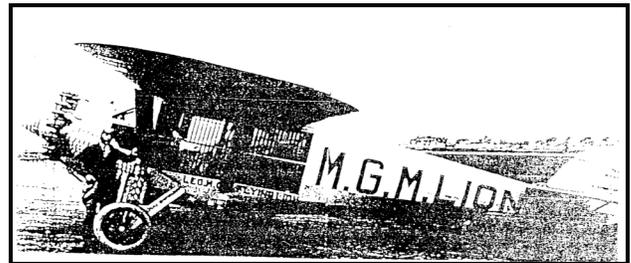
From 1934-1956, MGM began producing full three-strip Technicolor films in 1934 and **Tanner** was used on all Technicolor films.

George (1956-1957) appeared more heavily maned than any of the younger predecessors and the current lion. He lasted only two years being replaced by the present **Leo** from 1957 through 2013.

There is an interesting story of **Slats**, the #1 "**Leo the Lion**" that took place on Sept. 16, 1927 when he was placed in a cage in a small Ryan monoplane that resembled Lindbergh's *Spirit of St. Louis*, to be flown from San Diego to New York for a publicity stunt.

The pilot, Martin Jensen, took off at 10:20 a.m. and headed east over the Arizona desert. In mid-afternoon, Bill Boardman, of Payson, AZ, a small community of 800 cattlemen and their families, was traveling over the rugged Ox Bow Hill south of Payson when he heard a roaring motor coming from the west. He stopped his truck to watch a small plane in trouble trying to gain altitude over the Tonto Basin to the east.

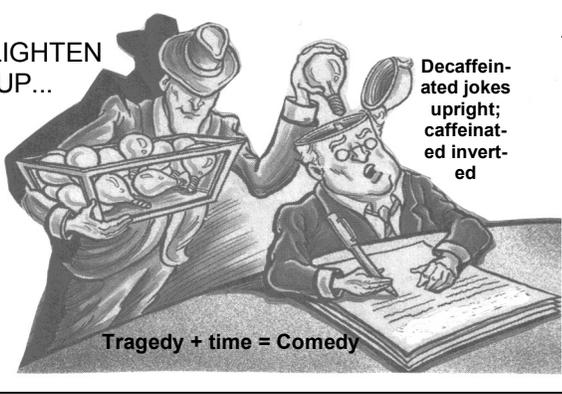
Boardman recalled: *It was a small brightly colored monoplane with some large lettering along the fuselage with what appeared to be a metal cage constructed in the forward portion of the fuselage behind the pilot. Several days later I was advised that a pilot had walked out of Tonto Creek into the Booth Ranch along the lower river at Gisela, following a crash-landing along the creek some days earlier.*



By now everyone was concerned for Martin's passenger, Leo, the MGM lion. In fact by the 6th day after the crash they had doubts of finding the lion alive. The rescue team reached the wreckage site after they heard a lions angry cry. They found Leo alive but badly infected with wounds covered with flies. They were able to nurse him back to health; he died in 1936 of natural causes in Australia.



LIGHTEN UP...



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HISTORY OF THE MEDICAL AMATEUR RADIO COUNCIL

In the fall of 1965, at the Astor Hotel in New York City, Dr. William L. Sprague WA0CRN, held a meeting of physicians and dentists interested in exploring the formation of a medically oriented amateur radio operators organization. A group of 95 members was organized. The organization was formalized at a meeting in New York on April 16, 1966. M.A.R.C.O. was chartered as a Corporation in the State of New York.

Marco is basically interested in medical and technical education and help to the less fortunate using our MediShare division. We offer one hour of category II CME for check-ins to our weekly Sunday "Grand Rounds of the Air," on 14.307 at 11 am Eastern time.

BURMA SHAVE...Drove too long, driver snoozing, What happened next is not amusing! The midnight ride of Paul for beer, let to a warmer hemisphere. Car in ditch, driver in tree, The moon was full and so was he.



Boy Scout jokes....What do you call a spy with yellow hair? A. James Blond. Why did the whale cross the road? A. To get to the other tide. Why did the snail paint an "S" on the side of its car? A. So that when it drove by, people would say, "Look at that escargot." Which branch of the military do babies join? A. The infantry. A police officer saw a man driving around with a truck full of penguins. He pulled the guy over and said, "You can't drive penguins around. Take them to the zoo immediately." The guy agreed and drove away. The next day, the officer saw the guy still driving around with the truck full of penguins. He pulled the fellow over and said, "I thought I told you to take these penguins to the zoo yesterday!" The guy replied, "I did. They loved it. Today, I'm taking them to the beach!"

A man calls home to his wife and says, "Honey, I have been asked to fly to Canada with my boss for fishing. We'll be gone for a long weekend. This is a good opportunity for me to get that promotion I've been wanting so could you please pack enough clothes for a 3-day weekend...and also would you get out my rod and tackle box from the attic? We're leaving at 4:30 pm from the office and I will swing by the house to pick my things up. Oh! And please pack my new navy blue silk pajamas." The wife thinks this sounds a bit odd, but being the good wife, she does exactly what her husband asked. Following the long weekend he came home a little tired, The wife welcomed him home and ask if he caught many fish? He says, "Yes, lots of Walleyes, some Bass and a few Pike...but why didn't you pack my new blue silk pajamas like I asked you to do?" The wife replies, "I did, they're in your tackle box." Never try to outsmart a woman!

A gas station owner in Georgia was trying to increase his sales, so he put up a sign that read, "Free Sex with Fill-Up." Soon a local pulled in, filled his tank and asked for his free sex. The owner told him to pick a number from 1 to 10. If he guessed correctly he would get his free sex. The local picked 6 and the proprietor said, "You were close, the number was 7, sorry no sex this time." A week later the same local, along with his brother pulled in for another fill-up. Again he asked for his free sex. The proprietor again gave him the same story and asked him to guess the correct number. The local guessed 1 this time. The proprietor said, "Sorry, it was 3, no free sex this time." As they were driving away, the local said to his brother, "I think that game is rigged, and he doesn't really give away free sex." His brother replied, "No it ain't rigged, my wife won twice last week."

Recently Hank Butler was at the grocery store buying a large bag of Purina dog chow for his loyal pet Owen, the Wonder Dog and was in the check-out line when a woman behind him asked if he had a dog. So because he's retired and has little to do, on impulse, he told her that no, he didn't have a dog, he was starting the Purina Diet again. He added that he shouldn't because he ended up in the hospital last time, but that he had lost 50 lbs. before he awakened in an ICU ward. Hank told her that it was essentially a Perfect Diet and that the way it works is, to load your pants with Purina Nuggets and simply eat one every time you feel hungry. The food is nutritionally complete (certified), so it works well and he was going to try it again. (Keep in mind everyone in line was now enthralled with his story.) Horrified she asked if he ended up in ICU because the dog food poisoned him. He told her, no, that he had stopped to urinate on a fire hydrant and a car hit him. Hank thought the guy behind her was going to have a heart attack, he was laughing so hard. The grocery won't let Hank shop there anymore.



MEMORIES OF YEARS AGO IN

MARCO

Our History Book

Bruce Small, K2L2L

Marco Webmaster

TWENTY FIVE YEARS AGO IN MARCO

The December 1988 Marco Newsletter related the untold story of Marco's relationship to the Peoples' Temple and the Jonestown massacre. Eighteen months before the mass killings, several Marco members became suspicious of nightly ham band contacts between stations signing WB6MID/8R1, WB6MNH/8R3 and WA6DTJ. These stations continuously operated in violation of amateur rules and regulations. Members of our organization wrote both the FCC and to selected legislators and tape recorded some of the illegal operations. After the Jonestown massacre, the government confiscated these recordings.

We welcomed new members Ricardo LU1CND, Bob WB9AHM, Jack AB4BY, Jay NU0X, Bob WA4UQQ, Bill, N6ROC, Terry N7KRV, Bud N0JIH, Henry WA9VLQ, Eric N2EL, Jim N5MUQ, Bob KA1RRL and Cal W5HDW.

Congratulations went to Chris Haycock WB2YBA on her election as Treasurer of the Women's Surgical Association.

TWENTY YEARS AGO IN MARCO

The November-December 1993 Marco Newsletter was jam-packed with information, but none of greater historical significance than word that the Marco Medical Resources Commission had decided to adopt the name MediShare International.

Wendene Shoup, XYL of Dick W8QP sent in a description of their visit to the Voice of America relay station that operated for many years just north of Cincinnati.

Former President Christine Haycock WA2YBA was elected President of YLRL.

A special event station was set up at many of Marco's earlier annual meetings. Way back in the 1970's, the FCC allowed the issuance of special call signs for events such as this, so the Marco Annual Meeting saw the operation of WX6MAR from San Francisco in 1972, WX2MAR from New York City in 1973 and WX9MAR from Chicago in 1974. QSL cards from those operations were reproduced in the NL as well as one of N7MAR fashioned by Marco's dentist members attending the ADA convention in Las Vegas in 1976.

FIFTEEN YEARS AGO IN MARCO

The December 1998 Marco Newsletter was a special issue devoted entirely to MediShare. In the lead article, Smitty and Mike Marks, Director of the Bush Hospital Foundation, described the next project: donation of a Land Rover to the Montfort Hospital in Blantyre, Malawi. The vehicle would be used to bring AIDS education to rural villages and would double as an ambulance. Marco's contribution was earmarked to be \$8,000. This project turned out to be highly successful.

Smitty described a completed project in Zambia. MediShare joined with Rotary International, Bush Hospital Foundation, Direct Relief International and the US Government to equip surgical suites in two hospitals. One was Santa Maria Hospital located on Chilubi Island in the middle of Lake Bangweulu. Although the hospital had a qualified surgeon, they had no equipment and acute patients had to be transferred by truck to the nearest suitably-equipped hospital. The St. Fidelis Mission Hospital was a busy 70-bed facility serving a rural population. This project also was highly successful.

Next, there was a report from Dr. Alex Gawa UR4LL. Alex was the director of Zolochiv Regional Hospital in Ukraine, and due to the impoverished state of his country he was desperately in need of supplies. His letter described MediShare's help and the joy felt by the hospital staff when the relief shipment arrived.

Eric Weston W8BXO participated in the rescue of four shipwrecked Cubans. He heard a call from the skipper of a sailboat who had come across the men, marooned on a small island near the Bahamas. Earl called police in Florida who relayed the information to the U.S. Coast Guard. USCG came up on frequency but couldn't talk to the boat, so Earl served as a relay station. A helicopter was dispatched and picked up the men after 45 minutes.

10 YEARS AGO IN MARCO

The December 2003 Marco NL addressed the question "Am I a Safe Driver?" The NL reproduced Willis N5JDT's Grand Rounds talk on Bats. This was the flying kind, not Louisville sluggers.

BOB CURRIER MARCO GRAND ROUNDS OF THE AIR

14.342, Sundays, 11 a.m. Eastern, One Hour Cat. II CME credit.

CALL HRS NAME QTH

Because of poor propagation we may have missed you—please correct by sending to warenbrown@aol.com

KD4GUA	38	Warren	Largo, FL
KG6DQF	37	Glen	Palo Alto, CA
KN0S	36	Dave	Virginia
KC9CS	36	Bill	Largo, FL
NU4DO	36	Norm	Largo, FL
W1BEW	35	Bobbie	Tennessee
N2JBA	34	Ed	Amenia, NY
KM2L	33	Bruce	Clarence, NY
WB6OJB	32	Arnold	Pac.Pal., CA
W4DAN	32	Danny	Cleveland, TN
KC9CIV	31	Rich	Knox, IN
KA4JWA	31	Jim	W. Virginia
N6DMV	31	Paul	Torrance, CA
N4TSC	31	Jerry	Boca Raton, FL
N5RTF	30	Chip	New Orleans, LA
WB5BHB	29	John	Vance, MS
W6NJY	29	Art	Beverly Hills, CA
KK1Y	29	Art	Seminole, FL
WB1FFI	27	Barry	Syracuse, NY
WA9HIR	26	Bill	Berwyn, ILL
WA1EXE	26	Mark	Cape Cod, Mass
KD8IDW	25	Mary	W. Virginia
W4MKT	25	Larry	St. Petersburg, FL
N9YZM	24	Mike	Crystal Lake, IL
N9RIV	23	Bill	Illinois
WA3QWA	21	Mark	Chesapeake, VA
W1RDJ	19	Doug	Cape Cod, Mass.
KE5SZA	19	John	Marietta, OK
N3OJC	19	Mark	Sidney, Ohio
KD5QHV	18	Bernie	El Paso, TX
N4DOV	18	David	Ft. Lauderdale, FL
AE4BX	17	Mary	Myrtle Beach, SC
K0FS	16	Fred	St. Louis, MO
K1WDR	15	Wayne	Connecticut
KE8GA	15	George	Fairview, NC
W3DRB	15	Miles	Elizabethtown, PA
K6JW	15	Jeff	Palos Verdes, CA
KB5FLA	14	Rich	Arkansas
W0RPH	14	Tom	Denver, CO
N9GJ	13	Greg	Cleveland, TN
W8LJZ	12	Jim	Detroit, MI
W2PAT	10	Marv	S. Carolina
WB9EDP	8	Harry	Chicago, IL
KE5BQK	6	Linda	El Paso, TX
WB2MXJ	6	Joe	New Orleans, LA
K4RLC	6	Bob	Raleigh, NC
KG6JLE	6	Paul	Atherton, CA

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	1042 (38 nets) (New Freq)	33.92

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

DOUBLE YOUR PLEASURE WITH THIS 80 METER

SLOPER

By Danny Centers, W4DAN

When my 40/80 meter coax fed dipole began to show signs of deterioration, I wanted to replace it with something different. The plan was to construct another coax fed antenna because of already having other dipoles fed with balanced line. First thoughts were to put up a simple sloping dipole to compare with the flat top. It would surely make construction easier, and save repair time and work in the future.

The idea of the sloping dipole came up during an on the air QSO with Scott NT8Z. Scott made a suggestion that I should possibly consider building a W8JK sloping dipole. He emailed the information that he had about this antenna. Larry, K4KZA referred to this antenna as being a *type of wire beam*. Larry was correct. Dr. John Kraus, W8JK first developed this antenna as a two-element horizontal wire beam.

The illustration is self-explanatory, but elaboration may help in understanding the construction. This antenna consists of two half wave 80 meter dipoles fed in phase. The nominal length of each dipole is 122 feet. After you cut the wire for each dipole, cut each of these in half to produce four 61 foot legs. If you plan to use the antenna on the lower end of the band, the dipoles should be cut for a length of 133 feet then trimmed as required for resonance. If you plan to operate on the upper frequencies of the 80 meter band, try approximately 117 feet and trim for resonance. Remember that only small amounts are to be trimmed from each of all four legs.

The two dipoles are connected at the center with a phasing harness consisting of approximately 35 to 40 feet of twisted twin lead. Either window line, or open wire balanced feed line can be used. The length is not critical, but will be determined largely on the separation of the lower ends of the two dipoles for a neater looking installation.

The upper ends of the two dipoles should be separated with an insulator and hung as high as possible. Note that these ends are insulated from each other, and not connected. The lower ends should be about 60 feet apart, give or take up to 10 feet if necessary. You can choose any height for the lower ends. For safety, they should be 10 feet above ground, but can be placed lower. Do not allow the ends to touch the ground.

Attach coax to either dipole. Directivity will be broadside to the antenna with most gain in the direction of the feed point. The gain of this antenna is rumored to be 6db over a regular dipole.

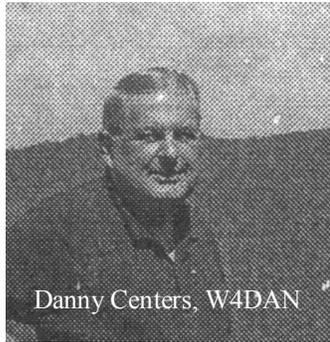
I built this antenna mostly for comparison with the flat top dipole. I found that it outperformed the flat top, especially in the direction of the feed point. The bandwidth is narrower than the flat top. Because of the shortcoming, I would suggest cutting the antenna for resonance at the lowest frequency that you intend to operate. A tuner can be used for matching to higher frequencies. Avoid cutting the length of the top end of 80 meters, then using a tuner for the lower frequencies.

My old flat top 80 meter antenna with inverted vee legs for 40 meters performs better than the sloper on bands other than 80 meters when used with a tuner. That does not mean that it cannot be used on other bands. I have had satisfactory results with it on the WARC bands, but the old 40/80 antennas seems to be a little better on non-resonant frequencies. A dipole fed with balanced feeders should be considered if you need a multi band antenna.

It is more visually obtrusive than I thought it would be to the point that I considered taking it down, and replacing it with a single sloper as planned in the beginning, but after using it for while I decided to keep it because it performs so well.

You may ask, "What about the 40 meter legs of the old antenna?" Well, the sloper works O.K. on 40 meters by using a tuner, but a new antenna for 40meters will probably work better. Maybe a 30/40 antenna is in order. Who knows? "Only the Shadow knows." That is another topic for another antenna. Stay tuned.

Dr. John D. Kraus, W8JK, was a Professor in the Electrical Engi



Danny Centers, W4DAN

THE PREZ SAYS:

By Dr. Mary Favaro, President of Marco

Mary didn't send us something this month so we simply made her picture bigger.



SARCOIDOSIS (Continued from Page 6)

Treatment: Between 30 and 70% do not require therapy. For patients presenting with lung symptoms active pulmonary sarcoidosis is observed usually without therapy for two to three months; if the inflammation does not subside spontaneously, therapy is instituted. Corticosteroids, most commonly prednisolone, have been the standard treatment.

Prognosis: The disease can remit spontaneously or become chronic, with exacerbations and remissions. In some it can progress to pulmonary fibrosis and death. About half of the cases resolve without treatment or can be cured within 12-36 months and most within five years. Some cases persist several decades. When the heart is involved the prognosis is poor. There is an increased risk of developing cancers in these patients.

Epidemiology: Sarcoidosis most commonly affects young adults of both sexes although slightly more females are involved. Incidence is highest for individuals younger than 40 and peaks in the age-group from 20 to 29 years, a second peak is observed for women over 50.

In the U.S. sarcoidosis is more prevalent in the black race.

- Q.** If you knew a woman with syphilis who was pregnant, who had 8 children already, three of whom were deaf, two were blind and one mentally retarded, would you recommend that she have an abortion?
- A.** If you said YES, you just killed Beethoven.

neering department at O.S.U., and the Director of the Ohio State University Radio Observatory in Columbus, Ohio. He designed, built, and operated the radio telescope given the nickname of "Big Ear" that was located near Delaware, Ohio.

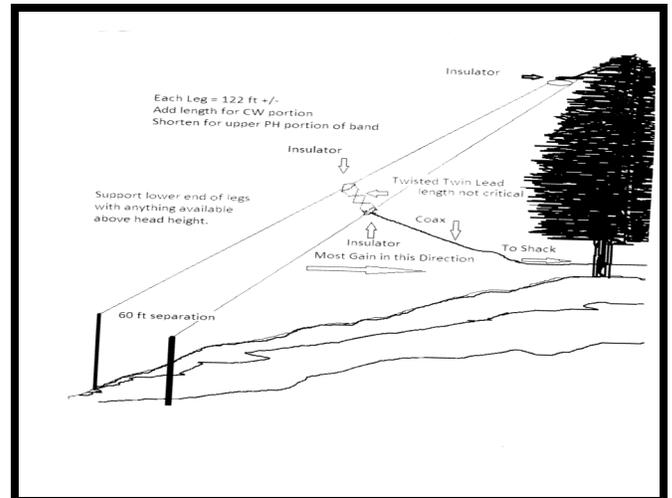


Diagram of Danny's 80-Meter Sloper

FIBROMYALGIA (OVERACTIVE NERVES) & INSOMNIA—WHICH COMES FIRST

As presented on MARCO Grand Rounds of the Air on Aug. 25, 2013

10

STRANGE DOINGS ON THE SUN

Sunspots, are only half the number Expected.

Fibromyalgia is a common nonarticular disorder of unknown cause characterized by achy chronic (*lasting more than 3 months*) pain, tenderness (*means even a small amount of pressure can cause a lot of pain.*), insomnia and stiffness of muscles at areas of tendon insertions, and adjacent soft tissues affecting 3-5% of the adult population. It is more common in middle-aged menopausal women possibly due to lower serotonin levels (*only 1/7 that of males*) in the **female brain** which makes them more susceptible to pain sensitivity and their brain being more active and possibly an increase in Substance P, a pain neurotransmitter. Diagnosis is clinical, the patient having pain at least at 11 of 18 tender points on the body. Treatment includes exercise, local heat, and drugs for pain and sleep. It sometimes occurs in patients with systemic rheumatic disorders, which complicates the diagnosis. It may be precipitated by a viral or other systemic infection such as Lyme disease. Other causes have been listed as trauma, family history, recent infections and possible autoimmune disease.

Fibromyalgia is suspected in patients with generalized **pain and tenderness, especially disproportionate to the physical findings**; with **negative lab results** despite widespread symptoms; or *when fatigue is the predominant symptom*. Tests should include ESR or C-reactive protein, CK and probably screens for hypothyroidism and hepatitis C. A new rapid biomarker using blood samples is now able to accurately differentiate patients with Fibromyalgia syndrome from those with rheumatoid arthritis or osteoarthritis

The diagnosis is supported by explicit tender points and associated insomnia from the pain or caused by the pain. **Chronic fatigue syndrome can cause similar generalized myalgias.**

DIFFERENTIAL DIAGNOSIS: Polymyalgia Rheumatica is a syndrome closely associated with temporal arteritis. It affects older adults, typically causing severe pain and stiffness in proximal muscles, without weakness or atrophy and nonspecific systemic symptoms. ESR is usually markedly elevated with positive Anti nuclear antibodies. Treat with low dose steroids.

Obstructive sleep apnea can cause insomnia and fatigue.

Chronic Fatigue Syndrome is defined as long-standing (*3 months or longer*), severe, disabling fatigue **without demonstrable muscle weakness**. Underlying disorders such as depression, anxiety and other psychological problems that could explain the fatigue are absent. Treatment is rest and psychological support often including antidepressants. Often B-12 injections are given with unknown results.

Cause is controversial. A chronic viral cause may be evident especially the cytomegalic virus. Onset is usually abrupt and many report an initial viral-like illness with swollen lymph nodes, extreme fatigue, fever and upper respiratory symptoms. The main symptom is severe fatigue usually for 6 months that interferes with daily activities. Usually no signs of muscle weakness, arthritis, neuropathy or organomegaly.

Treatment consists of nonsedating antidepressants. Antiviral treatments with acyclovir and amantadine do not appear effective.

Insomnia and Fibromyalgia...a lot of people with Fibromyalgia also have insomnia. Insomnia is defined as: It takes 30 minutes or more to fall asleep, or you can't sleep more than 6 hrs. a night and have the above two 3 or more nights a week.

It can be hard to distinguish between symptoms from Fibromyalgia and insomnia. They both cause: fatigue, headache, attention/concentration problems; low energy, lack of motivation and anxiety or mood problems. Recently researchers think that sleep problems are part of the cause of the pain. It is well documented that those with fibro also have low levels of **serotonin**, a neurotransmitter that is a crucial part of the sleep-wake cycle.

When you consider that Fibromyalgia pain can be enough to keep you awake at times, you may wonder whether that's what's really behind the inability to sleep. In fact, sleep problems are common in pain conditions. Additionally, insomnia is believed to make Fibromyalgia symptoms more severe, which means treating your sleep problems may have the secondary effect of improving pain, Fibro fog and more.

Something is up with the sun. Scientists say that solar activity is stranger than in a century, with the sun producing barely half the number of sunspots as expected and its magnetic poles oddly are out of sync.

Based on historical records, astronomers say the sun this fall ought to be nearing the explosive climax of its approximate 11-year cycle of activity—the so-called solar maximum. But this peak is *"a total punk."*

David Hathaway, head of the solar physics group at NASA's Marshall Space Flight Center in Huntsville, Alabama stated. *"I would say this is the weakest cycle in 200 years."*

Researchers are puzzled, they can't tell if the lull is temporary or the onset of a decades-long decline, which might ease global warming a bit by altering the sun's brightness.

We don't know exactly why Fibromyalgia and insomnia occur together so frequently, but it may be due to some common physiology. Fibromyalgia is linked to dysregulation of the neurotransmitter serotonin, which is low, and which plays an important role in regulating the sleep cycle. Recently researchers think that sleep problems are part of the cause of the pain rather than vice versa.

Because many Fibromyalgia treatments increase serotonin activity in your brain, they may improve your insomnia symptoms and decrease your sensitivity to pain. It's also fairly common for people with both conditions to take conventional sleep medications, but many of those have not been studied in relation to Fibromyalgia. Drugs that have been shown to improve sleep in Fibromyalgia include: Cymbalta, Lyrica, (*may cause swelling of the hands, legs and feet and dizziness, blurry vision, hives & sleepiness*), Xyrem, Flexeril, Elavil, Cesamet.

Other drugs for sleep include: Ambien, Rozerem (*Melatonin agonist*), Lunesta, Benadryl, Sonata & Unisom
Serotonin receptor blockers (antagonists) include Trazadone, Mirtozodine & Nefazodone.

Serotonin Receptor inhibitors used in depression include Paxil, Prozac, Zoloft & Lexapro. 1/3 rd those taking these drugs have sexual dysfunction and rarely suicidal tendencies.

Serotonin & Norepinephrine inhibitors include Effexor and Cymbalta.

People with Fibromyalgia commonly take supplements that improve sleep, such as melatonin and valerian. Research on melatonin's effectiveness is split, however, and almost no research has been done on valerian in Fibro. Anecdotal evidence suggest that these supplements may work for some but not others.

To help avoid insomnia avoid caffeine the final hours before you go to bed. Caffeine lasts 5-6 hours after taking. Don't work on a computer before hitting the sack, Don't watch movies or engage in any other activities that move you emotionally within an hour before retiring. Go to bed and get up at the same times every day and also on weekends. Make sure your bedroom is quiet and has the right temperature.

WHY WOMEN ACT DIFFERENTLY They contain limited amounts of neurotransmitters.....There are at least 100 different neurotransmitters or 18 major ones, messengers that deliver information chemically and not electrically. Some neurotransmitters are acetylcholine, dopamine (*concerns "thought control"*), Norepinephrine, endorphins & enkephins, Substance P (*pain*), Nitrous Oxide, Histamine, Vasopressin, Bradykinin. The neurotransmitters of pain are glutamine and Substance P

The following stimulate good feelings: GABA which inhibits feelings and Dopamine which limits thought control—thus increase in these makes one feel GOOD. They are activated by exercise, sex, smoking, alcohol, successful gambling and food. To feel good, one needs an adequate amount of dopamine and if one doesn't get enough sex he starts to eat too much. To prevent this, he has to gamble more, or exercise or drink.

BACKGROUND: At the 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

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.

Her cargo as a whole, both in form and content, plays centrally to all considerations of *Flying Enterprise*. The boatswain, Arthur Janssens, had already challenged the way the ship was loading on this voyage. Back in Rotterdam, he had questioned the decision to put the pig iron in Holds 2 and 4. The ship, as everyone knew, was sturdiest in front of the engine room, where she had been built strongest to accommodate the plant, the generators, the huge boilers—in other words, right amidships at Hold 3.

Now, with the all the U.S. mail going into Hold 3, the boatswain raised the stowage issue again, and used the word "misbalance." the first mate referred the question to the captain, who overruled the boatswain; Captain Carlsen cited orders from the owners of the shipping line and support from their Hamburg agent. If Janssens had prevailed, they would have had to redistribute some of the pig iron from Holds 2 and 4 into Hold 3, and as they did not have the time to do that (or the money), the boatswain's arguments faded for the moment. (*Was there something secretly aboard of major importance?*)

Was this a valid point? In the final stowage plan she can be perceived densest with heavy cargo at the upper two levels, the "tween decks," of Holds 2 and 4. Both hold also had open space, fore and aft, on their lower levels. Not ideal, this combination of weight and empty air; no freight skipper likes it. It means, obviously, that his ship is not employed as profitably as she could be. It also means that, in heavy seas, there's room for loosely stowed cargo to move about perhaps dangerously.

The word "STOW" derives from an ancient European word for place—. I know this because my grandfather's induction also brought to me a fascination with the language of the sea.

He said the word *mate* came from *meat*, from the person who sat beside you at the table, from the meat that he ate with you.. The word *inundate*, he told me, comes from the Greek word for *wave*. A *fathom*, he showed me, stretching wide in his black three-piece suit is the measure of the arms across the body from fingertip to fingertip, because *fathom* or a word like it (fathom) was the old northern European word for *embrace*. The "boatswain"—he said "bo'sun"—was the boy who looked after the ship's ropes. I later discovered that the term *Stevedore* came from a Mediterranean word, *stivador*—one who stives or stows.

By twilight that Friday afternoon, *Flying Enterprise* had stowed all she was going to get on this trip. To an expert underwriter, the freighter might have seemed a touch uncentered at the dock; her bow was eight feet higher than her stern. But such tipping, though never ideal, represented no great abnormality.

Frank Bartak, the chief mate, came from Maple Heights, Ohio. He answered to the captain for the loading of the ship; a captain is not a crew member—he is the ship owner's representative aboard. Bartak professed complete confidence in his stowage. He had drawn up the cargo plan, which he then, under orders, "before leaving Hamburg, or with the Hamburg pilot before the ship left the Elbow river," sent by mail to the Isbrandtsen office in New York.

The New York Coast Guard inquiry questioned Bartak closely about his work methods. (His testimony—and the evidence of several witnesses—was recorded verbatim by the stenographers at the inquiry.) The chief mate seemed to have total recall of how he had handled his cargo in each port.



Bartak was describing the swiftness and efficiency of the Dutch port workers, who lowered big electric trucks down the hatches, dropped the cargo on their flatbeds, and then ran the trucks all over the holds, where Bartak had the stevedores and his own crewmen distribute it. The holds in these freighters were as big as a school gymnasium.

The word *dunnage* embraces any materials planted under or beside cargo items to keep them dry—or, as in this case, wedged among other freight items so that nothing turns into a loose cannon. Typical dunnage in a general-freight ship has adhered to the more or less universal guidelines of marine commerce and dunnage by itself has enough weight to be reckoned a factor in assessing ship's loaded tonnage.

During loading, a sharp-witted mate will keep dunnage in mind all the time, and he should know what the regulations require for the stowing of certain freights. Some foodstuffs, for example, such as rice and tea, traditionally called for bamboo housing. Where a cargo had known fragility or possible mobility, no matter how well packaged, the mate uses soft dunnage; on *Flying Enterprise* they deployed the sacks of coffee and sever tons of grass seed.

The cleanliness of dunnage also has gret importance. When scorpions, tropical beetles, snakes, or baby crocodiles turn up unexpectedly in places where they don't belong, sailors know that they probably came aboard in the dunnage, which can include sawdust; coconuts, all kinds of wood, including rattan; wads of old sacking—anything that will pack around objects with comfort. Dunnage in short, amounts to a kid of ad hoc bubble wrap dating back centuries. *Flying Enterprise* had a varied cargo, and therefore her stowage required much—and mixed—dunnage.

Those who own, insure and handle ships assume that the loading will be expert—as well as economical. They hope that her cargo will be housed in her holds prudently and securely, fenced and firm and shored against shifting, her dunnage employed astutely. They assume that everything possible will be done to ensure the safe passage of everyone and everything on board.

At the same time, they acknowledge openly that they carry out all this work more in hope than in confidence—because they know that no matter how expert they are, no matter how hard they work, they do not have the last say. Authorities can and will undo the best cargo plans ever drawn, will scorn the tightest, sweetest dunnage ever packed, will splinter the neatest cribs, will overrule the best deckhands, the best stevedores, the best long-shoremen, the best mates, the best masters in the world.

That is why, throughout generations of marine commerce, the names of these two overriding powers have appeared in the last phrase of every freight-shipping contract. Cargo vessels depart from the dockside "*Subject to the Will of God and the Perils of the Sea.*"

After my Grandfather's magical captivating introduction to the sea by way of cargo ships and ports, I couldn't get enough ocean lore—ghost ships and tall ships, harpoon, whalers, rafts, mermaids and messages in bottles. I learned how to tie knots; back knots, a bowknots, a hitch knots. My grandfather claimed, "It's the one thing women can't do and it annoys them; they can't tie a knot."

Life so many boys of that age, I dabbled in Morse code and learned the most exciting dialogue in the theater of the sea: SOS, three dots, three dashes, three dots. I long believed that it meant "Save our Souls" or possibly, "Save Our Ship." It meant neither; **the Germans chose it for emergencies because the particular Morse sequence proved easy to memorize.**

Flying Enterprise completed her loading early in the afternoon on Friday, Dec. 21. With just over 4,000 barrels of fuel aboard and nearly 400 barrels of fresh water, she caught the Hamburg evening tide. Fog came in—no surprise in the north of Germany. The helmsman, with Capt. Carlsen standing beside him at the wheel, eased the ships black nose out into a thick gray blanket. Hamburg has a winding port, which enables ships to "feel" their weight before getting out on the long ocean haul.

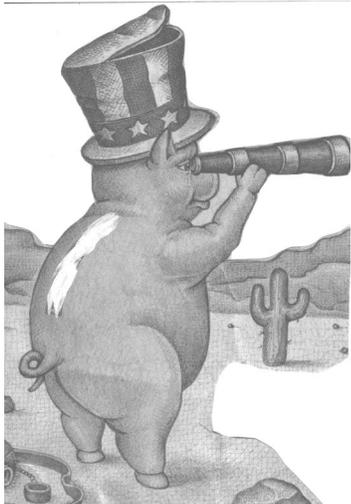
(Continued next issue.)

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