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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., 33785-0127

THE NEW WEAPON AGAINST CANCER

PROGRESS HAS BEEN SLOW AND THE TITLES UNPRONOUNCABLE BUT PROGRESS IS MOVING TOWARDS AN UPCOMING CURE FOR CANCERS

By the middle of her senior year at West Virginia University, Sharon Belvin knew something was wrong. The slim, blond, 22-year-old was growing increasingly short of breath during her daily runs, but doctors couldn't pinpoint the cause. Then, shortly before graduation, she discovered a hard lump beneath her left collarbone. A biopsy identified it as melanoma—the deadliest form of skin cancer, killing 10,000 Americans annually. Worse, a CT scan showed masses scattered throughout her chest. Belvin faced a crushing prognosis. For Stage IV metastatic melanoma, average survival is measured in months.

Still, she was determined to fight. In May 2004, she returned home to New Jersey, married her high school sweetheart and started chemotherapy. The treatment caused debilitating nausea and neuropathy, but the shadows on her scans continued to multiply. That December, Belvin's oncologist informed her that the cancer had spread to her brain.

After surgeons used radiation to burn away the tumor, she was switched to interleukin-2, a naturally occurring protein that, in high doses, sends the body's immune defenses into overdrive. Although IL-2 triggers remission in a small percentage of patients, its side effects are often horrific. Belvin endured violent vomiting, peeling skin and episode of delirium, but she didn't get better. As the cancer filled her chest cavity with fluid, her hope began to drain away.

That's when the oncologist told her about a clinical trial just getting underway of a medication called ipilimumab. The drug's mechanism of action was entirely new: Instead of attacking cancer cells (like chemo) or indiscriminately revving up the immune system (like IL-2), ipilimumab blocked a single receptor on one type of immune cell.

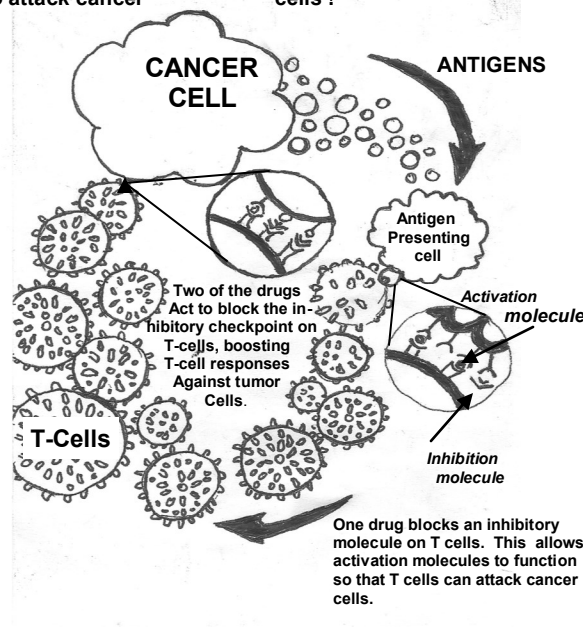
"Would you like to try it?" the doctor asked. "The choice was to do nothing and die, or take a chance." Belvin recalls. "It was the easiest decision I ever had to make."

In September 2005, she received the first of four 90-minute infusions, spread over a 12-week period. The only adverse effect was a daylong spell of shaking and sweating. Soon, she felt well enough to walk her dog again. Her tumors were shrinking dramatically, and they kept doing so for months after her final session.

By September 2006, they'd vanished. After declaring Belvin in remission, the oncologist introduced her to the man behind ipilimumab, immunologist **James P. Allison**. Belvin burst into tears. Then, she hugged him so hard, she nearly knocked off his glasses.

That was Allison's first encounter with a patient whose life he'd helped to save, and he still chokes up when he recalls the moment. Over the past decade, he's been the recipient of many such embraces—as well as an array of honors. The class of medications that he conceived, known as **immune checkpoint inhibitors**, works counter intuitively: By turning off one of the immune system's built-in safeguard, the inhibitors allow T cells—the sys-

Check Point Inhibitors at Work....A new class of drugs turns off the immune system's safeguards enabling T-cells to attack cancer cells !



EXTRA, EXTRA, EXTRA, EXTRA !

The 2017 Annual MARCO meeting will be held at the Hilton Garden Inn in Schaumburg, IL close to O'Hare Airport in Chicago, April 27 through April 30th. For reservations call 224 520 6941...It is mandatory for Directors & Officers to attend unless you are on duty. All Marco members are invited to attend. Please notify Pres. Lochner if you are not staying at the hotel & still plan to attend the banquet & boat trip: drlochner@gmail.com

NEED CATEGORY I CME?

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

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

CHICAGO MEETING ITINERARY ON

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 <u>confidential</u> 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.

tem's foot soldiers—to attack tumors more effectively.

"Jim's work has really allowed immunotherapy to become a game changer for patients with cancer," says one oncologist. Since approving ipilimumab five years ago, the FDA has OK'd two similar drugs, **cemiplizumab & nivolumab**—for melanoma and certain lung cancers. Dozens more are in development.

Checkpoint inhibitors already produce unprecedented rates of long-term remissions for a handful of hard-to-treat cancers, but their potential is even greater. Because such drugs modify the body's response to cancer, rather than the cancer itself, they could theoretically be effective against almost any kind of malignancy.

Allison's brainchild—and the pioneering research that led to its birth—has brought him a renown that's rare among his peers. Allison now works at the University of Texas MD Anderson Cancer Center in Houston.

Allison grew up in the small oil town of Alice, Texas. His father was a country doctor, his mother a homemaker. She was seriously ill for several years, but no one mentioned that she had lymphoma until shortly before she died. "I saw the burns on her neck from radiation treatment," he recalls, "but I didn't know what they were. Back then, people didn't talk much about cancer."

Over the next few years, Allison watched several relatives die of cancer. Meanwhile he began showing an obsessive interest in science. He graduated early, at 16, and enrolled at the University of Texas Austin as a premed. Soon, he realized that he didn't want to follow in his father's footsteps. "In medicine you have to be right all the time. In science, you learn by being wrong." He wound up with a bachelor's degree in microbiology, and he went on to earn a Ph.D in biological science.

In graduate school he was assigned to tinker with the formulation of a common chemotherapy for leukemia. He wondered what would happen if he injected mice with tumors after they were cured. To his astonishment the animals didn't get leukemia again. Somehow, he surmised, their immune systems had learned to kill the tumors.

By 1973, when Allison finished his doctorate, the mechanics of immunity were somewhat better understood. For example, researchers had recently identified T lymphocytes, white blood cells that destroy pathogens in several distinctive ways. Each T cell, scientists believed, was programmed to recognize a particular snippet of protein, or peptide, unique to invaders such as bacteria, viruses or tumor cells. These bits of protein are categorized as antigens, substances capable of triggering an immune response. When a T cell detects one, it morphs into a fighting machine zapping invaders with lethal chemicals, multiplying into an army of identical killers or signaling other immune system troops to join the attack. Yet exactly how T cells are activated remained largely a matter of conjecture.

Those leukemia-resistant mice spurred Allison to explore the immune system's uncharted territory. He did a postdoctoral fellowship in molecular immunology at the Scripps Clinic then in 1977, he headed back to Texas as an asst. biochemist at MD Anderson.

One of immunology's great unknowns was how T cells recognized the antigen that marked an invader for destruction. Researchers presumed that each T cell bore a receptor on its surface, shaped to fit a foreign peptide like a lock fits a key. But no T cell antigen receptor (TCR) had yet been identified.

Allison decided to go hunting. If a TCR was a hidden lock, he reasoned, the logical way to find it was to fashion a key and poke around until something clicked. The kind of key he had in mind had only recently been developed: a **monoclonal antibody**. Researchers had discov-

ered how to custom manufacture antibodies—naturally occurring molecules that target specific antigens—through cloning. These designer antibodies could be used, among other things, to detect and manipulate cellular receptors.

Allison began by injecting a mouse with lymphoma tumors to trigger an immune response. He and two colleagues then used spleen cells from the animal to grow 43 cell lines. Next, Allison's team exposed the cell lines to the mouse tumors. One of the 43 began producing a new protein which the researchers took to be an antibody to the tumor antigen. Chemical analysis showed that its structure resembled that of a protein found on T cells.

In 1982, Allison published a paper suggesting the possibility that the look-alike protein on T cells might be a TCR. Soon afterward, other searchers confirmed that it was. Armed with his first big discovery, Allison won a full professorship at the Univ. of California Berkeley.

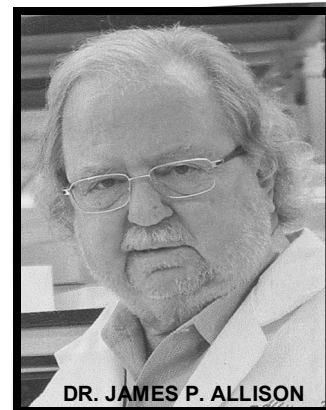
Over the next few years, immunologists learned that it took more than an encounter between a TCR and an antigen to trigger a T cell's killer mode. In the late 1980s, researchers began to suspect that a second signal from an unidentified layer, was required before activation could occur. It was Allison's team that identified a T cell protein called CD28 as the crucial co-stimulator. The gas pedal to the TCR's ignition switch.

But controversy arose in 1991, when a team led by Peter Linsley, identified another protein molecule CTLA-4 which closely resembled CD28 and was found only on activated T cells, Linsley theorized that CTLA-4 was another co-stimulator. Immunologist Jeff Bleustone, at the Univ. of Chicago, disagreed: His experiments suggested that CTLA-4 *subdued* T-cell activation. Allison, using different methods came to a similar conclusion. The molecule seemed to faction as a checkpoint, turning off the T cell after a period of activity—perhaps to prevent collateral damage to healthy tissue.

That got Allison thinking about the disease that took his mother. Why didn't the immune system nip every cancer in the bud? Sometimes he speculated, it was because CTLA-4 deactivated T cells before they could finish off a clump of tumor cells. If that were the case, simply stumping on the gas, with immune stimulators such as Coley's Toxin, or the 1L-2 initially used to treat Sharon Belvin, would be of limited use. Inhibiting the check point—releasing the T cell's metaphoric brakes might be a more productive approach.

In 1995, Allison's team created a monoclonal antibody designed to block the CTLA-4 receptor, effectively shutting down the checkpoint. They injected it into tumor-bearing mice. In the untreated control group, the animals died; in the treated group, 90% rejected their tumors and survived. **"It was too good to be true,"** Allison wrote. "I didn't believe the initial result." He repeated the experiment. For two weeks the tumors in all the mice continued to grow, and Allison braced himself for disappointment. Then the tumors in most of the treated mice again melted away.

Allison's team went on to test anti-CTLA-4 against a variety of cancers, both alone and in combination with vaccines and chemotherapy. The response continued to be encouraging—and enduring. Because the checkpoint inhibitor targeted T cells rather than tumor cells, cancers didn't really respond by mutating and developing resistance, a common problem with chemotherapy. Meanwhile, each mouse retained an immunological memory of the tumor it had vanquished, which curbed recurrence.



DR. JAMES P. ALLISON

MEET OUR PRESIDENT

Richard Lochner, M.D., K9CIV



After publishing his findings in 1996, Allison went looking for a pharmaceutical company to develop a CTLA-4 inhibitor for humans. He ran into a wall. For two years Allison got nothing but rejections, but his old stubbornness kept him going. At last a small New Jersey company called Medarex said yes. By 2001, ipilimumab was ready for testing.

The trials for ipilimumab involved about 5,000 patients who had received the drug. In 2004, Allison moved from Berkeley to Memorial Sloan Kettering to work with scientists leading the study. —including Sharon Belvin's oncologist, Jeff Wolchok.

The following year, Allison underwent a prostatectomy for cancer, and his middle brother died of the disease. The return of the family curse underscored the urgency of his research and made its deliberate pace harder to bare.

At first the trials went badly. Few patients made progress by 12 weeks, the point at which chemotherapy is usually assessed. But clinicians eventually found that with ipilimumab, many tumors began shrinking later. In fact, ipilimumab proved to be the first medication to significantly expand median survival rates in patients with advanced melanoma...from six months to 11.

More important, nearly a quarter of patients survived for more than three years. Most of that group was still alive a decade later. And although some patients experienced serious side effects, such as colitis or hepatitis, these could usually be controlled with relative ease.

In 2011, the FDA approved ipilimumab for melanoma and the pharma giant Bristol Myers Squibb...which had acquired Medarex—began marketing it as **Yervoy** (Approval was later expanded to non-small-cell lung cancers.) Soon afterward, Allison returned to MD Anderson, lured by the opportunity to launch the center's \$30 million Moon Shots immunotherapy research program.

Since Allison hatched the idea of locking CTLA-4 several more immune checkpoint have been identified. "What he showed us is turning the immune system on isn't enough, the crucial step is to make sure it doesn't turn itself off, Now we're trying to understand which brakes need to be taken out and which gas pedals stepped on to achieve the maximum benefits."

Pembrolizumab and nivolumab, for example, the newest inhibitors to win FDA approval, target a checkpoint called PD-1, through which tumors can induce a T cell to deactivate. Studies show that PD-1 inhibitors are effective for a larger proportion of melanoma patients than ipilimumab alone—and in combination with that drug they achieve a two-year survival rate of 80%. More than 500 clinical trials are underway to explore the impact of these and other checkpoint inhibitors on a dozen varieties of cancers alone or with other immunotherapies as well as conventional treatments.

For thousands of patients, Allison's passion and persistence have already paid off. "I owe Jim so much," says Belvin, now a personal trainer, health educator and a mother of two. "As far as I'm concerned he deserves the world."

(Information for above was taken from Kenneth Miller's fine article which appeared in the Nov. 2016 issue of Discover Magazine.)

GRAND ROUNDS OF THE AIR ON STREAMING AUDIO

1. Use a browser to go to the following web page which has a player app and links to the audio stream:
<http://50.97.94.44.2199/start/tkeister>
2. The second way is to manually enter: <http://marcoaudio.ddns.net.8011/stream> into a standard music player on computer, phone or portable device.

Time sure does fly, seems like it was only yesterday we were in Dayton. Now by the time you read this it will be just a few weeks before we meet in Chicago.

When I was in church we sang the camp song "Pass It On," and being an old camp counselor I added the words at the end of the third verse "Hey, World." "God loves you" of course that was shouting to get people's attention. As April approaches I remember another round, "Make new friends but keep the old; one is silver and the other is gold." The other "And are we yet alive" is a reunion hymn, in which, people look around to see who has arrived, who is missing and who the new people are. This is our opportunity at Chicago looking forward again to Dayton in 2018. We have time to enjoy old friendships, make new friendships and remember those special people who have made our organization what it is today. Marco likes to be together and fellowship. You are a part of this family..

In reviewing the current newsletter I am reminded again and again of the work that goes into this project. Our net control and newsletter editor Warren Brown KD4GUA has done a tremendous job to keep us informed. Looking at the newsletter one sees many different sections that must be kept up-to-date in order to make the presentation fresh and interesting. Warren does an excellent job. The history section holds special interest for me as it remembers topics people have discussed, remembers friends and helps us compare old and new knowledge. I know many of you send information to Warren for this newsletter and I greatly appreciate the coordination it takes to keep the rest of us entertained and educated.

I'm looking forward to seeing you in Chicago if you live in the ninth call area this is your opportunity to see Marco face-to-face especially when you can't make it to Dayton in the even numbered years.

PROJECTED AGENDA:

Arrival Thursday with reunion and decision on where to eat Thursday night.
Friday Morning: Meeting 8-10 with breakfast for all.
10 AM –12 Noon, Friday meeting with former undercover DEA agent and now educator.
Friday Afternoon: On your own,
Friday evening: diner at restaurant of group's choice.
Saturday Morning: Boat tour.
Saturday afternoon: On your own
Saturday Night: Banquet—free to all participants.



MARCO STREAMING AUDIO OF GRAND ROUNDS

Chip Keister N5RTF, New Orleans, LA., reports: After a long hiatus, streaming audio of the MARCO Grand Rounds net should be available again. This has been made possible by Paul N5AN's suggestion to listen to the net through the kiwisdr service. Several of these small radios are well placed to hear our net, but only 4 people can listen in at a time. Today (Feb. 26.) I will link in early and try to keep a connection open. Audio output from the web browser on a Raspberry Pi will then be routed to an IceCast server which can handle 100 connections.

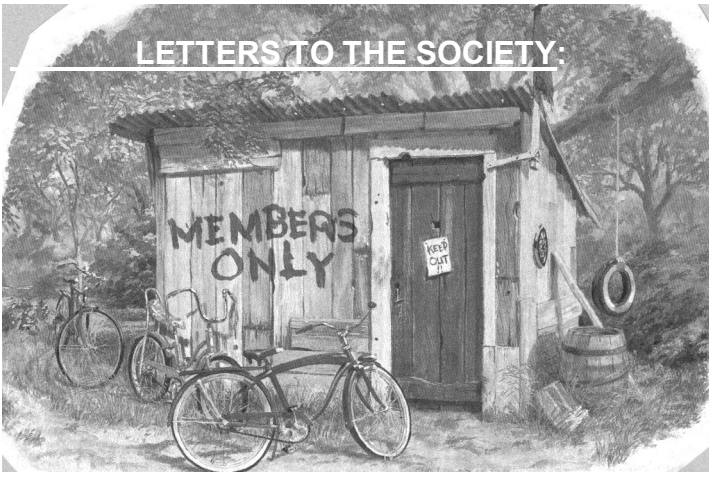
There are 2 ways to listen. You can go to the following web page which has a player app and links to the audio stream: <http://50.97.94.44.2199/start/keister>

The second way is to manually enter: <http://marcoaudio.ddns.net.8011/stream> into a standard music player on computer or portable device.

As an added benefit, the audio stream can be recorded in good quality and archived at the first link. Last week's net is available in this fashion to be listened to at your leisure.

Bear with me as I iron out the kinks! Chip Keister, N45RTF.

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



Kudos from (no luck this issue!)

From **Joe Breault WB2MXJ**...I've had some requests as MARCO Secretary that dues be paid and managed online, such as via paypal and an online database. This makes great sense to me, and I propose it for discussion at our meeting in April in Chicago.

It does seem to me that in the area of membership rolls, updates, dues, and interest requests we are doing things in a 1970s way when we are approaching 2020. Virtually all membership organizations I belong to (except MARCO) use an online database and dues system, so this would not be inventing the wheel, just using the current standard for membership organizations with systems that have been well developed and tested.

The proposal would be to: Develop an online database integrated into the MARCO website that has the ability to/for members to self-update their membership data and pay dues online, and this replace the manual access database the MARCO Secretary currently uses.

That this website update be done by the internet committee &/or a consultant they pick as they deem appropriate to assure a good and secure system integrated into the MARCO website.

That it includes automated user friendly functions & emails sent by the system, such as (a) a thank you email for renewing dues; (b) a reminder email that December ends their current dues period & that dues are due the next month; (c) similar reminder emails every x months after dues expire; (d) an automated policy that after x years of not paying dues the member is purged from the database; (e) that the current list of comp members be reviewed by the board every 1-2 yrs and the online database system blocks dues reminder emails for those people; (f) that anyone interested in MARCO can enter their info and receive a free newsletter for at least a year before dues are due; (g) that the MARCO Secretary has backdoor access to the online database so that for those who prefer doing dues or membership interest inquires manually, it can proceed as it does now except that the Secretary will be updating the online database rather than the access database on their own computer, (h) that the online database for members also adds a flag for whether you prefer to receive the MARCO newsletter electronically or by mail, and if electronically then once the MARCO newsletter is posted on the Finance website an automated email is sent to all members with that flag-electronic with a link to the current MARCO newsletter.

Finance wise, I suspect this proposed system with dues reminders would increase dues income more than the system costs over time. A subgroup appointed for this purpose can sort through the policy details of implementation such as which fields in the current database to port over to the online database, approving the automated emails text, etc.

Respectfully submitted

Joe Breault WB2MXJ, Marco Secretary 2016-2018.

From John Benitez, KE3XB...Back from Kuwait.

From Danny Centers W4DAN..."Listened with Carol Milazzo, MD KP4MD on streaming audio of the interview with her at Episode 42...she has been a Marco member since 1977."

From Jay Garlitz AA1fl..."Enclosed is a second draft of a proposed agreement to fund a MARCO scholarship which explores the ARRL as the issuing entity. I am inquiring with the Foundation for Amateur Radio (FAR) to find out of their scholarship offers more input in the choice of recipients." (This will be discussed in Chicago.)

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.



Dave Justis (dljustis1@juno.com) reports from Virginia..."Interestingly enough after the Grand Rounds talk on a rather strange disease: *Morgellon's Disease*, the very next morning a woman came in with the exact same symptoms. We will call her Janet, age 45, complaining of "*fibers coming out of my skin, and seeds too...dropping to the floor...of several months duration.*" Indeed she even produced a ziplock bag with tiny scabs from the many excoriations where she had dug the seeds and threads out from under her skin. Her scalp was infected as were her arms and torso...rather itchy too and self mutilated. The tiny threads she produced were of course lint from clothing and not moving like the worms she thought they were. She had taken her carpeting out of the house and had hard wood floors so that she could see the threads all of which she collected and brought in. **She is bipolar too.**

An earlier patient who was well educated and a leading botanist in the area...a lady we will call Carol age 63, for years was infested with sea ticks and as result also excoriated herself trying to get them out. She passed away last year of complications from Leukemia and chemo. **She too was bipolar.**

Both had seen many physicians and dermatologists, treated for scabies and on psychiatric meds and both complained of pulling thread out from their skin. Janet even felt that they were in her nose and mouth, coming out of her teeth and of course in the bladder and vagina too....her umbilicus was especially productive (*of lint that is*) and a great source of concern to her. Both ladies were banned from clinics hence they became my patients at the Urgent Care.

The Egyptian mummy was a standard drug of European pharmacology until the 18th century. Despite criticism within the medical profession, doctors prescribed mummy powder as a cure for internal ailments. Portions of many embalmed Egyptian dead were swallowed before science and common sense rendered the practice obsolete.

Ketchup once was sold as a patent medicine. In the 1830s it enjoyed a measure of popularity in the US. as "Dr. Miles's Compound Extract of Tomato."

Not until 1779 and the experiments of the priest-biologist Lazzaro Spallanzani was it shown that semen is necessary for fertilization. Six years later, Spallanzani carried through the artificial insemination of a dog.

One group, and only one has been found to be totally free of cancer in any of its forms. They are the Hunza in northwest Kashmir, who also are known for their longevity. Recently they have come under attack by the Taliban. *If it's not the spear it will be the bullet!*

About 8 ounces of lamb's blood were injected into the veins of a dying boy, temporarily restoring him, in the first blood transfusion on record. It was performed in 1667 by Jean Baptiste Denis, physician to Louis XIV of France.

In 1777, George Washington had the entire Continental army—then 4,000 men—vaccinated. This action, considered controversial at the time because few American doctors believed in vaccination, may have saved the army as a fighting force. During the Franco-Prussian War (1870-71), vaccination was compulsory in the Prussian army and only 297 died from smallpox; in the French army, where vaccination was not compulsory, 23,400 died of smallpox.

HOW SOMETHING BAD RESULTED IN SOMETHING GOOD.

Gordon "Mouse" Cleaver was one of the first RAF fighter pilots of WW II, but his most indelible mark on history was inadvertently inspiring a surgical procedure that has saved the sight of millions of people.

Cataracts—natural clouding of the lens of the eye—are the most common cause of blindness. For thousands of years, the only treatment was an excruciating technique known as *couching*, in which a needle-like instrument was used to push the lens out of the line of sight. In 1747, French



When a pilot suffered an eye injury while flying a Hawker Hurricane Mk.1 (like the one above), Harold Ridley lower right, treated him and made a discovery that would benefit people afflicted with cataracts.

physician Jacques Daviel pioneered the practice of surgically removing clouded lenses—eliminated cataracts was better than nothing, but it was obviously an imperfect solution—except for the addition of “coke-bottle bottom” thick glasses.

As a new doctor in the 1930s, English ophthalmologist **Harold Ridley** first broached the possibility of replacing clouded natural lenses with clear artificial ones. But his mentor rebuked him, and after Germany invaded Poland, Ridley's thoughts turned primarily to fighting the Nazi.

Mouse Cleaver was a member of Hawker Hurricane Squadron No. 601, known informally as the “*Millionaires Squadron*” because so many of its pilots were upper-crust British sportsmen.

Cleaver was sent to France in May 1940, a week after the German blitzkrieg commenced. Two days later, he scored his first victory, claiming a Dornier Do 17. Then it was back to England where Cleaver participated in the Battle of Britain.

On the morning of Aug. 15, 1940, he flew an uneventful sortie. During lunch the unit scrambled again and in his haste Cleaver forgot his goggles.

While lined-up behind a Junkers Ju 88 over Winchester, Cleaver's Hurricane was raked with machine gun fire. His airplane burst into flames and acrylic shards from the shattered canopy lodged in his eyes. Burned and bleeding, he flipped his plane upside down and let himself fall out of the cockpit, parachuting safely to earth.

Cleaver's right eye was too badly damaged to save, but he underwent 18 operations to treat his facial wounds and restore some vision in his left eye. His first comment when he was visited by a squadron mate, was “*Jack, tell them all to wear their goggles.*” He was examined repeatedly by Dr. Ridley, who made a stunningly counterintuitive discovery.

Other than damaging the lens, the plastic splinters in Cleaver's left eye had no effect on his sight, and his body made no attempt to reject them. This nudged Ridley into thinking about using a plastic lens to replace the natural one removed during cataract surgery.

On Nov. 29, 1949, Ridley implanted the world's first IOL, or intraocular lens. Lamentably, instead of embracing this immensely successful procedure the medical establishment ridiculed Ridley and rejected IOLs. It wasn't until the 1980s that IOL implants became commonplace; nowadays, 20 million such operations are performed annually.

In 1986, Ridley was belatedly elected to the Royal Society, the British version of the National Academy of Sciences. And in 1987, the story came full circle when Mouse Cleaver had cataract surgery and received an IOL made of a material remarkably similar to the acrylic that had lodged in his eye back in 1940. A happy ending!

(Information for the above was taken from Preston Lerner's fine article in “Air & Space” magazine & previous edition of “Aether”.)

5

KICKING OFF CYCLE 25

By Danny Centers, W4DAN

Solar Scientist F. Clette of the Royal Belgium Observatory discovered the first sunspot, designated as “A1,” of Cycle 25 at 10:30 UTC on December 20, 2016. The determining factor for identifying a sunspot in a new cycle is its position in a high latitude on the solar disk, plus the reversed color and polarity as compared to sunspots in the previous cycle.

This does not mean that cycle 24 has ended. Sunspot cycles usually overlap, and even though cycle 25 has begun, cycle 24 could last up to four more years.

To speculate, based on the relative time line of sunspot cycles that are usually eleven years long, one could use the following guide for determining the next sunspot peak.

Varying the four year overlap to two or three years could result in the beginning of the rise of cycle 25 in the year 2020 as cycle 24 diminishes.

Two years short of the middle of the eleven year cycle should result in sunspot numbers high enough for good DX conditions on the upper HF bands by the year 2024. Keep in mind that the rise to the peak is usually short (in time), or faster than the decline.

Cycle 24 was the weakest one in 100 years. Studies indicate that the sun's magnetic field is weakening over time, which may mean another weak cycle is forming.

GETTING RID OF JET-LAG IN ONE DAY



It usually takes a week (*or one day for each time-zone change*) to fully adjust to a new time zone or sleeping schedule.

New research from Harvard indicates there is a **secondary food clock** that functions as part of our overall circadian rhythm and takes over when we are hungry. Initial research shows that not eating for 12-16 hours can short-cut the normal triggers and reset the circadian rhythm using this food clock. If you

stop eating 12-16 hours before the time you want to be your new “*morning*” and then eat a healthy meal right after waking, you can reset your internal clock to believe that time is morning and therefore time to wake up. Then stay awake until your new bedtime.

How do you use this new trick? Simply stop eating during the 12-16 hour period before you want to be awake. Once you start eating again, your internal clock will be reset as though it is the start of a new day. Your body will consider the time you break your fast as your new “*morning.*”

For example, if you want to start waking up at 2 am, you should start fasting between 10 am or 1 pm the previous day, and don't break your fast until you wake up at 2 am. Make sure you eat a nice healthy meal to jumpstart your system.

Another example: If you are traveling from Los Angeles to Tokyo, figure out when breakfast is served in Tokyo, and don't eat for the 12-16 hours before Tokyo's breakfast time.

Basically what they have found is that fasting stimulates sleep...snacking before bedtime will keep you awake. In primitive times this meant the individual is now out hunting for food. Once awake you must stay awake.

KEEP MARCO PERKING !

Pass this copy to a friend OR send us a \$15 membership



William S. Halsted, M.D. was an American surgeon who emphasized strict aseptic technique during surgical procedures, was an early champion of newly discovered anesthetics, and introduced several new operations, including the radical mastectomy for breast cancer. Along with William Osler (Professor of Medicine), Howard Kelly (Professor of Gynecology) and William Welch (professor of Pathology), Halsted was one of the "Big Four" founding professor at the Johns Hopkins Hospital.

Throughout his professional life, he was addicted to cocaine and later also to morphine, which were not illegal during his time. The addictions were a direct result of Halsted's use of himself as an experimental subject, in investigations on the effects of cocaine as an anesthetic agent.

Halsted was born on Sept. 23, 1852, in New York City. He was educated at home by tutors until 1862, when he was sent to boarding school in Monson, Massachusetts. He didn't like his new school and ran away at one point. He was later enrolled at Phillips Academy in Andover, Mass. where he graduated in 1869. Halsted entered Yale the following year at which he was captain of the football team, played baseball and rowed on the crew team. Upon graduation from Yale in 1874, Halsted entered Columbia University College of Medicine where he graduated in 1877. Though raised a Presbyterian, Halsted was an agnostic by adulthood.

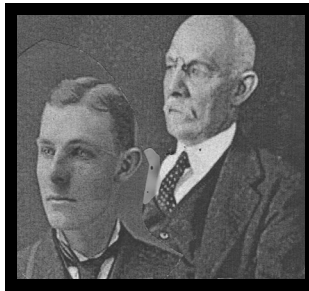
After graduation, Halsted joined the New York Hospital as house physician where he introduced the hospital chart. He then went to Europe to study under the tutelage of several prominent surgeons. Returning to New York in 1880 and for the next six years lead an extraordinarily vigorous and energetic life. He operated at multiple hospitals and was an extremely popular, inspiring and charismatic teacher. In 1882 he performed one of the first gallbladder operations in the U.S., a cholecystomy performed on his mother on the kitchen table at 2 am. He also performed one of the first blood transfusions in the US. He had been called to see his sister after she had given birth. He found her moribund from blood loss, and in a bold move withdrew his own blood, transfused his blood into his sister, and then operated on her to save her life.

In 1884 Halsted read a report by the Austrian ophthalmologist Karl Koller, describing the anesthetic power of cocaine when installed on the surface of the eye. Halsted, his students, and fellow physicians experimented on each other, and demonstrated that cocaine could produce safe and effective local anesthesia when applied topically and when injected. In the process, Halsted became addicted to the drug. His close friend Harvey Firestone recognized the gravity of the situation, and arranged for Halsted to be abducted and put aboard a steamer headed for Europe. In the two weeks it took to complete the voyage, Halsted underwent an early, crude form of detox. Upon his return to the U.S. he became addicted again, and was sent to Butler Sanatorium in Providence, R.I. where they attempted to cure his cocaine addiction with morphine. Although he remained dependent upon morphine for the remainder of his life, he continued his career as a pioneering surgeon, many of his innovations remain standard operating room procedures.

After his discharge from Butler in 1886, Halsted moved to Baltimore to and join his friend William Welch in organizing and launching the new John Hopkins Hospital. When it opened in May 1889, he became its first Chief of Surgery. In 1892, Halsted joined Welch, William Osler and Howard Kelly in the founding of the Hopkins School of Medicine, and was appointed its first Professor of Surgery.

Halsted was credited with starting the first formal surgical residency training program in the U.S. at Johns Hopkins. The program began with an internship of undefined length (individuals advanced once Halsted believed they were ready for the next level of training), followed by six years as an assistant resident, and then two years as house surgeon. Halsted trained many of the prominent academic surgeons of the time, including Harvey Cushing and Walter Dandy, founders of the surgical subspecialty of neurosurgery; and Hugh Young, founder of the specialty of urology.

In 1882, Halsted performed the first radical mastectomy for breast cancer in the U.S. at Roosevelt Hospital in New York, an operation first performed



The young Dr. Halsted on the left; the older on the right.

in France a century earlier. Other achievements included the introduction of the latex surgical glove and advances in thyroid, biliary tract, hernia, intestinal and arterial aneurysm surgery.

His contributions to surgery were numerous and various. He introduced the use of local anesthetics; he was the first to put on rubber gloves, and he devised many new and ingenious operations. But his chief service was rather more general and hard to describe. It was to bring in a new and better way of regarding the patient. Antisepsis and asepsis, coming in when he was young, had turned the attention of surgeons to external and often extraneous things. Fighting germs, they tended to forget the concrete sick man on the table. Dr. Halsted changed all that. He showed that manhandled tissues, though they could not yell, could yet suffer and die. He studied the natural recuperative powers of the body, and showed how they could be made to help the patient. He stood against reckless slashing, and taught that a surgeon must walk very warily.

In 1890, Halsted married Caroline Hampton. They purchased the High Hampton mountain retreat in North Carolina. There, Halsted raised dahlias and pursued his hobby of astronomy; he and his wife had no children. He died on September 7, 1922, 16 days short of his 70th birthday, from bronchopneumonia as a complication of surgery for gallstones and cholangitis.

IF IT WORKED THEN IT SHOULD WORK NOW

How We Can Use Light to Fight Bacteria.

Jim Patterson W8LJZ, Detroit submits this tantalizing subject



During the First World War thousands of lives were saved by *flavine therapy* which used dyes such as Brilliant Green and Acriflavine. The dyes were applied to bullet or shrapnel wounds to kill the bacteria at the site of the injury—for example, the anerobic gas gangrene bacteria. NOW, these dyes are being resurrected to treat bacterial infections but with a new twist: LIGHT.

When the first antibiotics to be mass produced in the 1940s came about, flavines fell from favor...fast forward and now antibiotic resistance is a global problem and the flow of new antibiotics is down to a trickle. So its little wonder that scientists are returning to the old ways of killing pathogens.

Photoantimicrobials doesn't act the same way as conventional antimicrobial drugs...bioflavines when exposed to light emit oxygen which is toxic to anerobic bacteria.

Many of us have used ordinary *tincture of iodine* and *gentian violet* to wounds because they are protoplasmic poisons—the bacteria shrivel up and die.

Why aren't these older procedures being utilized?

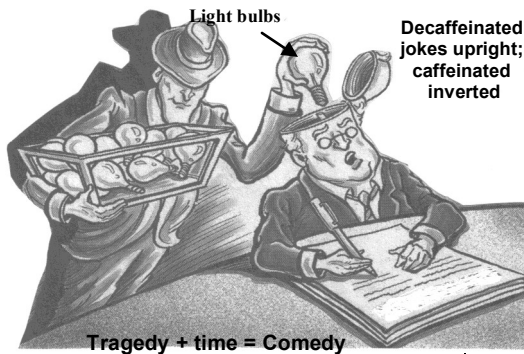
Currently, the main but sporadic use is by dentists to treat tooth decay and gum disease. It is also being used in Canadian hospitals for "nasal decolonization" to combat MRSA. But photoantimicrobials should also be much more widely used to battle "lesser" infections which lead to serious illnesses such as pneumonia, meningitis and septicemia

This new approach is. able to treat antibiotic-resistant and dangerous bacteria such as MRSA—so surely this must appeal to those overseeing our defenses against the threat of antibiotic resistance? Apparently not. Despite many attempts to interest governments, healthcare and the pharmaceutical industry, those working in this field usually receive no response—the reasons for this are unknown.

Is this just medical conservatism? Are there problems with temporary staining from colored medication in an age where an enormous number of people are tattooed? The idea of dyes and light activation may put people off but the visible—usually red—light used here has no effect on human normal cells and any tissue staining is short lived. But if healthcare and big pharma won't engage and respond we can't do very much. **What is your opinion?**



LIGHTEN
UP...



7

What are the three most important things in life?

A. A martini before & a nap afterwards.

An elderly couple is getting ready for bed...She says, "Oh, I am so hungry for ice cream and there isn't any in the house." He says, "I'll get some." She says, "Vanilla with fudge sauce & whipped cream." She adds, "Please write it down, I know you'll forget!" He says, "I won't forget." Away he goes and when he returns hands her a bag with a ham sandwich in it. She says, "You forgot the mustard!"

A game warden found a man standing at the edge of a lake, fishing pole in hand. "Sir, you can't fish here," he said. "I'm not fishing" the man replied, "I'm teaching my worm to swim."

At a party an elderly woman was bemoaning the behavior of the youth of today. "Look at the girl over there," she complained, "I don't know what young girls are coming to! She's wearing boy's jeans, a boy's shirt, and that haircut is so boyish....you wouldn't know she was a girl at all, would you?" "Well, as it happens, I would," came the reply, "Because she is my daughter." "Ooh dear," said the old lady embarrassed, "I'm so sorry—I didn't know you were her father." "I'm not," came the reply, "I'm her mother."

My wife said that whatever I get her for her birthday, she will wear. So, I'm buying her nothing. It's a win-win situation.

I don't get many complements. So, I was surprised when the phone company called to say I had an outstanding account.

Hear about the blonde that got an AM radio? It took her a month to realize she could play it at night.

him buried upside down!"
"The wife put down her drink and said, 'Let the old geezer dig. I had able to dig his way up and out of the grave and come back to haunt you?' party. Her neighbors asked, 'Aren't you afraid that he may indeed be the warden and after the burial she went straight to the local bar and began and when he died they were all relieved. His wife had a closed casket at back and haunt you for the rest of your life.' "The neighbors feared him yell, 'When I die, I will dig my way up and out of the grave and come they couldn't stand each other. When they fought the old man would Haunted House? An older couple were married for years, even though

WAYS TO TURN A MAN DOWN...He: Can I buy you a drink? **She:** Actually, I'd rather have the money. **He:** How did you get so beautiful? **She:** I must have been given your share. **He:** Your face must have turned a few hearts. **She:** And your face must have turned a few stomachs. **He:** Don't be shy, ask me out. **She:** Okay, get out! **He:** Where have you been all my life? **She:** Hiding from you. **He:** Haven't I seen you somewhere before? **She:** Yes, that's why I don't go there anymore. **He:** Is this seat empty? **She:** Yes, and this one will be if you sit down. **He:** I think I could make you very happy. **She:** Why? Are you leaving?

GEORGE BURNS SAID: "Is it true that you smoke 10 cigars a day?" "That's true" "Is it true you drink five martinis a day?" "That's true!" "Is it true that you surround yourself with beautiful young women?" "That's true." "What does your doctor say about all of this?" "My doctor is dead!"

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A Scotchman walks into a Glasgow library and says to the librarian, "Excuse me Miss, day ye hiv any books on suicide?"

The librarian looks him over and says, "We have them but you aren't going to get one!" "Why?" he asked. Tipping her glasses she replies, "Because ye'll not be bringing it back!"

Dangerfield thoroughbreds: "My wife and I were happy for 20 years.

Then we met" "I asked my old man if I could go ice-skating on the lake. He told me, "Wait till it gets warmer." "With my dog, I get no respect. He keeps barking at the front door. He doesn't want to go out, he wants me to leave.

MEMORIES OF YEARS AGO IN MARCO

Our History Book

Fifteen years ago in Marco

"Mysterious Force Slows Space Ship" was the headlines for April 2002. It was the story of Pioneer 10 which left the solar system in 1983 and now was being pulled back to our Sun by a mysterious force.

Marco President **Bruce small KM2L** in his column mentioned **Smitty Smithwick W6CS** wishing to give up the directorship at MediShare and **Alfred Greenwald WA2CBA** giving up his tour as treasurer to **Lou Wiederhold WA1HE**. Secretary **Robin Staebler WE1MD** was weeding our inactive members.

Ten years ago in Marco

"History of Illegal Drugs" is the splash for April 2007, "Alexander the Great used the juice from the poppy seed to help conquer the known world 6000 years ago."

Members were looking forward to the upcoming meeting in beautiful Santa Monica, CA. at which **Arnold Shatz N6HC** will tell us about the upcoming DxPedition to Brandon Island in the Indian Ocean.

Bob Morgan VE3OQM & his cat **Bowser** reported from Canada that garlic does NOT cut cholesterol levels but does protect pets from fleas—and that women should not be on Fosamax for more than 5 years.

Five years ago in Marco

"What is Syndrome X?" A collection of conditions that when taken together dramatically increases the risk of heart attack, stroke and diabetes."

Studs Snodgrass, Marco's financial genius, advised members to buy stocks in April as it is the third best month of the year over a 112-year span. The most positive months are December followed by July and April. The worst months to buy stocks are September and February.

Ian Kellerman K4IK told about his grandfather's love of herring and his habit of eating fish daily along with his oatmeal.

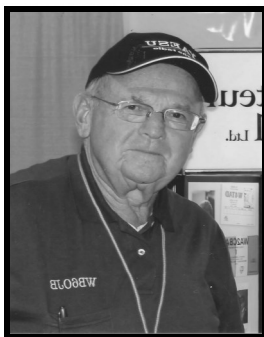
Paul Lukas N6DMV wrote about the disuse of fluorides in drinking water in Europe. He stated that brewers over there must use natural water direct from the wells. It was suggested to Paul that they should use fluorides in beer and call it "Flooded Beer." *a good reason for bar tenders to put rubberized floors in all pubs.—more bounce to the ounce.*

Carol Milazzo KP4MD reported that the video documentary "An Insider's Tour of the Arecibo Observatory" was well received recently at Pacificon 2011. The video is now publicly viewable on <http://www.youtube.com/kp4md>.

REMEMBERING THE MARCO June 2001 Clearwater MEETING

Then MARCO President **Bruce Small** commenting about the mini-hurricane wet weather that hit Clearwater Beach, Florida, while we were busy attempting to conduct a business meeting... *"It was truly the best special effects I have ever experienced by far at any Marco meeting."*

CLOSE CALL.... Then MARCO Secretary, the late **Robin**



Staebler, was adjusting his porch antenna when a bolt of lightning struck nearby. Yelling from the second floor was the catering lady telling him to go inside. Robin was noted for his not paying attention to critics, especially when they were females. Earlier, Robin had been criticized for fishing from his second floor window.

NEVER MISS A MEEING...

Arnold Kalan, (left) has been noted for having never missed a MARCO meeting including the June 2001 get

together.... Wonder how long he cam keep that up?

8

FINAL CME RANKINGS, 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
KD4GUA	8	Warren	Largo, FL
NU4DO	8	Norm	Largo, FL
WB6OJB	8	Arnold	Lac.Pal., CA
N5AN	8	Bud	Lafayette, LA
KK1Y	8	Art	Seminole, FL
KC9CS	7	Bill	Largo, FL
N9RIV	7	Bill	Danville, IL
N2JBA	7	Ed	Amenia, NY
N6DMV	7	Paul	Torrance, CA
N5RTF	7	Chiip	New Orleans, LA
K9CIV	7	Rich	Knox, IN
WA3QWA	7	Mark	Chesapeake, VA
WO4PH	7	Tom	Colorado
N4TSC	6	Jerry	Boca Raton, FL
WB1FFI	6	Barry	Syracuse, NY
KM2L	6	Bruce	Clarence, NY
W6NYJ	6	Art	Beverly Hills, CA
KE5SZA	6	John	Marietta, OK
WB9EDP	6	Harry	Batavia, IL
N2OJD	6	Mark	Sidney, Ohio
W4DAN	6	Danny	Cleveland, TN
W1RDJ	6	Doug	Cape Cod, Mass
W8LJZ	5	Jim	Detroit, MI
K6JW	5	Jeff	Palos Verde, CA
WB2MXY	5	Joe	St. Metairie, LA
K9YZM	5	Mike	Crystal Lake, IL
N0ARN	5	Carl	Colorado
W0UNZ	5	Paul	Warsaw, MO.
KNOS	4	Dave	Virginia
N4MKT	4	Larry	The Villages, FL
KE8GA	4	George	N. Carolina
K0FS	4	Fred	St. Louis, MO
K4RLC	4	Bob	Raleigh, NC
W4MEA	4	Max	Tennessee
K3IK	3	Ian	Shavertown, PA
WA1HGY	3	Ted	Massachusetts
WA1EXE	3	Mark	Cape Cod, Mass.
N4DOV	3	David	Ft. Lauderdale, FL
N8CL	3	Chuck	Albany, NY
KD8IPW	3	Mary	W. Virginia
K7NM	3	Lee	Salt Lake City, UT
W1BEW	2	Bobbie	Tennessee
WB8EYE	2	Darryl	New Phila, Ohio
AE4BX	2	Mary	Myrtle Beach, SC
K4JWA	2	Jim	W. Virginia.
KC9ARP	2	Michilin	Batavia, NY
N7NLM	2	Mort	Tucson, AZ

YEAR TOTAL CHECK-INS AVERAGE PER SUNDAY

YEAR	TOTAL CHECK-INS	AVERAGE PER SUNDAY
1998	694	14.46
1999	766	15.95
2000	1,035	20.29
2001	1153	22.60
2002	1383	26.15
2003	1489	28.63
2004	1534	29.50
2005	1517	29.17
2006	1531 (one extra Sunday)	28.89
2007	1591 (one extra Sunday)	30.02
2008	1524 (Only 46 nets)	33.14
2009	1533 (46 nets)	33.32
2010	1591 (44 nets)	36.22
2011	1514 (44 nets)	34.41
2012	1602 (44 nets)	36.41
2013*	1400 (44 nets) (New Freq)	31.82 (Year of Terrorist)
2014	1756 (47 nets)	37.36
2015	1722 (49 nets)	35.14
2016	1687 (46 nets)	36.67
2017	299 (8 nets)	37.38 (New Record!)

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

This is confusing simply because it is a relatively new subject and people are using different terms to describe the same thing. In other words, "Supplemental Medicine" may be used for "Complimentary Medicine" and "Holistic Medicine" for "Integrative Medicine."

In the past, complementary medicine has claimed various types of "miracle" cures for cancer, which have since proved ineffective or even fraudulent. The integration of conventional and complementary medicine therapies however is of increasing interest. We have discovered that PAIN is not all physical but also includes emotional pain and spiritual pain, the later two not being affected positively by opioids and thus the need for integration of treatment.

Today in the U.S. we are facing an opium epidemic. It is estimated that over 2.6 million Americans are addicted and 91 die each day from this pain relieving drug. Over 80% of the world's consumption takes place right in our own country whereas only 20% are related to cancer pain. Something must be done to take the place of opium.

This is where "Integrated Medicine" takes over. Already in such medical centers as Duke, the V.A., the Cleveland Clinic, the Universities of Arizona and Florida have pitched into forming Integrated Medical Clinics to help relieve the use of opioids—but with what?

Antiquated medical treatments are being revisited and revised. Therapies of the past many of which were termed "shams" are now being utilized & revamped and are surprisingly working. Acupuncture, Cupping, meditation, massage, herbals, biofield therapy, such as electromagnetism and touching, prayer, music therapy, yoga, manipulation, nutrition (avoiding nightshade vegetables such as tomatoes, potatoes, peppers & eggplants), trigger point injections, thermal and aroma therapy, virtual reality, maxibustion, hypnosis—are all being utilized.

With new techniques we are now able to "light-up" brain areas in response to various therapies to evaluate these old-new treatments—do they actually attach to pain receptors, or is this the 17% placebo effect?

Integrative medicine combines modern medicine with established approaches from around the world. By joining modern medicine with proven practices from other healing traditions, integrative practitioners are better able to relieve suffering, reduce stress, maintain the well-being, and enhance the resilience of their patients.

Although the culture of biomedicine is predominant in the U.S., it co-exists with many other healing traditions. Many of these approaches have their roots in non-Western cultures. Others have developed within the West, but outside what is considered conventional medical practice.

Three years ago, things started to fall into place at the University of Florida. A certified yoga practitioner, Dr. Estores, with special training to work with cancer patients joined the Florida team. Two sizeable donations were made to the program by community members interested in supporting integrative medicine—with others soon to follow. "It was an alignment of the stars: we had these gifts at hand and a potential champion who'd be able to lead the effort in integrative medicine. We needed someone who understands at a deep level the interface between physical health, emotional health and spiritual health" ("holistic medicine-healing body, mind & spirit).

With support from UF Health leadership, Dr. Estores assumed the role of medical director in August 2013 and she and one other began building a small team of instructors. Dr. Estores brought immediate legitimacy to the notion that we will be providing medical practices as opposed to simply creative arts practices."

Integrative medicine is not the same as alternative medicine, which refers to an approach to healing that is utilized in place of conventional therapies, or complementary medicine, which refers to healing modalities that are used to complement allopathic approaches.

The defining principles of integrative medicine are: All factors that influence health, wellness and diseases are taken into consideration, including body, mind, spirit and community. Providers use all healing sciences to facilitate the body's innate healing response. Effective intervention that are natural and less invasive are used whenever possible. Good medicine is based in good science. It is inquiry driven and open to new paradigms. Alongside the concept of treatment, the broader concept of health promotion and the prevention of disease are paramount. The care is personalized to best address the individual's unique conditions, needs and circumstances. Practitioners of integrative medicine exemplify its principles and commit themselves to self exploration and self-

Solar Flux Index (amount of radio energy coming from the sun)

60-70= fair to poor on 14 MHz (20 meters & higher)

90-100 + good conditions up to 14 MHz (12 meters)

Over 120 + good conditions up to 18 MHz (10 meters)

The higher the frequency the higher the Flux value required.

Important for VHF` (Geomagnetic field activity)

A Index = previous 24 hours on K Index. 0 (quiet) to 400 (disturbed). (When A index is 20 and K is 4.5+ condition good for VHF aurora; best on 10, 6 and 2 meters). As electrons trapped in Earth's magnetic field spin down and lose energy, they emit photons and aurora become visible as curtains.

K Index = past 3 hours activity.

Best: When A index is 7 or less; K Index 0-1.

MUF = the highest frequency that allows E, F propagation i.e., the MUF is 17 MHz, closest below is the 14 MHz (20 meters). The MUF will vary depending on the direction and distance to the station.

Upper Side Bands (USB) are 20, 18, 12, 10 **Lower Side Bands (LSB)** are: 40, 80

Danny W4DAN in discussing A & K Indexes states: "A personal opinion is that all this is a lot of "mumbo jumbo" and makes it hard for the casual DXer to follow the charts. I look at the charts on nearly a daily basis, pay little attention to the A & K SFIs, and look for the number of sunspots that I can see on the graphic shots of the sun. If you will notice many of the prognosticators hardly mention the sunspot numbers. I guess it is because they have taken the route of the weather forecasters who are afraid they will get it wrong.

Day after day, as of late, the charts have been showing poor conditions on most all of the bands, but I have been seeing a few sunspots. On the days that sunspot show, I see more good DX spotted on the cluster.

If you see lower A&K solar flux index numbers, you will probably encounter lower noise levels which is good for closer-in communications, but until the disturbances of higher A&K numbers, it may be awhile before more sunspots appear creating better DX conditions. My formula is watch the spots, scan the bands and check the DX clusters.

development.

According to the 2012 Nation Health Interview Survey, 1/3 of U.S. adults used complementary and integrative health approaches, the most common being dietary supplements other than vitamins and minerals.

Why are people using Complementary & Alternative Medicine (CAM) approaches in integrative medicine? CAM is attractive to many people because of the emphasis on treating the whole person, its promotion of good health and well-being, its valuing of prevention, and its often more personalized approach to patient concerns. Most combine it with conventional medicine, because they perceive the combination to be superior to either alone. Independent predictors of CAM use in one survey were higher level of education, poorer health status and a "holistic" interest in health, personal growth and spirituality.

Funding for biomedical research in the field of integrative medicine has increased over the past years. In 1992, Congress established the office of Alternative Medicine (OAM) as part of the National Institutes of Health with an annual budget of \$2 million. In 1998, it was elevated to a full NIH center and renamed the National Center for Complementary and Alternative Medicine, and again renamed in 2015 National Center of Complementary and Integrative Health.

DEFINITIONS

Complementally Medicine...Medicines that are not part of conventional therapy or mainstream medicine, such as aroma therapy, music, massage.

Interogative Medicine...focus on whole person and makes use of all therapeutic approaches.

Supplemental Medicine ...Any treatments added to conventional therapy.

Alternative Medicine...Medical treatment that is used instead of traditional therapies. Some also call it "integrative" or "complimentary" medicine. Included are acupuncture, chiropractic, energy therapies, herbal medicines and magnetic field therapy.

Conventional Medicine...Medicine that is prescribed as "mainstream"

You are a physician and one night at about 1 a.m. you are gasping for breath with a low grade fever—you dress and are driven to the E.R. where you are treated with bronchodilators, epinephrine, corticosteroids, hypertonic saline and antibiotics along with respiratory therapy & chest diagnostic films. You recover and are sent home hours later. Your diagnosis: **Respiratory Syncytial Virus bronchiolitis.**

Your neighbor's 18-month old child has caught the same virus and is rushed to the ER where he is admitted to ICU. He is treated with supportive therapy, fluids, i.v. nutrition only—the child waivers between life and death and finally recovers. Comparing notes the neighbor family is very upset as we find the child's hospital treatment has followed the new 2014 guidelines of the American Academy of Pediatrics on RSV bronchiolitis "to minimize unnecessary diagnostic testing and interventions. This guideline was also accepted by the American Academy of Family Physicians and incorporated in its updated policy." **What if the young child had died and you were the child's physician....**would these different "guidelines" hold up in court or in your conscience? (See "choosingwisely.org")

Bronchiolitis is a common lower respiratory tract infection in infants and young children and respiratory syncytial virus (RSV) is the most common cause. It is transmitted through contact with respiratory droplets either directly from an infected person or self-inoculation by contaminated secretions on surfaces. When it occurs in adults it usually is rather severe. More adults over 65 die from RSV than from flu.

Those with RSV bronchiolitis usually present with 2-4 days of URI symptoms such as fever, runny nose and congestion, followed by lower respiratory tract symptoms such as cough, wheezing and increased respiratory effort. An upper disease that goes lower.

Current treatment for children is mainly supportive and modalities such as bronchodilators, epinephrine, corticosteroids, hypertonic saline and antibiotics are generally not useful. Evidence supports using supplemental oxygen to maintain adequate oxygen saturation however, continuous pulse oximetry is no longer required. The other mainstay of therapy is i.v. or nasogastric administration of fluids for infants who cannot maintain their hydration status with oral fluids. Children at risk of severe lower respiratory tract infection should receive immunoprophylaxis with palivizumab, a humanized monoclonal antibody, in up to 5 monthly doses

Although the exact mechanism of RSV is unclear, it is likely that direct viral cytotoxic injury has a role in the pathogenesis of RSV infections. This leads to necrosis of the epithelial cells of the small airways, and the sloughed cells and mucus cause plugging of the bronchioles that leads to hyperinflation and atelectasis. RSV bronchiolitis typically affects children in the first two years life.

Although RSV infection is the most common cause of bronchiolitis, there are many other viral pathogens that can lead to this condition. A large study found that 30% of hospitalized children had multiple pathogen infections with RSV, with human rhinovirus being the most common. It is unclear if having multiple pathogen infections increase the severity of the clinical course.

Most children recover uneventfully although underlying chronic lung disease, congenital anomalies, immuno-compromised state, and significant heart disease in patients with bronchiolitis are associated with progression to severe disease or mortality. Infection with rhinovirus or severe RSV bronchiolitis is associated with an increased risk of asthma that can persist into adulthood.

Patients with RSV usually present with two to four days of URI symptoms. Increasing cough is usually the first sign of lower respiratory tract involvement; later symptoms include tachypnea, dyspnea, increased respiratory effort, and difficulty feeding. Patients with a normal respiratory rate are at low risk of significant viral or bacterial lower respiratory tract infection or pneumonia, although the presence of tachypnea cannot be used to distinguish between viral and bacterial infection.

Physical exam usually include auscultation of wheezing and crackles, and may include evidence of increased respiratory effort such as grunting, nasal flaring or retractions. In infants presenting with lower respiratory

tract symptoms, the history and physical exam help distinguish viral bronchiolitis from other causes and can help estimate disease severity.

RSV bronchiolitis has a more severe clinical course than non-RSV bronchiolitis, including a longer hospital stay. Virologic testing (*PCR assay*) on an individual basis is insufficient to predict outcomes and does not affect management decisions. Procalcitonin levels help rule out sepsis. Chest X-rays include increased peribronchial markings, hyperinflation, and atelectasis. However, chest radiography should not be performed routinely because it doesn't improve clinical outcome and is associated with increased antibiotic use.

TREATMENT: The mainstay is supportive care. Oxygen saturation of 90% or more is sufficient for children with bronchiolitis. High-flow nasal canula oxygen may be a viable option for infants with persistent hypoxemia (oxygen saturation less than 90%)

Maintaining nutrition and hydration is an important factor in management. I.V. or nasogastric fluids should be administered.

Bronchodilators should not be administered to infants and children with bronchiolitis. Despite short-term improvement they have no effect on the need for hospitalization, oxygen saturation, length of hospitalization, or disease resolution.

Epinephrine should not be given to children...outpatient use is controversial. Nebulized hypertonic saline (3% or 7%) also should not be given to infants with bronchiolitis in the ER or when the hospital stay is less than three days.

Systemic or inhaled corticosteroids should not be used. Antibiotics should not be administered to infants and children and should be reserved for those with concomitant bacterial infection. Overall, there is a very low rate of bacteria in patients diagnosed with bronchiolitis.

PREVENTION: Educating parents on reducing the risk of infection is important. RSV is highly contagious and is transmitted through direct contact with droplets. Secretions can remain infectious for more than 6 hours on hard surfaces such as tabletops cribs and toys. Strict hand hygiene must be adhered to including washing hands before and after contact with a patient infected with RSV. Alcohol based hand solutions are recommended for health care professionals, soap and water should be used if these are not available.

(Information for above was taken from Doctors Smith, Seales & Budzik's fine article that appeared in the Jan. 15, 2017 edition of *American Family Physician*.)

SUPER GRANNY, DEFENDER OF JUSTICE **(True Story)**

An elderly lady did her shopping and upon returning to her car found four males in the act of leaving with her vehicle. She dropped her shopping bags and drew her handgun, proceeding to scream at them at the top of her voice, "***I have a gun and I know how to use it! Get out of the car you scum bags!***" The four men jumped out and ran away.

The lady then proceeded to load her shopping bags into the back of the car and got into the driver's seat. She was so shaken that she could not get her key into the ignition. She tried and tried and then it dawned on her why. A few minutes later she found her own car parked five spaces farther down. She loaded her bags into her car and drove to the police station.

The Sergeant to whom she told the story nearly tore himself in two with laughter and pointed to the other end of the counter, where four **pale** white males were reporting a car-jacking by a mad elderly woman described as white, less the 5' tall, glasses and curly white hair carrying a large handgun. **No charges were filed.**

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

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A New Empire for a New Century

BACKGROUND: Most people believe Marconi invented the radio; he did not. His contribution was the wireless telegraph, which permitted the transmission of coded messages through the air. Radio made a huge leap beyond the coded confines of the telegraph. The new medium of radio was to the printing press what the telephone had been to the letter; it allowed immediacy. It enabled listeners to experience an event as it happened.

Lee De Forest, Edwin Armstrong & David Sarnoff. Those who created radio experienced stunning defeats...De Forest made and lost 3 fortunes, was married 4X and nearly went to jail for fraud. Sarnoff's aggressive nature earned him the enmity of many. Armstrong, lost almost his entire fortune suing the RCA (Radio Corporation of America.)

With his emphasis on order, religion, and physical and mental discipline, the Rev. De Forest, Lee's father, could appear cold and without compassion. Once when Charles was carried home unconscious and near death after a fall from a horse, Henry De Forest went on writing in his study while the rest of his anxious family awaited the doctor and ministered to the boy. "I was never able to understand his calm indifference," Lee reflected many years later. Bearded, looming over his children and his slight wife, at times aloof and emotionally detached, and always fervent in his knowledge that he was God's soldier, Henry Swift De Forest could be fearful to behold.

Yet, there were gentler moments. After his weekly bath on Saturday nights in the winter, Lee would go to his father's study. There he would sit on Henry's knee, warming his toes by the fire, and listen to him speak, "lovingly, almost caressingly, about the event of the week. In the summer of 1888, when Lee was fifteen, father and son went on a trip to Colorado and climbed Pikes Peak. On the iron balcony under the portico of Swayne Hall, Lee and Henry studied Latin, quietly reading together Virgil's pastoral *Eclogues*.

From the beginning, the Rev. De Forest had great aspirations for his eldest son; life as an inventor did not square with his plans. "How I cherish that if God so will, Anna, the daughter and wife of a minister, may also be the mother of a minister," he had written to his mother the day his first son was born. Henry knew he would have to send his son away to school to prepare him for the rigors of classical education at Yale College and later at the divinity school. But Lee wanted another course, that given at Yale's Sheffield Scientific School. A contest of wills ensued.

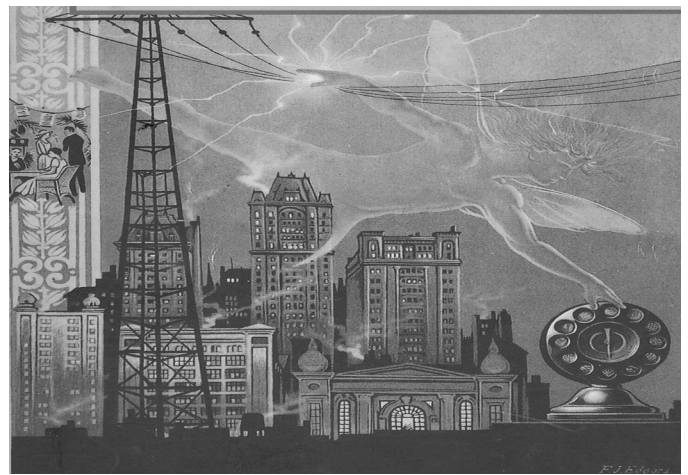
Henry, his father, possessed an intense interest in science himself, particularly in astronomy and geology, which he had learned to appreciate as an undergraduate at Yale. Nevertheless, like many students and alumni of the classical course, which was called the "college," he considered the education at Sheffield *infra dig*, indeed unworthy of a Yale degree. The course lasted but three years. It did not require any Greek, nor did it demand the training that the college did in the humanities. The faculty and men of the college had taken to calling it "*darkest Sheff*," after Stanley's "*darkest Africa*," and the rivalry was at times intense. It is likely Henry was also aware that Sheffield had no chapel for morning prayer and perhaps he had heard from his friends on the faculty at Yale that the scientific school was known about the campus as a "*hotbed of agnosticism*."

The battle ranged over several years. As the date for Lee's departure grew closer the arguments became more intense. On Oct. 4, 1890, Lee composed a letter to his parents:

Dear Sir I will you favor me with your ears for a few moments? I intend to be a machinist and inventor, because I have great talents in that direction...If this be so, why not allow me to so study as to best prepare myself...and take the Sheffield Scientific course...besides I could prepare for it in one more year and the cost would be much less...I think that you will agree with me about this on reflection, and earnestly hope you will act accordingly and educated me for my profession. I write this with no ill will in the least, but thinking that it is time to decide and choose my studies accordingly

Your obedient son, Lee de Forest.

On the reverse of the page, Lee quoted Longfellow in a note to his



mother:

*Lives of great men all remind us
We can make our lives sublime,
And departing leave behind us
Footprints on the sands of time.*

And he added "Dear Mama: The only footprints I will leave will be my inventions. I had better take the scientific course. Don't you think so?" The reply from both parents was a firm refusal.

The young de Forest continued to persist, however, and in late January and February 1891, he even resorted to forgery. With the hope that Thomas Edison might be able to sway his father, he sent a letter, what he called an "advice maker," to the inventor, asking counsel about a son who wished to pursue a career in science. He signed it by "forging Pa's name." The wizard of Menlo Park stood as an idol to the boy, the man who combined hard work and inventive genius to master the environment and win great fame. Surely he would help. Edison never replied.

Though Henry De Forest could win a grudging submission from this stubborn son in the woodshed, he could not prevail in the matter of the boy's education, and by March 1891, he had reluctantly consented. In the fall, Lee would enter Mount Herman Academy in Massachusetts to begin two years of preparation for the Sheffield Scientific School. Once Henry De Forest had given his permission, the tensions between him and his son faded.

Lee de Forest recorded much of his argument with his father about education in a journal, which he began keeping on New Year's Day, 1891. At first, he resolved to write in it for a year, thinking it would be "a pleasure at college and all my life to read it." And, he added, "It is said to be good discipline for the mind." He kept it faithfully that year, and though sometimes sporadically, for the next fifty years. Throughout his life he delighted in rereading it, sometimes commenting in the margins on events he had recorded and sometimes trying to blot out embarrassing words or passages. Later, when he came to write his autobiography, the journal served as its foundation.

Journal entries did not constitute de Forest's only form of literary expression at this time. For years he had written poetry, his earliest effort being a commemorative of his first pair of long breeches ("Short clothes, farewell, farewell!"). The trip to Colorado and Pikes Peak provided an occasion for a variety of verses: about popcorn; about the write and crusader for the rights of Indians, Helen Hunt Jackson ("She, whose pen the world inspired./Like all mortals has expired") and about the view from the top of the mountain. In the spring of 1891, he began a novel—mercifully unfinished—entitled *Talzed, the Cliff King*.

During his final spring in Talladega, as he prepared to leave for Yale, Lee de Forest also experienced the first glimmering of his sexual awakening. Mingled as it was with both biblical and racial guilt, it was not entirely pleasant. It began innocently enough with Annie Williams, a black servant to the De Forest household who was given a room over the kitchen in exchange for doing chores about the house. When the family was away at prayer meetings, Lee often would stay behind to dine alone with her "in solitary splendor." For an April Fool's joke, he tried to pour water on her head. Affection manifested itself when blueberries ripened in June.

(Continued Next Edition)

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Thompson, Robt WD8ING
Thompson, Alb. No call
Milazzo, Carol KP4MD
Brusoe, Terry K8IB
Paterek, Wm. KG7NXW
Groverman, H. W6HDG
Bangsil, Edgar N2DNK
Simowitz, Fred K0FS
Dolcoort, Jack WA0PFC
Ford, Robert W2REF
White, Elbert W4TX
Rowland, Carlyle N0ARN
Adams, Jim K4JWA
Adams, Mary KD8IPW
McGirr, Michael K9AJ
Alexander, C.K. WB9USA
Ziperstein, Jerry N4TSC
Laughlin, Darrell W8EYE
Lind, Charles N8CL
Brewer, Thomas W0RPH
Brown, Warren KD4GUA
Stewart, John AA5KV
Shatz, Arnold N6HC
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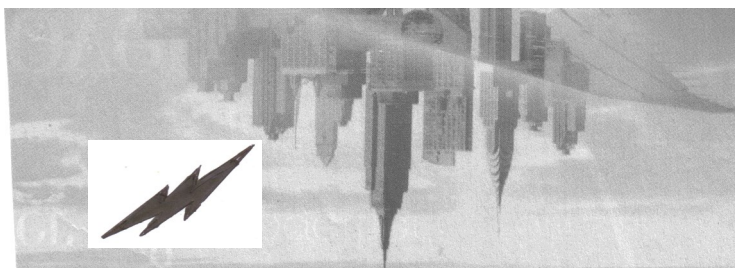
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