MARCO's "*AETHER*" *Pronounced "Ether"*

Medicine & Radio in One Medium

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KIDNEY STONES

ONE IN NINE WILL HAVE KIDNEY STONES IN THEIR LIFETIME. GALLSTONES & KIDNEY STONES ARE NOT RELATED.

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Kidney stones affect more than a million Americans each year. The incidence rate has increased dramatically over the past 20 years with 350,000 new stone cases each year. They are more common in the Caucasian race and once they occur they are bound to recur. Kidney stones have been found in a 7000 year old Egyptian mummy.

Most small stones (<4mm) will pass without intervention by a physician if the patient drinks 2-3 quarts of water daily. Larger stones (6 mm+) may obstruct. ***Gallstones and kidney stones are not related***. 70% of those with a ***rare*** hereditary disease called renal tubular acidosis develop kidney stones. Certain diuretics and calcium-based antacids may increase the risk as well as too much Vitamin D, urinary tract infections, intestinal by-pass & ostomy surgery. Diuretics however, in the form of hydrochlorothiazide plus Na+ restriction are used to prevent calcium stones by decreasing the amount of calcium released by the kidneys into the urine by favoring calcium retention in bone.

Peak incidence is between ages 30-60 and in males 4:1. A family history increases the risk 3x and the ***risk of stones increases with body weight.*** Recurrence after the first stone: year 1, 1, 5%; year 5, 60%; year 10, 80%.

Composition of stones: 50% calcium oxalate (radio-opaque); 10% calcium phosphate (radio opaque); 20% mixed stones (hypercalcinuria is inherited and it may be the cause of stones in half of patients); 15% magnesium ammonium phosphates; 10% uric acid (not seen on x-ray, patient usually has gout or dehydration); 1% cystine (usually seen in childhood, inborn error in metabolism—radio opaque). 10% Struvite or infection stones.

Causes of stone formation: concentration/solubility of stone-forming salt. Treatment of asymptomatic calculi. Watchful waiting can be carried out if the stone is unilateral; the patient is not a pilot or a business traveler who may be stranded suddenly.

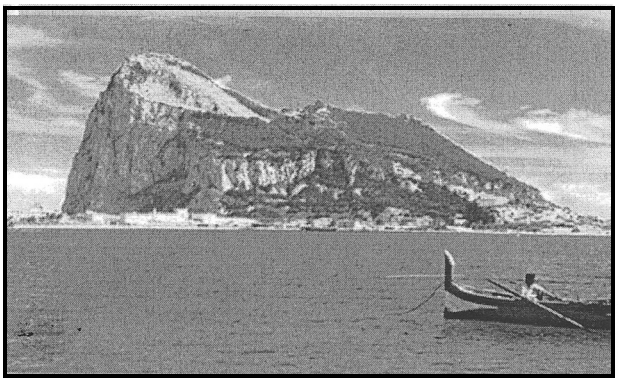
A surgical stone is defined as intractable pain, significant obstruction, recurrent infection, severe bleeding & imminent threat of sepsis.

Stone management options: Open surgery, percutaneous nephrolithotomy; Ureteroscopy; Shock wave lithotripsy; medical therapy.

Open Nephrolithotomy... The kidney is opened surgically and the stone is removed manually...rarely done today.

Extracorporeal Shock Wave Lithotripsy (ESWL): Dornier in Germany originated shock wave lithotripsy in 1980. The stone is hit with a shock sound wave which fragments the stone. Indications are: a ***surgical stone***; no obstruction; reasonable chance of expeditious removal. **Contraindications are:** Large stones over 20 mm, Cystine stones, distal obstruction and poorly informed patients. **Clinical effects:** hematuria (blood in the urine), pain and obstruction. The kidney itself will sustain mild contusions and may form a hematoma. There is renal injury in 80% of lithotripsy patients. **Appropriate follow-up:** Plain radiographs (KUB + tomograms), renal

Continued on Page Two



How would you like to pass this stone?

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DID YOU MISS GRAND ROUNDS?

If you did, you can listen on access address
http://50.97.94.44/stream
The Archive page address is:
http://50.97.94.44:2199/start/tkeister
& notify warren.brown1924@gmail.com for Cat. II CME credit.

NEED CATEGORY I CME?

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

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

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LATE BREAKING NEWS

Dayton, Ohio, May 21...Marco President Jeff Wolf K6JW passed the gavel to Richard Lochner K9CIV tonight at the Annual Banquet held at the Clarion Hotel in Dayton. (*Details on Page 10.)*

Going from a printed *Aether* to an on-line newsletter was discussed with mixed feelings. It is NOW requested that members who wish to receive **only** the online edition state so. Note that the online newsletter is and has been available on the Marco Website at www.marco-ltd.org.

It is also requested that our newsletter be passed on to other ham medics, as this is our main source for acquiring new members.

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.

scan, IVP, and spiral CT. **Results:** the smaller the stone the better the results. Repeat procedures occur in about 18%.

Shock Wave Lithotripsy is ideal for some; marginal in some and contraindicated in few. The ideal candidates are small stones less than 1.5 cm; mid or upper pole location, normal renal anatomy and no distal obstruction. Limitations of lithotripsy is the completeness of stone fragmentation and elimination. For stones less than 1 cm there is a 95% stone free period. The large water tank has been replaced by a small water pack.

Percutaneous nephrolithotomy: Technically difficult. Presence of a large stone (2 cm +, stag horn), obstructing, shock-wave failure, Cystine stones, obese patient. An energy probe—laser, ultrasonic or electro hydraulic mechanical pneumotic shock wavemay be used —introduced through the skin. Sometimes a "Sandwich Approach" is used, i.e., ureterorscopic pushing the stone towards the skin incision

URETERAL CALCULI... Treatment considerations are location, size, chronicity, equipment available and expertise.

Treatment options: Observation. Shock wave lithotripsy; uretoroscopy; blind basket extraction (relatively rare now), percutaneous approach, open surgery.

Ureteral Calculi: Spontaneous passage... Of all stone that pass spontaneously 95% will pass within 6 weeks.

Medical Management... Watchful waiting, pain relief & hydration. Most stones are 5 mm or less and in distal ureter will pass spontaneously. Urologic intervention is recommended if stones persist more than 6 to 8 weeks. The autonomic nervous system increases intracellular calcium which triggers smooth muscle contraction. Alpha blockers (Flomax .4 mg , Cardura 4mg Hytrin 5-10 mg/day) and calcium channel blockers have been shown to decrease pain, increase stone transit time and increase the size of stones that will pass without urological intervention. Allow 2-4 weeks for passage.

3rd Generation Shock Wave Lithotripsy... Patient lies on water bag, minimal anesthesia required, no stenting, less complications, similar approach to ureteral calculi in all locations. This effective, low morbidity, short convalescence and lower cost. Success around 92% with complications in about 10%

Distal Ureteral Calculi... Using a flexible **ureteroscopy** scope for mid-and lower-ureter stones. No incision, stone is removed by cage-like device or shatters it with a probe that produces a shock wave (ultrasonic lithotripsy) or by electro hydraulic lithotripsy (EHL) using an electric shock probe. Temporary "J-stent" commonly used.

URETERAL STONE MANAGEMENT:

In Situ Shock Wave Lithotripsy; Advantages: For high ureteral stones..minimal anesthesia; non-invasive procedure; No stenting/less complications; Similar approach for all ureter calculi **Disadvantages:** Lower success rate than ureteral removal of stones (URS).

Ureteroscopy..Advantages: Highest success rate, no waiting for stone passage. **Disadvantages:** More invasive than SWL(shock Wave Lithotripsy); requires greater technical expertise. Stents usually indicated.

URETRAL CALCULI OPTIONS:

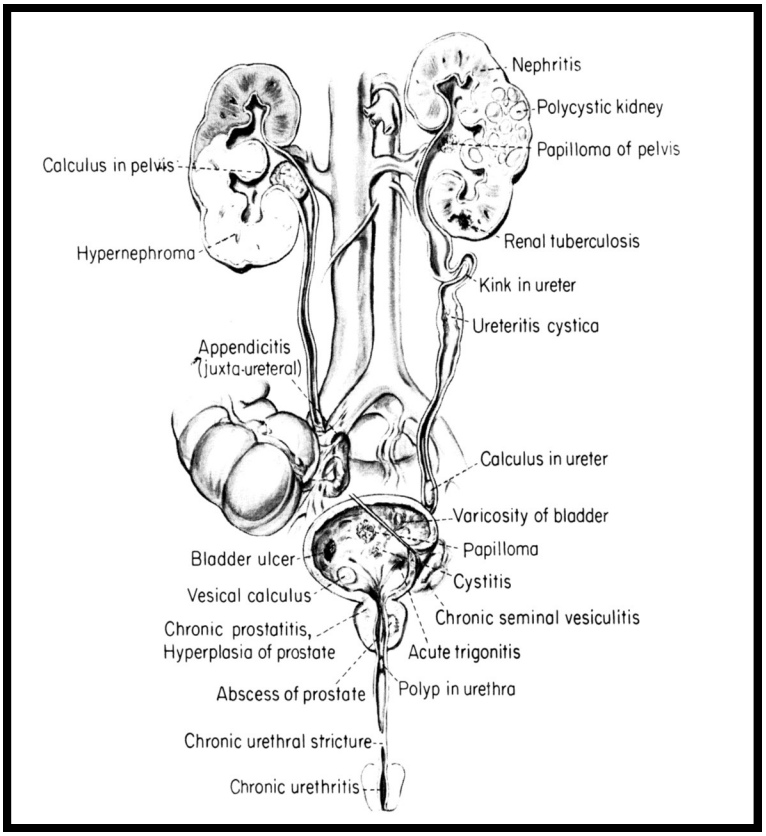
Distal ureteral stones: URS *(Ureteral Removal of Stones)* best results. The changing treatment philosophies indicate endoscope procedures are increasing but are only used in 25% whereas lithotripsy is used in 75%.

RECURRENT STONE FORMATION: Using shock wave 8% one year, 10% two years.

MEDICAL MANAGEMENT OF KIDNEY STONES:

Should be single stones in low risk patient.

X-rays used: Rule out nephrocalcinosis, hyperparathyroidism, uric acid & cytine stones and Staghorn stones.



Some of the most common causes of blood in the urine.

Stone analysis and check urine for acidity.

Labs: Serum calcium, electrolytes; uric acid and metabolic evaluation. Blood: cbc, sma, parathyroid level; Urine: pH, crystals. 24-hour urine exam

In calcium stones (70%) Thiazides drugs + Na resriction; uric acid stones, Allopurinol. Cystine stones, Thiola and Cuprimine. Struvite stones keep the urine free of bacteria & use of acetohydroxamic acid (AHA). For uric acid & calcium oxylate stones alkalinize the urine & acidify for strovite stones.

Calcium restriction in patients with absorptive hypercalcinuria; limit intake of high oxalate foods such as spinach, tea, rhubarb, beets, wheat germ, okra, sweet potatoes, chocolate, nuts and limit Na+ intake. A low calcium diet will decrease urinary Ca++ excretion, thereby recurrence of stones. Risks are reduced bone mass and increased urinary oxalate. Low protein diet. Potassium Citrate (alkalinizes the urine).

Calcium supplements for pre-menopausal women... Give HCTZ 3 months to prevent hypercalcinuria then discontinue for one month. If urinary calcium up at 4 months restart HCTZ. Alternative: increase fluid intake for 3 months and then check 24 hour urinary calcium.

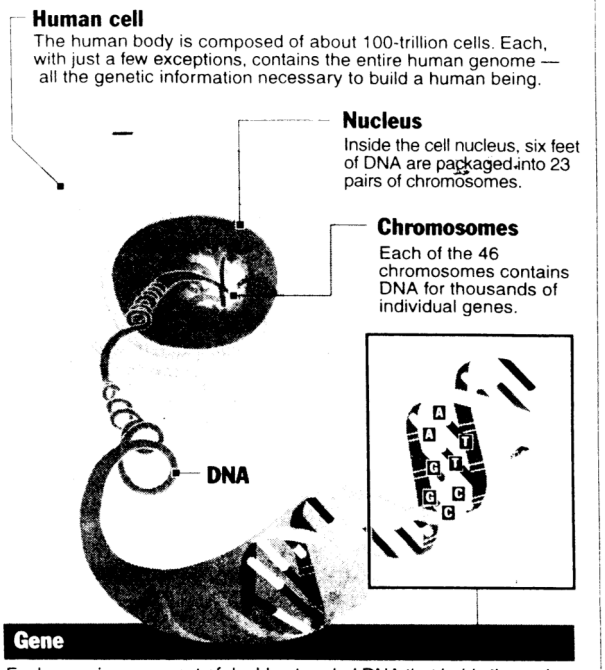
Calcium supplements for postmenopausal women...check 24 hour urinary calcium 4 months after starting calcium supplements. Offer HCTZ to hypercalcinuria patients.

The best calcium supplants is Calcium Citrate.

Myths: Vitamin C & water fluoridation causes stones—not true.
The "Stone Belt" occurs in Southern U.S.

The human instruction manual

Knowledge of how genes contribute to human disease is gathering speed. Forty years ago, the structure of DNA had just been figured out. Today laboratories around the world are making discoveries that will make possible better diagnosis and treatment of diseases such as diabetes, asthma, cancer and mental illness, to name just a few.



Sources: Human Genome Project, Human Genome Research Institute — Times art

WHAT IS PCR (Polymerase chain reaction)?

The human genetic code looks like the work of an energetic lunatic who pounded on a typewriter with only 4 letters. Those 4 letters--C (Cytosine),G (Guanine),A (Adenine), and T (Thymine)--represent 4 chemicals. These C,G,A and T are bound to each other by two polynucleotide strands wound around an axis, the so-called double helix. The backbone of each strand consists of alternating phosphate and sugar (deoxyribose) links. Each strand of the helix is a sequential arrangement of 4 kinds of subunits, each composed of a sugar, a phosphate and one of 4 bases: the purines (adenine and guanine) and the pyrimidines (thymine and cytosine). The subunits are called "deoxyribonucleotide." The bases of the helix alternate each strand a "sequence" of these 4 letters. **The strands pair up and form long twisted ladder-like structures: chromosomes.** Each cell has 23 pairs of these ladders, one from each parent, a total of 46 chromosomes. **All this material, collectively called DNA, is wrapped tightly around other molecules in the cell.**

The chromosomes are not tied together, but if they were, their strands would make a single long sequence of some 3-billion letters. **That is the human genome.**

Particular arrangements of letters cause things to happen in the human cell. That group of letters is then called a gene. There are about 100,000 genes, scattered throughout the chromosomes, in the nucleus & mitochondria of every cell. Some genes are thousands of letters long.

Separating these genes on the long strands are enormously long groups of seemingly meaningless arrangements of C,G.A and T--"junk DNA." **In Laboratories around the world, scientists are trying to locate the meaningful groups--the genes. Then they try to figure out what the gene does.** Eventually, the hope is the gene can be somehow disabled if it does a bad thing like cause cancer. Understanding the roles genes play in disease also allows testing of drugs and treatment strategies.

Polymerase chain reaction (PCR) is a technique of in-test tube cloning used to amplify and detect small amounts of specific DNA sequences. It is made possible by the availability of specific DNA polymerase that are produced by bacteria in hot springs. The test sample provides a template and the primers direct the amplification to a segment of the template DNA, typically a region only a few hundred base pairs in length. If one starts with a minute sample of total human DNA, it is possible to amplify any such region a billion fold within hours while leaving the rest of the genome at its original concentration.

PCR is a powerful tool that provides the rapid identification of common bacteria that cause epidemics and of germs that can take weeks to culture. The meaning of positive PCR results can detect for example, the cytomegalic virus but it cannot tell whether the infection is active or latent.

KIDNEY STONE NUGGETS

One in Nine people will eventually have kidney stones.

What foods should I avoid to prevent kidney stones? Limit your intake of red meat, sugars, grapefruit, cola drinks, spinach, tea, rhubarb, beets, wheat germ, okra, sweet potatoes, chocolate, nuts and limit Sodium intake. Keep your weight down and refrain from Calcium and Vitamin C & D supplements.. Natural calcium foods are okay. Drink more fluid to prevent dehydration. High K+, Mg+ & citrates help inhibit stones.

What is "Medullary Sponge Kidney?" This is a congenital disorder of the kidneys characterized by cystic dilatation of the collecting tubules in one or both kidneys allowing for stone formation to take place in hidden crocks and fissures in the kidney structure. About one in 12,000 will inherit this condition. It's presenting symptom is usually blood in the urine. 3-20% of people who form kidney stones have medullary sponge kidney..

How long should one wait with a small (*less than 4 mm)* stone before seeking intervention? When a stone presents no symptoms no treatment is required. Most small stones (98%) will pass by themselves within 4-6 weeks. Once known, it is advisable to strain all urine through a tea strainer to make sure the stone has passed and then submit it for typing.

Why are people with "Crohn's disease more susceptible to kidney stones? Crohn's disease is associated with hyperoxaluria and malabsorption of magnesium. A person with recurrent kidney stones may be screened for such a disorder. This is done with a 24-hour urine collection. This will also help rule out hyperparathyroidism, distal renal tubular acidosis, & primary hyperoxaluria.

Is ultrasound imaging of the kidneys helpful? Yes, it gives information as to whether hydronephrosis is present and radiolucent stones (uric acid, Xanthine) , which do not appear on a KUB (Kidney, Ureter, Bladder) film, may show up on ultrasound.

How important is getting a helical CT scan? All common stones are detectable on CT or on pyelograms..

What are "Struvite Stones?" About 12% of urinary calculi are composed of struvite (ammonium magnesium phosphate). Struvite stones, also known as "*infection stones*" form most often in the presence of infection by urea-splitting bacteria such as *Proteus mirabilis, Proteius vulgaris & Morganella morganii.* They grow rapidly forming large calyceal staghorn (antler-shaped) calculi requiring invasive surgery.

What effect do drugs such as hydrochlorthiazide and Diamox have on stones? Diuretics inhibit the formation of calcium-containing stones by reducing urinary calcium excretion. Sodium restriction is necessary for clinical effect of thiazides, as sodium excess promote calcium excretion. Diamox alkalinizes the urine along with sodium bicarbonate, potassium citrate, magnesium citrate.

What about using agents to hasten the passage of stones? Several agents, such as alpha adrenergic blockers (tamsulosin, nifedipine) help speed the passage of stones.

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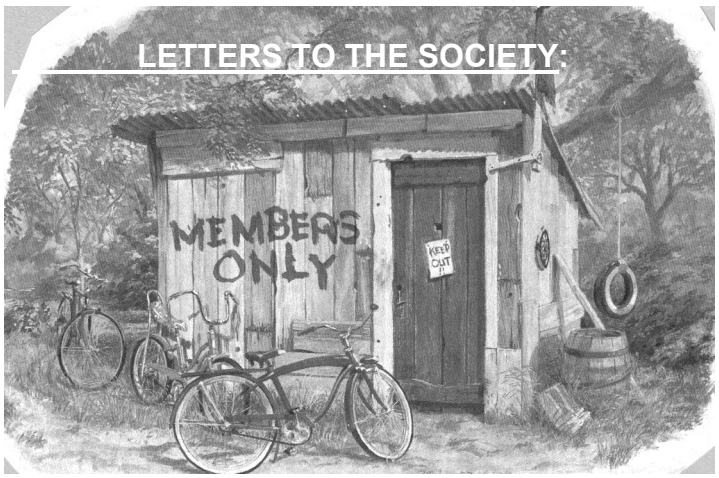
THE NUMBER OF HAMS IN THE USA has reached an all-time high, 738, 497 ahead of all countries except Japan that has 1, 296,059. Next is Thailand 141,241; Rep. of Korea, 141,000; Germany, 79,666; Chinese Taipei, 68692; Spain, 58,700; UK, 58,426; Canada, 44,024; Russia, 38,000; Brazil, 32,053; Italy, 30,000; Indonesia, 27,815 France, 18,500; Ukraine, 17,265.

A manufacturer said he was going to cut down on his advertising to save money. To which his salesman replied, "You might as well stop your watch to save time."



Kudos from (no luck this issue!)

On April 24th and May 1st— Station "Ron, K4RWE" reported in from the Republic of Panama. He had a problem...Cutaneous Leishmaniasis of 5-years duration that was resistant to treatment...could we help? **Dave Justis KNOS**, in Virginia responded: "Enclosed are a few pages from: Tropical Medicine by C.V Gill from my library on treatment of Leishmaniasis. They suggest that simple fluconazole/diflucan at about $14/pill or itraconazole at $9.28/pill may be of benefit.. I will send a note to Ron after I look up his call. We have had several returning service men with rashes and ulcers that was re-evaluated by Dermatology for Leishmania but they turned out to be MRSA and were treated with sulfa or doxycycline. Currently the MILTEFOSIN (that Ron mentioned) does not seem to be available nor are Pentamidine and aminosidine through normal pharmoceutical channels in the U.S. when I checked on the current pharmacy available." Can anyone else help? Suggest contact Dave at dljustis1@juno.com

From **Carlyle Rowland, Denver, CO., N0ARN...**Warren. Just wanted you to know I read most of the newsletter out loud to my wife cause she says I spend more time on the radio than with her so I want her to know what I am up too. The story *Information Please* brought tears to my eyes as I read it to her. She just laughed at me. Thanks, I really did enjoy it.

From **William Golding...**I think women are foolish to pretend they are equal to men, they are far superior and always have been. Whatever you give a woman, she will make it greater. If you give her sperm, she'll give you a baby, if you give her a house, she'll give you a home. If you give her groceries, she'll give you a meal. If you give her a smile, she'll give you her heart. She multiplies and enlarges what is given to her. So, if you giver her any static, be ready to receive a carload back!

Danny Centers, W4DAN, Cleveland, TN., sent a brochure on "The City Scenic Excursion Train at Oak Ridge, TN." In 1943, the U.S. Army Corps of Engineers built a short line railroad from Blair, TN, south to the World War II Manhattan Project site of the K-25 uranium enrichment building. In 1998, Danny's son and his University of Tennessee classmates were granted permission by the U.S. Dept. of Energy to operate non-profit, all-volunteer Southern Appalachia Railway Museum on that rail line. Since then, the hills and hardwoods of Poplar Creek Valley continue to reverberate with the sound of diesel locomotives and their air horns as happy passengers enjoy the experience of 1940's era rail travel. Each trip lasts about one hour and is hosted by knowledgeable car hosts. The ride takes one past the original site of the K-25 Building and into rural Poplar Creek Valley, while passengers relax in climate-controlled coaches. Cost is $19 for adults and $15 for children ages 3 through 12. **ALL ABOARD!**

From **Zsa Zsa Gabor, "***I've been married to a communist and a fascist and neither would take out the garbage!"*

From Prince Phillip: "When a man opens a car door for his wife, it's either a new car or a new wife."

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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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Time magazine reports **"Why young men who grew up with internet porn are becoming advocates of turning it off. "**In his senior year of high school, he had an opportunity to have actual sex, with a real partner. He was attracted to her and she to him, as demonstrated by the fact that she was naked in her bedroom in front of him. But his body didn't seem to be interested. "*There was a disconnect between what I wanted in my mind and how my body reacted*," he says. He simply couldn't get the necessary hydraulics going He put it down to first-timers nerves, but six years went by, and no matter which woman he was with, his body was no more cooperative. It responded only to the sight of porn. He came to believe that his adolescent Internet indulgence had somehow caused his problems and that he had what some are calling porn-induced erectile dysfunction. Not only was the boy disappointed but his girl partner began to think, *does he really like me?"* Does porn actually override actual performance and if so, in what percentage? Is porn the new wife? It is reported girls have the same effect but in much lower doses.

Too much salt can be harmful to the health of heart patients and others. Now researchers at Tokyo Univ. have developed the Electro Fork, Which harmlessly zaps taste buds to make users think they are eating saltier foods than they actually are. The fork was successfully tested in restaurants, but no plans have been released for commercial sales.

Do Identical twins have the same fingerprints? No, even identical twins have differences in their fingerprints, which, though subtle, can be discerned by experts.

What is the difference between cocaine, freebase and crack? Cocaine comes in several forms. Coca paste is widely used in South America usually added to and smoked in tobacco or marijuana cigarettes. Cocaine hydrochloride, the form most common in the U.S. is a white powder. It is inhaled through the nose (*snorted*) from tiny spoons, rolled-up dollar bills, or straws. It can be mixed with water and injected. Freebase is a purified form of cocaine that is smoked in a water pipe. It is prepared by applying either, baking powder, or other solvents to cocaine powder and heating the mixture. Crack is freebase that comes in ready-to-smoke chunks or *rocks*. Crack is usually smoked in a water pipe. Some users apply it to tobacco or marijuana cigarettes.

Attention Hemophilia A patients... The rare-disease specialist reported strong early-stage trial results for its gene therapy for hemphilia. BioMarin Pharma gave a single dose of BMN 270 to 8 patients with severe hemophilia A. The six patients who got the highest dose all showed significant improvement. Gene therapy would be a major shift from traditional blood-derived infusions.

Where did the term "*Caddie*" in golf come from? When Mary Queen of Scots went to France as a young girl, Louis, King of France, learned that she loved the Scots game "golf." He had the first course outside of Scotland built for her enjoyment. To make sure she was properly chaperoned while she played, Louis hired cadets from a military school to accompany her. Mary like this and when she returned to Scotland she took the practice with her. In French the word "cadet" is pronounced "ca-day" and the Scots changed it into "caddie."

HISTORY OF RADIO

The last half of the 1800s set the stage for **RADIO**. There were numerous contributors to the art, such as Oersted, Ampere, Faraday, Henry, but it wasn't until 1873 when the Scotchman **James Clerk Maxwell**, presented his theory of the electromagnetic field. This was followed by Heinrich Hertz whose experiments in the 1880s generated, detected and measured the properties of electromagnetic waves predicted by Maxwell.

Hertz, had little interest in those waves except for the intellectual challenge their discovery provided. Development of radio was left to others—the race was on.

In 1894, the young Italian **Guglielmo Marconi** started work on the project. In 1896 he demonstrated in England a radio communication over 2 miles without wires.

The first amateur radio operator was probably the Englishman **Leslie Miller**, who was the first person to publish a description of a simple-to-build transmitter and receiver which appeared in the 1898 issue of "The Model Engineer and Amateur Electrician." ***Amateur radio was born***.

As the 20th century began, commercial development picked up. Marconi spanned the Atlantic with wireless in 1901. The early transmitters all generated RF by means of discharging a capacitor across a gap, creating an oscillatory spark. These early spark transmitters did produce RF, but were broadband making it difficult for two stations to be on the air at the same time. Receivers were simple detectors, generally coherers, later giving way to the more sensitive galena crystal sets.

There was no regulation and amateur call letters often consisted only of the operator's initials.

In 1904, the Englishman **J.A. Fleming** developed the first vacuum diode: the "Fleming Valve." In 1906, **Lee DeForest** added a grid to a Fleming Valve to make the first triode naming it the "**Audion**." These made very effective detectors, but were too expensive. Later, it was realized that triodes could be made to generate RF. Meanwhile, crystal receivers and spark transmitters ruled the airwaves.

THE BEGINNING OF REGULATION

The range of an amateur station in the early 1900s was measured first by yards then by city blocks. As power increased ranges increased and by 1912 a well-designed kilowatt spark station had a range of 100 miles. Higher power created more interference and the clamor for regulations started.

In 1912, Congress passed the Radio Act requiring amateurs to be licensed. The law also restricted hams to the single wave-length of 200 meters. The belief then was that long-distance performance improved with longer wavelengths. The "short" wavelength of 200 meters was thought to be useless and some expected the amateurs, all crowded round this "useless" wavelength, would eventually quit.

In 1912, the RMS *Titanic* sank in the Northern Atlantic Ocean. The reception of her S.O.S. signal eventually saved many lives. After this, wireless telegraphy using spark-gap transmitters quickly became universal on large ships. In 1913, the International Convention for the Safety of Life at Sea was convened and produced a treaty requiring shipboard radio stations to be manned 24 hours a day.

Although there was an initial drop in numbers of amateurs the hobby kept growing and by 1917 there were more than 6000 hams on the air.

Some hams had extended their effective range by relaying but it took a Hartford, Ct. ham, **Hiram Percy Maxim**, 1 WH (later 1AW) to recognize that messages could be sent more reliably over long distance if relay stations were organized. So in 1914, the **American Radio Relay League** was born and by late 1915 QST started publication. Commerce Department rules issued in 1913 provided for amateur call letters, but prefixes were not defined or required. (Prefixes came in the mid 1920s)

About that time a miracle in receiver technology appeared. A New York amateur Edwin H. Armstrong invented the tube-operated regenerative receiver in 1913, and in 1915 its design became public knowledge. This new receiver had greater sensitivity than the crystal detectors then in used. Although vacuum tubes were expensive some amateurs started experimenting with Armstrong's design.

In 1914 the First World War broke out in Europe. By 1917 the US was fully involved and all ham operations in the US ended. Some 4000 hams wound up in the Army as trained radio operators.

The war came to an end on November 11th, 1918. During the hostilities the Navy had been placed in control of all US radio. As hams in uniform came home they expected that the Navy would rescind the 1917 order that had closed them down. The Secretary of the Navy however, refused and the Navy seemed determined to maintain control over all US radio services even in peacetime. The ARRL, and others, objected strenuously to Congress and also appealed to all hams to write their congressmen. Finally, Rep. William S. Greene of Massachusetts interceded with a House Resolution directing the Navy to end the prohibition on ham operations. The Navy complied and Amateur Radio returned in the US in November 1919.

THE 1920s

As the nation entered the 1920s, amateurs were back on their 200-meter wavelength. One of the most impressive records set in 1921 was a message transmitted from Hiram Percy Maxim, 1AW, in Connecticut to V.M. Bitz, 6JD, in California. A return reply was received in only 1.5 minutes round trip!

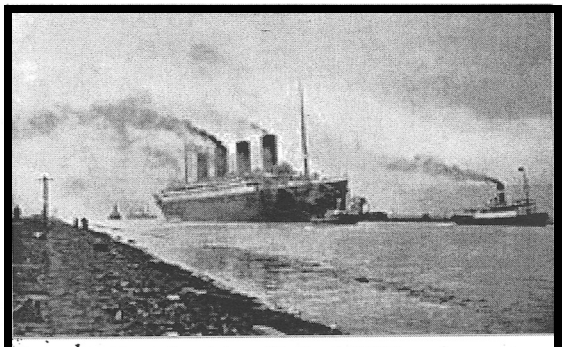
With the fall in the price of the vacuum tube there was an upsurge in the use of Armstrong's sensitive regenerative receiver design. This led to an increased range achievable by spark stations, for with the new receivers hams could hear weak signals that hadn't previously been detectable. Some were also experimenting with the super heterodyne receiver, invented by Armstrong. Amateurs also used tubes in their transmitters generating uniform, continuous wave (CW) signals. The CW signals were narrow, scarcely 1% the width of a spark signal, reducing interference and making it possible to increase the number of stations that could be on the air at the same time.

As the range increased trans-Atlantic transmitting and receiving began about 1921. This showed conclusively that CW was far superior to spark. By 1923, Europe-North America two-ways seemed only a matter of time. On November 27, 1923, the French station SAB worked Connecticut hams using CW on a specially authorized wavelength of 110 meters. Testing continued and by late 1924, a CW contact was made between England and New Zealand.

In 1926, Brandon Wentworth, 6O1, worked and confirmed all continents, from a station in a pasture on the Stanford University campus in California. The next year saw the beginning of the ARRL International Relay Party, the predecessor to the ARRL International DX Contest.

By the mid-1920s the value of short waves was clearly recognized by the government as well as commercial entities, due in large measure to the work of the amateurs themselves. By 1930, the wide open spaces were gone, but the amateurs did have harmonically related bands from 160 through 5 meters, plus a narrow band at 400 MHz.

In the 1920s the International Amateur Radio Union was formed (for the purpose of representing Amateur Radio within the international community) and the Broadcasting Industry, then in chaos was relieved by the Radio Act of 1927 which created the Federal Radio Commission, forerunner of the FCC.



RMS Titanic (April 2, 1912).

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WHAT ARE CYTOKINES?

See Page 10 for more on "*Immunization Therapy.*"

Cytokines are a broad and loose category of small proteins that are important in cell signaling. They are released by cells and affect the behavior of other cells. Cytokines include *chemokines, interferons, interleukins, lymphokines, tumor necrosis factor* but generally not hormones or *growth factors.* Cytokines are produced by macrophages, B lymphocytes, T lymphocytes and mast cells, as well as endothelial cells, fibroblasts, and various stromal cells: a given cytokine may be produced by more than one type of cell.

They act through receptors, and are especially important in the immune system: cytokines modulate the balance between humeral (B-cell secretions) and cell-based (T-cell) immune response, and they regulate the maturation, growth and responsiveness of particular cells. Some cytokines enhance or inhibit the action of other cytokines in complex ways.

They are different from hormones, which are also important cell signaling molecules, in that hormones circulate in less variable concentrations and hormones tend to be made by specific kinds of cells.

"Lymphokines" are proteins secreted from lymphocytes and proteins derived from macrophages. Monocytes in culture produce "monokines." As scientists learned more, it was understood that these proteins and others were part of a broader class of proteins involved in self-defense, and should be called "***cytokines***."

Nomenclature: Cytokines have been classed as lymphokines, interleukins and chemokines, based on their presumed function, cell of secretion, or target of action. The term *interleukin* was used for those cytokines whose presumed targets are principally leukocytes. It is now used largely for designation of newer cytokine molecules and bears little relation to their presumed function. The vast majority of these are produced by T-helper cells. *Lymphokines*, are produced by lymphocytes. *Monokines,* produced exclusively by monocytes. *Interferons,* are involved in antiviral responses. *Colony stimulating factors,* support the growth of cells in semisolid media. *Chemokines* mediate chemoattration (chemotaxis) between cells.

Receptors: In recent years, the cytokine receptors have come to demand the attention of more investigators than cytokines themselves, partly because of their remarkable characteristics, and partly because a deficiency of cytokine receptors has now been directly linked to certain debilitating immunodeficiency states.

Each cytokine has a matching cell-surface receptor. Subsequent cascades of intracellular signaling then alters cell functions. This may include the upregulation and/or down regulation of several genes and their transcription factors, resulting in the production of other cytokines, an increase in the number of surface receptor for other molecules, or the suppression of their own effect by feedback inhibition.

The effect of a particular cytokine on a given cell depends on the cytokine, its extra cellular abundance, the presence and abundance of the complementary receptor on the call surface, and downstream signals activated by receptor binding: these last two factors can vary by cell type. Cytokines are characterized by considerable "*redundancy*," in that many cytokines appear to share similar functions.

Roles of endogenous cytokines in health and disease.... Cytokines are often involved in several developmental processes during embryogenesis. Cytokines are crucial for fighting off infections and in other immune responses. However, they can become dysregulated and pathological in inflammation, trauma and sepsis. Adverse effects of cytokines have been linked to many disease states and conditions ranging from schizophrenia, major depression and Alzheimer's disease to cancer. Over-secretion of cytokines can trigger a dangerous syndrome known as a "*cytokine storm*;" this may have been the cause of the severe 1918 "*Spanish Flu*" pandemic and in cases of acute pancreatitis.

Medical use as drugs... Some cytokines have been developed into protein therapeutics using recombinant DNA technology. Recombinant cytokines being used as drugs include: Bone morphogenetic protein (BMP), used to treat bone-related conditions. Erythropoietin (EPO) used to treat anemia. Granulocyte colony-stimulating factor (G-CSF), used to treat neutropenia in cancer patients. Granulocyte macrophage colony-stimulating actor (GM-CSF), used to treat neutropenia and fungal infections in cancer patients. Interferon alfa, used to treat hepatitis C and multiple sclerosis. Interferon beta, used to treat multiple sclerosis. Interleukin 2 (IL-2), used to treat cancer.

QUESTIONS ABOUT IMMUNOTHERAPY

What is an "Oncogene?" A. A Proto-oncogene are cells that contain a change in the DNA sequence giving rise to an oncogene or a cell that can change into a cancer cell.. There are now 40 known types of proto-oncogenes in humans.

What is Interleukin-2 (IL-2, Aldesleukin, Proleukin)**?** A. One class of Interleukins is Interleukin –2, which is normally produced in the body in small amounts. By increasing levels of IL-2, the increase in immune system components, specifically T-cells and Natural Killer Cells, will mount an attack against any cancer cells. It has an affinity against renal cell cancer, melanoma, lymphoma, leukemia and others. The dosage used however poses the risk of side effects like fever, chills, nausea, diarrhea, fluid retention, low blood pressure etc. It is given in low dose via a shot subcutaneously.

What are "Natural Killer Cells (NK)?" NK cells evolve from lymphoid stem cells and are a major component of the innate immune system. It is this system which provides immediate defense against invaders whereas the adaptive immune system with its antigen-specific cytotoxic T-cells provides long-lasting immunity. The activating signal for NK cells comes from interferons and macrophage-derived Cytokines.....they are stress molecules released by cells upon viral infection and cancer. We integrate a specifically prepared concentrate of Activated Autologous NK cells into treatment protocols. These are the patient's own immune cells which do not cause adverse reactions.

What are "Lymphokine-Activated Killer Cells (LAK Cells)?
They are lymphocytes that in the presence of IL-2 are stimulated to kill tumor cells. Lymphocytes are one of the 5-kinds of white blood cells circulating in the blood. They play an integral role in the body's defenses. The culture of lymphocytes in the presence of IL-2 results in effector cells which are cytotoxic to tumor cells. The stem cells of lymphocytes (THO) have many receptors or adhesion molecules in their membrane for IL-2 and are stimulated to increase their cell division into the cytotoxic line (LTCD4, LTCDS, NK cells). When these lymphocytes re activated they can destroy malignant cells..

What are the Protocols used in immunotherapy?
LAK-STEM Cells with low dose of Interleukin-2 in patients with Solid tumors. The stem cell procedure consist of the stimulation of lymphocytes in vivo. During this stem cell procedure the sample is taken from the patient's bone marrow from the head of the tibia bone and provides in addition to lymphocytes, stem cells, mature and immature leukocytes. This combination renders the therapy even more powerful . As the stroma of bone marrow contains IL-7, which increase the effect of IL-2 by 5 times, we can decrease the dose of IL-2 while maintaining its potency.

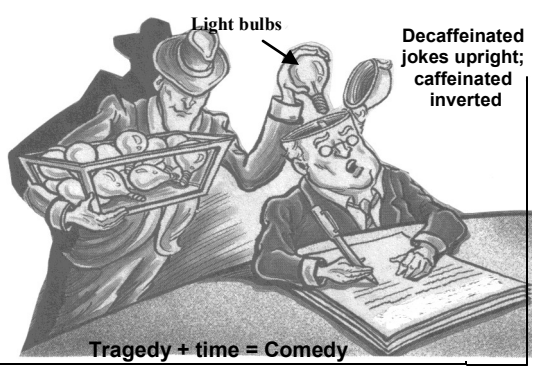
Interleukin-2 stimulates the stem cells of the lymphocytes that then divide into T-Helper cells, such as TH), TH1 & TH2, which secrete lymphokines, various cytokines, such as interleukins and interferons.

What are Stem Cells?
They are the human body's master cells with the ability to renew themselves through cell division and grow into any one of its 200 cell types. They have the potential to multiply indefinitely, become highly specialized and replace cells that die or are lost. Thus these specialized Stem Cells, aid in the repair of organs and tissue damaged by cancer progression, previous cancer treatments, or chronic degenerative conditions. They also maintain the normal turnover of regenerative organs, such as blood, skin and intestinal tissues. Autologous Stem Cells from the patients' own bone marrow do not have any adverse side effects.

Under normal conditions, we have less than .1% of stem cells in circulation, which is sometimes not sufficient for regenerate processes. The objective is, to increase the number of stem cells in circulation without the use of potent toxic drugs.

What are "Monoclonal antibodies?"
A. One way the immune system attacks foreign substances is by making large numbers of antibodies. An antibody is a protein that sticks to a specific protein called an "antigen." Antibodies circulate throughout the body until they find and attach to the antigen. Once attached they can recruit other parts of the immune system to destroy the cells containing the antigen. Researchers can now design antibodies that specifically target a certain antigen, such as one found on cancer cells. They then make them in the lab where they are called "monoclonal antibodies.(mAbs). **Yervoy** is a monoclonal antibody for late stage melanoma.

LIGHTEN UP...



New Golf Shoes... Bert, 85, always wanted a pair of soft spike golf shoes like *Freddie Couples,* so seeing some on sale after his round, he bought them. He was so delighted with his purchase, he decided to wear them home to show the misses. Walking proudly into the house, he sauntered into the kitchen and said to his wife, "*Notice anything different about me?"* **Margaret, 83, l**ooked him over and replied, "*Nope*." Frustrated Bert stormed off into the bathroom, undressed and walked back into their kitchen completely naked except for the new golf shoes. Again he asked Margaret, a little louder this time, "*Notice anything different NOW?"* Margaret looked up and said in her best deadpan response, "*Bert, what's different? It's hanging down today and it was hanging down yesterday, and it's be hanging down again tomorrow*." Furious, Bert yells out" AND DO YOU KNOW WHY IT'S HANGING DOWN? "*Nope, Not a clue*," she replied. "IT'S HANGING DOWN, BECAUSE ITS LOOKING DOWN AT MY NEW GOLF SHOES. Without missing a beat, old Margaret replies. "***You should've bought a new hat!"***

****

If you spin an Oriental man in a circle three times, does he become disoriented?
Why do shops have signs, "Guide dogs only." The dogs can't read and their owners are blind?
Would a fly without wings be called "a walk?"
Sniper to victim: "You can run, but you'll just die tired!"

Re: "Pecker Checkers" under the new proposed bathroom legislation...how many peckers can a pecker checker check if a pecker checker can check peckers? After all, if you gotta pee we gotta see!

There was a church that had a very big-busted organist. They were so large they bounced while she played distracting the congregation considerably. The proper church ladies were appalled. They said something had to be done about this or they would have to get another organist. One of the ladies approached her very discreetly and told her to mash up some green persimmons and rub them on hoping they would shrink in size. She agreed to try it.

The following Sunday morning, the minister got up on the pulpit and said, "***Dew to thircumstkhanthis bewond my controwl we will not hath a thermon tewday.***"

****

FOOTBALL FINALLY MAKES SENSE...a fellow took his girlfriend to her first football game. After the game, he asked her how she liked the experience. "*Oh, I really liked it*," she replied, "*especially the tight pants and all the big muscles, but I couldn't understand why they were killing each other over 25-cents*." Dumbfounded, her date asked, "What do you mean?" "*Well, they flipped a coin, one team got it and then for the rest of the game, all they kept screaming was, "*Get the quarterback! Get the quarterback!"*—it is only 25 cents!"*

****

Two engineers were standing at the base of a flagpole, looking at its top. A woman walked by and asked what they were doing. "*We're supposed to find the height of this flagpole,"* said Sven, "*but we don't have a ladder."* The woman took a wrench from her purse, loosened a couple of bolts, and laid the pole down on the ground. Then she took a tape measure from her pocketbook, took a measurement, announced, "Twenty-one feet, six inches," and walked away. One engineer shook his head and laughed, "*A lot of good that does us. We ask for the height and she gives us the length!"*

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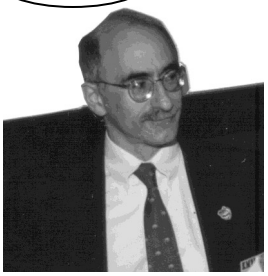
A Lexus mechanic was removing a cylinder head from the motor of an LS460 when he spotted a well-known cardiologist in his shop. He shouted to the cardiologist to come over and said, "Hey Doc, want to take a look?" The cardiologist walked over and the mechanic wiped his hands and asked, "So Doc, look at this engine. I opened its heart, took the valves out, repaired or replaced anything damaged, and then put everything back in, and when I finished it worked like new. So how is that I make $48,000 a year and you make $1.7 million when you and I are doing the same work? The cardiologist whispered to the mechanic, Try doing it with the engine running."

Hello, I'm Bruce



MEMORIES OF YEARS AGO IN MARCO

Our History Book

Bruce Small, KM2L

Marco Historian

30 YEARS AGO IN MARCO

The May-June 1986 Marco NL described the MARCO Award. This certificate was available to members for on-the-air contact with other Marco members.

The 1987 annual meeting will be held in Chicago. This issue carried a full report of the annual meeting in Dayton. The hotel was a disaster, having apparently changed hands in the midst of major construction during the weekend. Marco's reservation block of rooms had been forgotten, as had the banquet. These problems notwithstanding, a productive business meeting took place. The Scientific Program included an explanation of packet radio and Amtor by W2JUP. Marco's own Alfred Greenwald, WA2CBA, explained the very large array of radio telescopes he had visited in New Mexico. Mike McGirr, K9AJ, and his wife Susan recounted their expedition to Galapagos. Mike will once again be the banquet speaker at the 2016 meeting in Dayton!

25 YEARS AGO IN MARCO

The May-June 1991 Marco Newsletter led off with Smithy's review of Medical Resources Commission activities. A shipment of medical supplies had been sent to Dr. Valery Pristavko, UK2AAG, for the treatment of children exposed to radiation during the Chernobyl disaster. Also, Marco had helped to provide a Phillips ultrasound to the Mugonero Hospital in Rwanda, and word was received that the reconverted and refurbished unit was ready to ship to Africa.

In a separate article Smitty detailed the work of Dr. Mike Marks and the Bush Hospital Foundation in the construction of a health clinic in remote Kijare, Kenya.

The Marco annual meeting was slated for Aug. 12 aboard the Mississippi Queen.

Earl Weston, W8BXO, reported that after many trials and tribulations including four months of IV antibiotics, he ws finally able to receive his new prosthetic hip.

Newsletter Editor Ed Briner, WA3TVG, included a story reprinted from the Albuquerque Journal and subsequently picked up by the IMRA Newsletter. The article chronicled the story of the famous missionary Father Marshall Moran, 9N1MM, his meetings with Nehru and his work in Nepal as head of several schools, including a picture of Ed with Father Moran.

20 YEARS AGO IN MARCO

The May-June 1996 Marco NL reported the results of an outstanding Marco membership meeting. Participants included President Polycarp, Secretary Bill, Newsletter Editor Ed, Chris WA2YBA, Gene WB3FTJ, Roger W8CRK, Doug N9IGB, Bob WB5D, Judy N3MBW, Jeff WA6DAL, Mary Kaye AE4BX, Phil KF4DCK, Herb, KK6TR, Bruce KM2L, John WD8NMV, Chip N5RTF, Warren KD4GUA, Ira W3HEF, Bill W5HXR and Smitty W6JZU.

We adopted a new net schedule with a change in the 80-meter evening net to 10:30 PM Easter and a reduction to twice per week. There would be a single 40-meter net as well on Friday evenings. Several changes in the Directorship were announced, while WB5D was named President-Elect and Robin NN3L was elected to the Secretary position after WA6CRN asked to be replaced.

The issue was a photo spectacular with images of WB5D, KM2L, W6JZU, AW4BX, KD4GUA, N5RTF, and banquet speaker and renowned explorer Bob Schmeider, KK6ED. We noted with sadness the passing of Robin's wife Sally Staebler, KA3RAF. This packed issue also reprinted KD4GUA's Grand Rounds lecture on circadian rhythm and Smitty's extensive MediShare report.

15 YEARS AGO IN MARCO

The upcoming annual meeting will be held in Clearwater Beach, FL. President KM2l described the workings of our listserv, how to subscribe, and how to post messages. We were also moving forward with our donations to the Malawi dental clinic.

CME RANKINGS, May 12, 2016
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	18	Norm	Largo, FL
KD4GUA	18	Warren	Largo, FL
KNOS	18	Dave	Virginia
WB6OJB	18	Arnold	Pac.Pal. CA
KC9CS	17	Bill	Seminole, FL
N9RIV	17	Bill	Danville, IL
N4TSC	17	Jerry	Boca Raton, FL
K9YZM	17	Mike	Crystal Lake, IL
KK1Y	17	Art	Seminole, FL.
N5RTF	16	Chip	New Orleans, LA.
W6NJY	15	Art	Beverly Hills, CA
K9CIV	15	Rich	Knox, IN
N2JBA	15	Ed	Amenia, NY
KM2L	15	Bruce	Clarence, NY
WB1FFI	15	Barry	Syracuse, NY
K3IK	14	Ian	Shavertown, PA
N6DMV	14	Paul	Torrance, CA
N4MKT	14	Larry	The Villages, FL
K6JW	14	Jeff	Palos Verdes, CA
N2OJD	13	Mark	Sidney, Ohio
WB9EDP	13	Harry	Chicago, IL
W1BEW	13	Bobbie	Tennessee
W8LJZ	13	Jim	Detroit, MI
W3MXJ	13	Joe	New Orleans, LA
WA3QWA	13	Mark	Chesapeake, VA
N5AN	12	Bud	Lafayette, LA
WA1EXA	12	Mark	Cape Cod, Mass.
W3PAT	12	Marvin	Prosperity, S.C.
KE5SZA	12	John	Marietta, OK.
N0ARN	12	Carl	Colorado
W1WDR	11	Wayne	Parrish, FL
KD5QHV	11	Bernie	El Paso, TX
N7MLN	11	Mort	Tucson, AZ
W4DAN	10	Danny	Cleveland, TN
N4DOV	10	David	Ft. Lauderdale, FL
A1IN	10	Gonzo	Maryland
WA1HGY	9	Ted	Massachusetts
KE8GA	8	George	N.Carolina
KE3XB	7	John	Nashville, TN
W0UNZ	7	Paul	Warsaw, MO
K4RLC	6	Bob	Raleigh, NC
K0FS	6	Fred	St. Louis, MO
N8CL	6	Chuck	Albany-Buffalo, NY
KB5BQK	5	Linda	El Paso, TX
WB8GET	4	Keith	Oklahoma
W3VEC	4	Stephen	Springfield, PA
W8EYE	4	Darryl	New Phila. Ohio
W4TX	4	Elwood	Mississippi
W4EMD	4	Asif	S. Carolina
N9GOC	3	Pat	Champagne, IL
AE4BX	2	Mary	Myrtle Beach, SC.

YEAR	TOTAL CHECK-INS		AVERAGE PER SUNDAY	
1998	694		14.46	
1999	766		15.95	
2000	1,035		20.29	
2001	1153		22.60	
2002	1383		26.15	
2003	1489		28.63	
2004	1534		29.50	
2005	1517		29.17	
2006	1531	(one extra Sunday)	28.89	
2007	1591	(one extra Sunday)	30.02	
2008	1524	(Only 46 nets)	33.14	
2009	1533	(46 nets)	33.32	
2010	1591	(44 nets)	36.22	
2011	1514	(44 nets)	34.41	
2012	1602	(44 nets)	36.41	
2013*	1400	(44 nets) (New Freq)	31.82	(Year of Terrorist)
2014	1756	(47 nets)	37.36	
2015	1722	(49 nets)	35.14	
2016	663	(18 nets)	36.83	

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

COLORECTAL CANCER, 2016

As presented on Marco Grand Rounds of the Air, March 27, 2016.

Colorectal cancer (CR) is the 3rd most commonly diagnosed cancer and the third leading cause of cancer death in both men and women. 50,310 people died from this disease in 2014 and the majority of these could have been prevented by applying existing knowledge about cancer prevention. In the past decade, there has been unprecedented progress in reducing colorectal cancer incidence and death rates. However, in 2010 only 59% of people, age 50 or older, for whom screening is recommended, reported having received colorectal cancer testing consistent with current guidelines.

Colorectal cancer develops in the colon or the rectum, also known as the large intestine. It develops slowly, over a period of 10 to 20 years. Most begin as a noncancerous growth called a polyp that develops on the inner lining of the colon or rectum. The most common polyp is called an adenomatous polyp or adenoma. Adenomas arise from glandular cells, which produce mucus to lubricate the colorectum. An estimated one-third to one -half of all individuals will eventually develop one or more adonomas. Although all adenomas have the capacity to become cancerous, fewer than 10% are estimated to progress to invasive cancer. Cancer that develops in glandular cells is called adenocarcinoma. Most colorectal cancers (about 96%) are adenocarcinomas.

Symptoms... Early colorectal cancer often has no symptoms, which is why screening is so important. As a tumor grows, it may bleed or obstruct the intestine. Other symptoms are dark or black stools, a change in the shape of the stool (*more narrow than usual*). Cramping or discomfort in the lower abdomen. An urge to have a bowel movement when the bowel is empty. Constipation or diarrhea that lasts for more than a few days. Decreased appetite with unintentional weight loss. Sometimes loss of blood causes anemia and weakness.

Who gets colorectal cancer? About 1 in 20 Americans will be diagnosed with this disease in their lifetime. Incidence and deaths increase with age. Overall, 90% of new cases and 93% of deaths occur in people 50 and older. The median age at colon cancer diagnosis, 69 in men and 73 in women. Rates are about 35% higher in men than in women. Colorectal cancer rates are highest in black men and women and lowest in Asian/ Pacific Islanders.

Incidence...rates increased from 1975 through the mid-1980s, but have since decreased with the exception of a slight bump in rates between 1996 and 1998. Declines have accelerated principally because of the early detection and removal of precancerous polyps as a result of increased colorectal cancer screening.

Cancer Survival….the relative survival rate is 65% at 5 years following diagnosis and 58% at 10 years. Only 40% of colorectal cancer patients are diagnosed with localized stage disease, for which the 5-year survival rate is 90%; survival declines to 70% and 13% for patients diagnosed with regional and distant stages, respectively.

Risk Factors: A family history of colorectal cancer or adenomatous polyps and a personal history of chronic inflammatory bowel disease. Those with a first-degree relative (*parent, sibling, or offspring)*_ who has had this disease have 2 to 3 times the risk of developing the disease compared to individuals with no family history..

About 5% of patients with CR cancer have a genetic syndrome that causes the disease. The most common of these is ***Lynch syndrome*** (*also known as hereditary nonpolyposis colorectal cancer)* About 1 in 35 CR patients has Lynch syndrome.

A history of adenomatous polyps increases the risk of CR cancer. This is especially true if the polyps were large or more than one. Those with chronic inflammatory bowel disease, a condition in which the colon is inflamed over a long period of time have a higher risk of developing CR cancer that increases with the extent and duration of disease. The most common forms of inflammatory bowel disease are ulcerative colitis and Crohn disease. .

Behavioral risk factors: The most physically active people have a 35% lower risk of colon cancer than the least active people. It is recommended that the individual must engage in at leapt 150 minutes of moderate-intensity activity or 75 minutes of vigorous-intensity activity each week. Being overweight is associated with a higher risk of CR cancer in men and colon cancer in women. High consumption of red and/or processed meat increase the risk. Intake of dietary fiber, cereal fiber and whole grains is associated with a reduced risk of CR cancer. Smoking increases the incidence along with heavy alcohol intake.

Medications: There is extensive evidence that long-term regular use of aspirin and other nonsteroidal anti-inflammatory drugs lowers the risk of CR cancer. There is evidence that women who use post-menopausal hormones also have lower rates of CR cancer.

Colorectal Cancer Screening: The slow course of growth from precancerous polyp to invasive cancer provides a unique opportunity for the prevention and early detection of CR cancer. These procedures include: **Flexible sigmoidosocpiy, colonoscopy, Barium enema with air contrast, Computed tomographic colonography (***Cross sectional 2– or 3-dimensional views of the entire colon and rectum with the use of a special x-ray machine linked to a computer.)*

Tests that are primarily effective at detecting cancer: **F**ecal **o**ccult **b**lood **t**est (FOBT). Cancerous tumors and some large polyps bleed intermittently into the intestine. The blood can be detected in the stool by the FOGT kit, which is obtained from a doctor for use at home. Three specimens are required.

While there are numerous guaiac-based tests available, the American Cancer Society recommends ***Hemoccult Sensa*** *(Hi-Sensitivity)* that has a higher sensitivity than the old **Hemoccult II test.** *The patient is advised to avoid nonsteroidal anti-inflammatory drugs and red meat for 3 days prior because they can lead to false positive results. Vitamin C and large amounts of citrus juices should also be avoided because this can lead to false negative test results.* Regular use of FOBT reduced the risk of death from CR cancer by 32% after 30 years of follow-up.

The **Stool DNA Test...**The stool DNA test approved for colorectal cancer screening in 2008 is no longer commercially available. A new test has undergone extensive study and may be evaluated for inclusion as a recommended testing option in the future. It picks up altered DNA from the shed tumor cells. Patients with a positive test would be referred for a colonoscopy.

FIT (*Fecal Immunochemical Test)* This looks for specific human blood. When done correctly, FIT and high-sensitivity guaiac-baesd FOBT have similar performance, both are signicantly better than Hemoccult II and similar older tests. It does not usually pick up blood from the upper g.i. tract. Exams should be done yearly.

The toilet bowl test, throwing a test agent into the stool is not recommended nor is the doctor's single sample digital rectal exam specimen placed on an FOBT card for screening valid since it is only a one card specimen.

Are all colonoscopists the same? NO. Colonoscopy picks up 90% but misses 10% of tumors.. In a study of 300 doctors performing this procedure at Kaiser Permanente there was a variation in numbers of adenomas picked up by each individual physician. The rate varied from 7.5% to 52.6% with an average of adenomas being found in 45% of exams . Bowel prep is one of the factors involved but best to find a colonoscopist who has a high "adenoma detection rating (ADR)"

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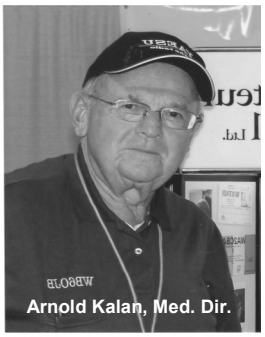
MEDISHARE REPORT

Arnold Kalan, M.D., WB6OJB, Director

At the last meeting, MEDISHARE had $6,074.18 in it's account. As of April of this year, it had $6,300.18, an increase of $226. A list of the people donating in 2015-201i6 are ; Mary Favaro, Jay Garlitz & XYL, Terry and Bruce Small, Linda and Bernie Krasowski, Elsa and Paul Lukas, Margaret and Warren Brown, Rowe and Jeff Wolf, Joan and Arnold Kalan.



In the future send all donations to our Treasurer. That would make things much simpler. She can let me know who sent the donation and the amount. I will continue to send the acknowledgment note and be involved with the project selection.

Have a good meeting and Joan and I will miss seeing you'll. But other problems have come up and we can not make it.

Arnold Kalan, M.D., WB6OJB

MINUTES OF MARCO BOARD MEETING

By Bruce Small KM2L

In attendance: Jeff, K6JW President; Rick K9CIV, President-Elect; Marcia Lochner, Acting Secretary; Mary AE4BX, Treasurer; Warren KD4GUA Newsletter Editor; Bruce KM2L Director; Keith N3IM Director; Linda KE5BQK Director; Bobbie W1BEW Director & Asst. Treasurer; Jay AA4FL; Bernie KD5QHV; Chip N5RTF Radio-Internet Coordinator; Art, KK1Y and Carl WA3ZZU.

The meeting was called to order by K6JW at 8:14 am EDT. Minutes of the 2015 meeting were approved with one correction. Paragraph 6 should read icomplimentary membership.1

K9CIV stated that he was looking forward eagerly to beginning his Presidency.

Secretary's Report: Marcia reported that we have 130 paid members and carry 16 complimentary memberships for a total of 146 members in good standing. (*Our Newsletter NL circulation is about 215.)*

Treasurer's Report: AE4BX presented the report: Expenses for the year totaled $3447.78 and are detailed in her report. The largest single expense is for printing and mailing the Newsletter (NL). We had dues income of $3130, and our current balance is $11,198.86. The report was approved.

Medishare Chairman Arnold WB6)OJB was unable to attend, but his report was presented by K6JW. MediShare has a balance of $6,300.18. We have no currently active projects. A list of donors was given to the President. Per the Treasurer and Secretary as of the time of this meeting, their preference is that donations to MediShare be sent to the Secretary.

KD4GUA presented the Newsletter Editor's report. Publication of the Newsletter, while entailing a great deal of work has gone well. Warren expressed his appreciation for the way that Marcia capably handled the Secretary's role in supplying mailing labels for the Newsletter. The Board collectively thanked her for her good work.

K6JW asked for discussion of the possibility of emailing the NL as the default option, with members who desire a hard copy electing to receive one. AA4FL asked for clarification of the purpose of the NL. Do we use it for recruitment? For other purposes? Marcia stated that she steers prospective members to our Website to look at the NL. KM2L added that we hand out copies of the NL from our Hamvention booth, though these could be printed when needed. KE5BQK stated that she would not go to the website to read the NL unless prompted to do so, in which case why not just email it? K9CIV felt that maintaining an accurate database of email addresses is difficult. AA4FL suggested that we could encourage people to pass their copy to someone else after they had read it. W1BEW moved that we notify membership via an article the NL of the option to receive it electronically. This motion was passed. AA4FL agreed to write a piece for the NL.

KM2L had no normal Historians' report. AE4BX said that she inherited a box of old bank records from W4DAN and offered them to the Historian. He declined the offer, and due to their age, these records will be destroyed.

Dave Lieberman NT8E, not being in attendance, there was no formal Webmaster's report.

N5RTF has been unable to provide streaming audio of Grand Rounds from his current place of residence. He asked for help from someone who can hear KD4GUA consistently well. KK1Y is a close neighbor and is willing to work with N5RTF to provide him a good audio source.

Directors reports: W1BEW reported on an upcoming hamfest in Knoxville, TN. K6JW noted that the ARRL SW Division Convention will be hosted by the Los Angeles Amateur Radio Council in October, 2016.

Old business: AA4FL discussed the proposed MARCO-sponsored scholarship fund. He passed out a draft of eligibility criteria for applicants. He plans to work with his contacts at the University of Florida to develop a template for this. He proposes to target pre-med students. The award will be administered by ARRL. Our financial commitment will be $1000 annually to maintain a $500 annual scholarship award. We could end the program at any time. N5RTF felt that our selection criteria should include graduate students as well as undergraduates. WQ3ZZU pointed out that most ARRL scholarships are awarded to graduating high school students. N5RTF asked whether we can use the name and photo of the awardees for our own publicity. It seems very likely that this is the case. KE5BQK asked whether there were medical professionals on the ARRL committee that reviews scholarship applications. The answer is probably no. WQ3ZZU, after searching the relevant portion of the ARRL Website, suggested that in order to ensure that we receive appropriate credit and recognition, Medial Amateur Radio Council should appear in the name of the award. After considerable discussion, agreement was reached on this point. It was also decided that we not include reference to MediShare International in the description of the award. AA4FL was asked to prepare a second iteration of our submission to ARRL, and circulate it to the Board. AA4FL move that we approve the expenditure of $1,000 to fund the scholarship. This motion passed.

New Business: K6JW presented a proposed slate of officers and explained our dilemma with the position of Secretary. Although Marcia has doing an outstanding job, she is not permitted to serve according to our by-laws. AE4BX raised the question of nominating an Asst. Treasurer. It was determined that someone could be selected by the Board without formal nomination. W1BEW suggested that the Asst. Treasurer should live in reasonable proximity to a Wells Fargo bank, as they should hold our accounts. K9CIV moved that nominations be closed , and the slate as proposed was approved.

Marco's officers for 2016-2018 are: President Richard Lochner K9CIV; President; President-Elect Jay Garlitz AA4FL; Secretary Joe Breault, WB2MXJ; Treasurer Bobbie Williams W1BEW, Newsletter Editor Warren Brown KD4GUA.

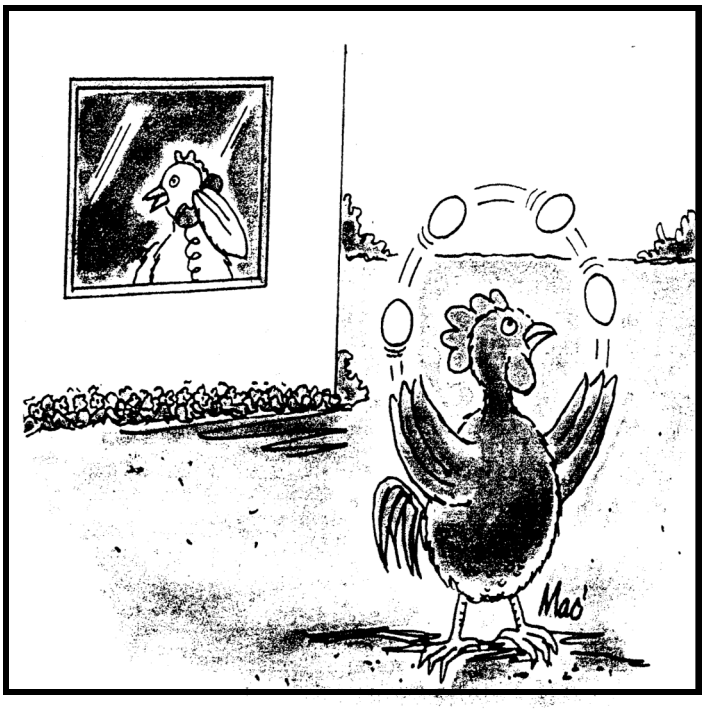
Regional Directors: Area 1, Robert Nevins KF1J; Area 2, Bruce Small, KM2L; Area 3, Keith Adams, N3IM; Area 4, Mary Favaro AE4BX; Area 5,, Tom Reilly W3GAT; Area 6, Paul Lukas, N6DMV; Area 7, Albert Breland KA7LOT; Area 8, Roger Higley, W8CRK; Area 9, Bill Hargadon, WA9HIR; Area 0, Frederic Simowitz K0FS

Directors-at-Large: Harry Przekop WB9EDP; Arnold Kalan WB6OJB Linda Krasowski KE5BQK; Danny Centers, W4DAN; Jeffrey Wolf, K6JW.

Marcia reminded us that it is necessary to change the contact information in the NL, our QST ad, and on the Website.

K9CIV announced the 2017 MARO Annual Meeting will be held in late April, probably April 28 through 30th, in the Chicago area.

The meeting was adjourned at 10:15 am EDT.



"Henry is fine. He's in the yard playing with the children."

"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 tow is underway but the ship is slowly sinking …..

The situation on the two-man crewed *Flying Enterprise* was gradually worsening. The ship was taking on water and sinking slowly further into the depths. During the noon radio contact, Commander O'Brien told Carlsen that RAF Culdrose in Cornwall was preparing a rescue helicopter. Onshore relay stations and lifeboat posts eavesdropped on these conversations, and from Penzance the lifeboat *Satellite* set out. As did the Falmouth lifeboat. Carlsen and Dancy "sat" like acrobats in the two easy chairs in Carlsen's cabin and again discussed the best, the safest, the easiest ways of escape.

Other boats in the area still carried reporters and cameramen. *Flying Enterprise* was going down—there was no longer any doubt about it; the men with the lenses had now gathered to see not so much the death of the hull but whether the matadors would live. Not that they felt all that safe themselves; the newsreel men had to strap themselves to deck fittings in order to get any steadiness of focus.

At two o'clock, Dancy hauled himself up on the rope, looked out, and reported back to Carlsen that the ship was "*almost on her beam-ends*." Carlsen had to see for himself. After a long moment he dropped down again and said to Dancy, "*She won't last*."

He called in for his radio conference and told Commander O'Brien and Captain Parker to let the helicopter come from RAF Culdrose. Above their heads, the spray began to come in through Carlsen's door. In New York, John Drake had just begun to give evidence at 80 Lafayette Street concerning the status of their ship.

When a ship begins to go down, the sea fills with shocking debris. Spars float, deck cargo bobs in the water, a massive flotsam is born. Any of that can kill a man. On the afternoon that Carlsen effected his rescue of passengers and crew, nothing much has broken off his ship—the sea had a mercifully clean surface. After agreeing to the helicopter, Carlsen and Dancy climbed up on deck and clung on the starboard rail, the highest point on the freighter, best for a helicopter winch man to reach.

At the starboard rail, the two men stood looking at the sea, the rain, the carnage, the ship. At one moment, she lurched up several degrees, as she had been doing since the day she listed—and she went down again. This time, though, she showed no signs of wanting to get back up. The surface of the decks became indistinguishable from the surface of the sea, and everywhere they looked, Carlsen and Dancy could see the final true signs of a ship's sinking the beginning of the deep and dangerous swirl and, above all the debris.

Carlsen went back down the rope to his cabin and got to the radio—where Parker told him that the rescue copter wasn't coming. At RAF Culdrose, Lt. Cdr. Suthers had tried and tried, but had been forced back by the appalling weather—which, after all, had been afflicting these seas now for more than two weeks. O'Brien had monitored Suthers on radar, had seen him within seven minutes of *Flying Enterprise,* had seen him turn back. Carlsen and Dancy now discussed dropping into the sea from a point at the starboard rail.

O'Brien confirmed that the helicopter wasn't coming, that the gale had proved too strong. As he began to suggest to Carlsen that at last they must get off the ship, Carlsen heard the first explosion. He said to Dancy, "*Time to go.*"

Up on deck, behind them, they heard a second, louder explosion. When they looked back, they saw the wheelhouse door detonated outward. They then heard another and another—the pressure building up inside the ship was blowing the watertight doors and the hatches that had long been battered down tight. The two men headed toward the funnel, which now lay as horizontal as a diving board.

In the village, one could hear on the radio beneath the brocade cloth—the crackle, the ships' call signs, the commentary from the radio operators at the scene. At eight minutes past three, *Willard Keith* said, "*Flying Enterprise is going down. Making attempts to rescue them now*." A minute later, *Turmoil* said, "*We have just received news that the weather is too bad for the helicopter. She can't make it and is returning to base. It's up to us to take them off now.*" Three minutes on, *Willard Keith* said "*Plenty of ships standing by to take Carlsen and Dancy off.*" By now an extra lifeboat had joined the flotilla, and a wide semicircle of watchers, tugs, freight ships, and chartered tenders stood in the ocean. Any one of them could have moved in for those two men.

At sixteen minutes past three, *Willard Keith* said, "*Flying Enterprise still afloat. Captain Carlsen and Dancy standing on starboard side of deck*" At eighteen minutes past three, the tug *Englishman* said, "*Flying Enterprise appears to be sinking. Rescue craft close in. Turmoil throws rope ladder over side.*"

Two minutes later, *Willard Keith* said, "*Flying Enterprise now taking water down stack*"

In the gloom of the winter afternoon, Carlsen and Dancy, barefoot and wearing life vests, reached the foot of the funnel. They limbed up carefully, in their one-hand-on-the-ground monkey walk. The mouth of the funnel touched the water. By using it as their escape route, the two men, as the passenger and crew had done, had elected to go off on the listing port side-without question the place where the sea had offered the most danger; but the drop on the other side was even more dangerous.

At twenty-three minutes past three, *Englishman* reported, "*Terrific heave to port and great mass of debris form Enterprise deck.* Carlsen and Dancy crouched near the top of the funnel. Dancy turned to Carlsen and said, "*Shell we go now, Captain*?" Carlsen nodded.

Dancy mistimed his jump. He meant to go on the crest of a wave, but instead hit a trough, dropped twenty-five feet—and went under the surface. He came back up and began swimming fiercely in order to take himself away from the swirl

Then Carlsen jumped. He disappeared, came up, and swam to Dancy. At three twenty-nine, *Englishman* radioed, "One man seen climbing out of water, up rope ladder onto deck of *Turmoil...Second man climbs up*."

Willard Keith radioed , "Congratulations!"

The saved men below deck took mugs of tea and rum, and changed into dry clothes. Carlsen fell asleep. At three thirty-nine, *Turmoil* radioed, "*Flying Enterprise still afloat. Going down stern first*." Carlsen awoke and stood on the deck of *Turmoil* to watch the death struggle of his ship.

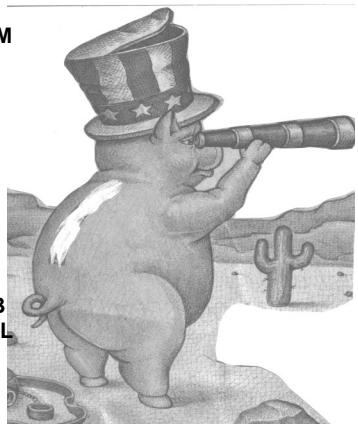
Flying Enterprise went stern first, her bow rising 15' into the air. At eight minutes past four, *Englishman's* radio said, "Bow of ship points almost straight into the air and ship stands posed there—and two minutes later, at ten minute past four, "*All gone*."

NEW FACES* for MARCO & RENEWALS,

Custer, James	W0HJ
Fatta,Louis	KB9OOM
Figlock, Thadeus	W1HGY
Ford, Robert	W2REF
Gallant, Heather*	K1BOH
Gershman, James	K1JJJ*
Kylakallio, Katrina	OH3NF
Louden, Stanley	NP2OX*
McGirr, Michael	K9AJ

The following showed Interest:

Bejoy, Kuttikkate	2EOKFB
Colen, David	KAk9ZPL
Jensen, Paw B.	OZ4UX



NO RADIO, NO ANTENNA?
Keep in touch with MARCO on "*listserve*" E-Mail your request to join to BruceSmall73@gmail.Com If on the list simply contact marco-ltd@googlegroups.com

And/or

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

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*Name:*_____
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*Call Sign*_____*Type License:*_____
*Phone:*_____
*Internet Address:*_____
*Your Birthday*_____**(Year optional.)** *Member ARRL*__

Applications for membership should be sent to Secretary Joseph Breault WB2MXJ, 1615 Brockenbraugh St., Metaire, LA

WHY NOT SEND A HAM FRIEND A MEMBERSHIP IN MARCO, $15, ONE WHO IS INTERESTED IN BOTH MEDICINE & RADIO.

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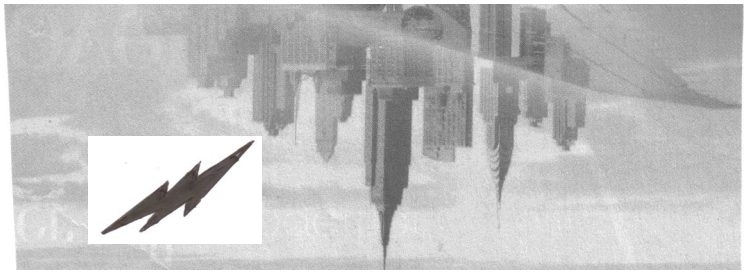
MARCO'S ***"AETHER"***

MARCO NET SCHEDULE

DAY	EASTERN TIME	FREQ.	NET CONTROLS
Any Day	On the Hour	14.342	Hailing Frequency
Sunday	10:30 a.m.	14.140	N5RTF (CW-net)
Sunday	11 a.m.	14.342	KD4GUA

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.

Web Sit: http://www.marco-let.org
MediShare Web Site: http://www.medishare.org



Your Renewal Date
Is January 1 of each year

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June 2016,