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COMMON SENSE—THE FLEXIBLE MIND

IT IS DIFFICULT FOR PHYSICIANS TO CHANGE THEIR ATTITUDES TOWARDS TREATMENTS WHICH WERE LEARNED BY EXPERIENCE...WHEN SUDDENLY A NEW BETTER TREATMENT ARISES

(Editorial from 12/15/18 edition of "American Family Physician.")

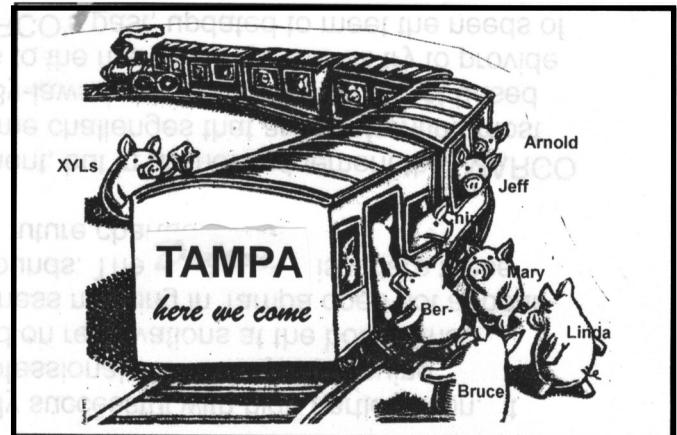
Treatments such as prescribing phosphodiesterase-5 inhibitors for erectile dysfunction or cyclooxygenase-2 inhibitors for pain were rapidly adapted into practice by physicians, in part because of aggressive marketing campaigns. Although the former were significantly more effective than existing treatments, the latter were no better, and in some patients led to more harm than older nonsteroidal anti-inflammatory drugs. These examples show that doctors can and will incorporate new information and treatments into their practices; however, they do not always result in better patient outcomes, and they are not always so readily adopted into practice.

(A red flag has appeared!)

In fact, a number of new recommendations have seen little adoption in modern American primary care practices. For instance, most patients are still told to fast before having their blood drawn, even though measurements of non-fasting lipids is a more accurate predictor of cardiovascular risk than fasting lipids. Most physicians also still recommend routine home blood glucose monitoring even though numerous well-designed randomized trials have shown no benefit to daily measurements of blood glucose in patients with type 2 diabetes who are not using insulin. Years after the release of guidelines to screen only average-risk women 21 to 65 for cervical cancer **every 3-5 years**, many doctors still recommend **annual** screening of older and younger women at average risk. Lastly, although corticosteroids have been shown to safely reduce morbidity and mortality in hospitalized patients with community acquired pneumonia, their use is **not considered** a standard of care in many U.S. hospitals.

Why are doctors so slow to adopt new practices that could improve patient outcomes while saving money? There are several possible explanations. One is that the information does not reach physicians because it is published in a journal or database that they do not regularly review. Actively seeking out the latest evidence is especially challenging for primary care physicians whose expertise is defined by breadth of knowledge as well as by depth. Doctors may also be slow to incorporate a new approach into their practice because it is inconsistent with a previous practice to which they are accustomed (i.e., practice inertia).

Physician training and education are another factor. Traditional medical education emphasizes pathophysiologic reasoning as a pathway to making treatment decisions, with much of the first two years of education given over to the basic sciences. Biologic plausibility would suggest that monitoring blood glucose should improve control, more screening should detect more cancers and corticosteroids should be detrimental in patients with pneumonias. It is hard to abandon this way of thinking when new research findings contradict these beliefs. This inductive process is now being challenged by a patient-oriented evidence based approach that prioritizes decision



ANNUAL MARCO CONVENTION, Tampa, Florida,
April 26, 27, 28. For room reservations at the Tampa Airport Marriot Hotel phone: 813 879 5151. For 8-day Caribbean cruise reservations phone: 1-800 380 1489.

LATE BREAKING NEWS

(from Marco President Jay Garlitz AA4FL): Please let me know if you plan on attending either of these— Tampa meeting or Xenia, Ohio meeting (Phone: 352 481 2677, email: jgarlitz@ufl.edu) and if you need to make hotel reservations. If you have already made reservations, let me know where, so I may join you. If no one has selected a hotel, I would be happy to arrange for a small block of rooms so we can all stay at the same hotel and do evening activities together. There is still time

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.)

TAMPA HERE WE COME !

April 26,27,28, Tampa Airport Marriot Hotel
 Followed by optional 8-day Caribbean cruise.
 Telephone reservation numbers above

WRITE TO US!
We welcome your comments.
Mail to Marco, P.O. Box 127,
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Letters may be edited for
brevity & clarity.

DAY	EASTERN	FREQ.	NET CONTROLS
Any Day	On the Hour	14.342	Hailing Frequency
Sunday	10:30 a.m. Eastern	14.140	CW Net, Chip, N5RTF
Sunday	11 a.m. Eastern	14.342	Warren, KD4GUA
(Alternate <u>confidential</u> Grand Rounds frequency— on or about 14.344 or as announced on the air.)			

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

making based on research that demonstrates a net benefit of an intervention rather than on biologic plausibility. In other words, pathophysiological reasoning should not supersede evidence from well designed clinical trials.

This shift from relying on “what should work” to “what has been shown to work,” requires that doctors appreciate the role of probability in medicine. However for many physicians inculcated with a pathophysiological approach to making medical decisions embracing outcomes-based, probabilistic thinking requires a *transformation in their worldview*.

A final factor explaining the failure to adopt evidence-based interventions is that many of these recommendations have no reason for industry support, and when a recommendation results in decreased use of a screening test or blood glucose monitor, someone actually stands to lose money. Indeed, many current guidelines suffer from intellectual or financial conflicts of interest that reflect the interest of the sponsoring subspecialty society or the industry co-sponsors. Too often, primary care doctors, who care for most patients most of the time, are not at the table when these guidelines are written. Federal guidelines for diagnosis and treatment are unlikely in today's political climate, especially given industry opposition to truly independent guidelines. The industry successfully squelched an attempt to do just that in the mid-1990s. A way forward is to give primary care doctors independent, unbiased evidence based guidance that can be trusted to guide clinical decisions. We should not leave guidance regarding the treatment of diabetes, hypertension and sore throat to the endocrinologist, cardiologist, and otolaryngologists who do not see our spectrum of patients in our primary care setting.

Although financial incentives and care driven by expert consensus guidelines make it hard to buck the system, Physicians ultimately have to take responsibility to do what's best for patients according to our understanding of the best available evidence. This sometimes means ignoring subspecialty guidelines or quality markers that we know are out of date or have never been correct. Doctors have to find more efficient ways to keep up with changes in medical research. For example, all of the practices noted above that physicians have failed to wisely adopt have been identified as POEMS (Patient-Oriented Evidence That Matters).

Physicians need to take responsibility for our decisions rather than relying on subspecialists to teach us how to practice. Primary care organizations such as the AAFP should work to build continuously updated primary care-oriented references to provide evidence-based clinical guidance for their members. Finally, doctors must accept that change is uncomfortable, recognizing the pain of giving up an old idea as medical knowledge evolves around us. We need to remain flexible in our thinking if we are to meet our goal of doing our best when caring for every patient.

Senior Citizens. From Chip, N5RTF...I got my Medicare Card in the mail and have made plans to cut my practice by 20% on Jan. 2nd., 2019, A new radio is being delivered tomorrow (present to self). Funny, I close my eyes and still feel 15 Hi Hi!"

100 listeners at a time. Again, no limit to downloads. Comments are appreciated.

HOT SUBJECTS....Want to lose weight? In a study, people who drank two glasses of water before meals lost 50% more weight than controls. When women are ovulating they unconsciously buy and wear sexier clothing...they found that women in their most fertile phases gravitate toward tighter, slinkier and more revealing ware. **Pain...**shouting a four-letter word when you stub your toe may cause less pain. Researchers had volunteers immerse their hands in ice water and heatedly shout curse words. Those who cursed withstood the pain longer and reported it hurt less. **Overheard in the cafeteria....**I drove down to the shore and got a terrible sunburn...we were driving in a convertible with the top down and I didn't think I'd get sunburned because the car was moving.

MARCO NET SCHEDULE

NET CONTROLS
Hailing Frequency
CW Net, Chip, N5RTF
Warren, KD4GUA

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

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SUN SPOTS

Amateur radio operators who use HF generally like increased sunspots because they correlate with better worldwide radio propagation. When there are more sunspots, the sun puts out more particles in the Earth's ionosphere. Radio waves bounce off of (*refract from*) these charged particles and the denser these clouds of ions, the better the HF propagation.

When the ionosphere is denser, higher frequencies will refract off the ionosphere rather than passing through to outer space. This is why every 11 years or so, when this activity is higher 10 meters gets exciting.



A VERY INTERESTING READ

10 meters is at a high enough frequency, right near the top of the HF spectrum, that radio waves propagate efficiently the sunspot count is high. Because of the shorter wave length, smaller antennas are very efficient on this band so mobile stations running low power on 10 meters can communicate world wide on a daily basis when the sunspot cycle is at its peak. There are also seasonal variations and 10 meters tends to be best near the spring or fall equinox.

The sunspot numbers are calculated by counting the sunspots on the visible surface and also measuring their area.

Solar Flex is another value and it is measured at an observatory in British Columbia using an antenna pointed toward the sun hooked to a receiver tuned to 2.8 GHz, which is at a wavelength of 10.7 cm. Energy detected seems to correlate somewhat with sunspots and with the density of the ionosphere.

Other solar activity of concern to HF operators are solar flares and coronal holes, which emit protons. Since the charged ions in the ionosphere are negative, a blast of protons from the sun can neutralize the charge and make the ionosphere less refractive.

These waves of protons can be so intense that they may trigger an event called a *geomagnetic storm*. In addition, energy from a solar flare may energize the D-layer of the ionosphere which absorbs radio waves.

The **Planetary A Index** relates to geomagnetic stability. Magnetometers around the world are used to generate a number called the **Planetary K Index**. A one point change in the K index is quite significant. K index readings below 3 generally mean good stable conditions, and above 3 can mean high absorption of radio waves. Each point change reflects a big change in conditions.

Every 24 hours the K index is summarized in a number called the **A index**. A one point change in A value is not very significant. A full day with the **K index** at 3 will produce an A index of 15; K of 4 means A of 27; K of 5 means A of 48, and K of 6 means A of 80.

The Geomagnetic number reported here is the **Planetary A Index**, which is a worldwide average based on the K index reading from a number of magnetometers. The numbers reported on WWV are the **Boulder K and A index**, measured in Colorado. Generally the higher the latitude of the measuring station the higher the K and A indices reported. This is because the effects of geomagnetic instability tend to concentrate toward the polar regions of the globe. You can hear the Boulder K index updated every three hours on WWV or by calling 303 497 3235.

AIR GAPS KEY TO NEXT-GENERATION 3 NANOCHIPS

A new type of transistor—which uses air gaps to eliminate the need for semiconductors—could help produce more efficient nanochips.

RMIT University researcher's have engineered a new type of transistor that sends electrons through narrow air gaps where they can travel unimpeded, rather than sending electrical currents through silicon.

"Every computer and phone has millions to billions of electronic transistors made from silicon, but this technology is reaching its physical limit where the silicon atoms get in the way of the current flow, limiting speed and causing heat," "Our air channel transistor technology has the current flowing through air, so there are no collisions to slow it down and no resistance in the material to produce heat."

While the power of computer chips has doubled about every two years for decades, recently the progress has stalled as engineers struggle to make smaller transistor parts.

However, the researchers believe the new device is a promising way to create nano electronics that respond to the limitations of silicon based electronics. Traditional solid channel transistors are packed with atoms, causing the electrons passing through them to collide and slow down to waste energy as heat.

"Imagine walking on a densely crowded street in an effort to get from point A to B," research team leader Sarath Sriram said in a statement. "The crowd slows our progress and drains our energy.

Traveling in a vacuum however, is like an empty highway where you can drive faster with higher energy efficiency," he added.

However, vacuum-packaging solutions around transistors has not been a feasible option because, while it makes them faster, it also increases their size.

We address this by creating a nanoscale gap between two metal points," Sriram said. "The gap is only a few tens of nanometers, or 50,000 times smaller than the width of a human hair, but it's enough to fool electrons into thinking that they are travelling through a vacuum and re-create a virtual outer-space for electrons within the nanoscale air gap."

The researchers aim to develop the device to be compatible with modern industry fabrication and development processes. Along with electronic applications, the transistor could be used in the aerospace industry to create electronic resistant to radiation and to use electron emission for steering and positioning nano-satellites.

"This is a step towards an exciting technology which aims to create something out of nothing to significantly increase speed of electronics and maintain pace of rapid technological progress," Sriram said.

(Was this the cause for the sudden rise in Verizon stock?)

UNDERSTANDING POLITICS—"The Stimulus Package."

It is a slow day in the small town of Pumphandle and the streets are deserted. Times are tough, everybody's in debt and everybody is living on credit.

A tourist visiting the area drives through town, stops at the motel and lays a \$100 bill on the desk saying he wants to inspect the rooms upstairs to pick one for the night. As soon as he walks upstairs, the motel owner grabs the bill and runs next door to pay his debt to the butcher.

The butcher takes the \$100 and runs down the street to retire his debt to the pig farmer. The pig farmer takes the \$100 and heads off to pay his bill to his supplier, the Co-Op. The guy at the Co-Op takes the \$100 and rushes to pay his debt to the local prostitute, who has also been facing hard times and has had to offer her services on credit. The hooker rushes to the hotel and pays off her room bill with the hotel owner.

The hotel proprietor then places the \$100 back on the counter so the traveler will not suspect anything. At that moment the traveler comes down the stairs, states that the rooms are NOT satisfactory, picks up the \$100 bill and leaves.

No one produced anything. No one earned anything. However, the whole town is now out of debt and now looks at the future with a lot more optimism—and that is how a stimulus package works.



ARE TODAY'S PHYSICIANS GETTING SLOPPY WITH THEIR PHYSICAL EXAMINATIONS?

A physician member of Marco wrote, "*In the past two years I have withstood at least 15 physical exams by 6 doctors and have observed certain recurring practices which have, at the least been disheartening.*" Such as:

1. Measuring blood pressure with the arm sleeved by clothing.
2. Measuring blood pressure without a stethoscope by radial palpation only.
3. Auscultation of the heart and lungs through clothing.
4. The complete abandonment of thoracic and abdominal percussion.
5. Examination of the abdomen with the patient in the seated position only.
6. Palpation of the lower extremity pulses through clothing (including dorsalis pedis and posterior tibial pulses with socks and shoes on.)
7. Eliciting deep tendon reflexes by rapidly tapping muscles (not tendons) at one or two joints.
8. Examination of peripheral sensitivity by touching feet still in socks and asking "feel that?"
9. Eliciting plantar response (Babinski reflex) through socks.

All of this by fellow physicians whom I have identified as bright responsible practitioners. All are board certified in their respective specialties. Are we in an era when medical professionals as a group have become blatantly careless in the art of physical diagnosis or am I expecting too much?

This subject was discussed on Marco Grand Rounds about ten years ago and here are some of the responses:

From **Paul KG6JLE**...If you take electricity and lab reports away from today's physicians they will be unable to come up with a diagnosis."

From **Bruce KM2L**...When I was a medical student I knew less about physical diagnosis by palpitation and auscultation than my teacher. It now seems that each generation depends less and less on that ability.

From **Harry, WB9EDP**...The doctors coming to the US from India and Pakistan do much better histories and physicals than American educated docs—perhaps because they were not exposed to MRI, CT and ultrasound as much.

From **Bill, N5QF (a dentist)**...I caught a nurse taking a blood pressure through clothing and told her that it is not the proper way to get an accurate reading.

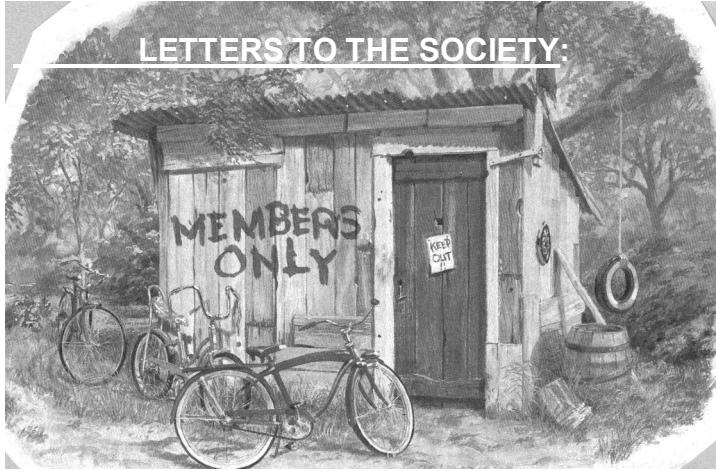
From **Bud KE2DT**...When English doctors get sued for malpractice and the patients loses, the patient is automatically counter-sued AND the lawyer does not get a percentage of any award, he gets a much lower fee for service payment. Thus English doctors are much more relaxed in their sloppiness.

From **Warren KD4GUA**...When I sustained a crushed pelvis I witnessed the same flagrant abuse of having my heart and lungs auscultated through my clothes, but being a patient, I was afraid to speak up. I even had a physician colleague who gave shots through the pants—missed the wallet!

In summary: Let us not be afraid to speak to our colleagues about the abuse of auscultation (*listening*), percussion (*pounding*) and palpation (*feeling*). If one is not going to use a stethoscope correctly then remove it from your neck and stop impersonating a medical professional.

HOW DO SUBMERGED SUBMARINES COMMUNICATE?

Using frequencies from very high to extremely low, submarines can communicate by radio when submerged if certain conditions are met, and depending on whether or not detection is important. Submarines seldom transmit on long range high radio frequencies if detection is important as in war. However Super (SHF), Ultra (UHF), or Very High Frequency (VHF) two way links with cooperating aircraft, surface ships, via satellite, or with the shore are fairly safe from high data rate, though they all require that the boat show an antenna or send a buoy to the surface.

LETTERS TO THE SOCIETY:

Kudos from emails coming in from Star City, Russia, Keith E Brandt, MD and Wayne Rosenfield K1WDR in Jerusalem, Israel.

From **Lou Powell, Clearwater, FL...** "Enclosed find the *Ten Commandments of Human Relations*: Speak to people. Smile at people. Call people by name. Be cordial. Be friendly & helpful. Be genuinely interested in people. Be generous with praise. Be considerate with feelings for others. Be thoughtful for the opinion of others. Be alert to give service.

Lou also submitted what is called "Candy For A Wordsmith." A bicycle can't stand alone because it is two-tired. What's the definition of a will? It's a dead give-away. A backward poet writes inverse. In a democracy it's your vote that counts. In feudalism, it's your count that votes. With her marriage she got a new name and a dress. Show me a piano falling down a mine shaft an I'll show you A-flat minor. When a clock is hungry it goes back four seconds. The man who fell into an upholstery machine is fully recovered. He often broke into song because he couldn't find the key. Every calendar's day are numbered. A boiled egg in the morning is hard to beat. He had a photographic memory which was never developed. When you've seen one shopping center you've seen a mall. Those who jump off a Paris bridge are in Seine. When an actress saw her first strands of gray hair she thought she'd dye.

A HAPPY ENDING.....

A Florida couple locked their keys inside their SUV at a shopping center. Their baby was also locked inside, which left the couple frantic but at a loss of what to do.

Then a crew of work-release convicts, laboring nearby in their striped uniforms, noticed what was happening and offered to lend their expertise at breaking into locked cars to help the worried pair.

A wire coat-hanger was procured, the convicts set to work, and in a few minutes the parents and child were reunited.

A happy ending for all—except the convicts, who had to go back to prison at the end of the day. We're not sure whether demonstrating that you've kept up your car-theft skills while incarcerated is something that will impress the parole board, but in this case we think it should.

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MARCO AD IN QST MAGAZINE**Club/Hamfests/Nets**

FRIEND OF BILL W?? 12:30 pm Eastern: HAAM Net Sat 14.290, Sun 14.340 and Mon-Fri 14.316
<http://www.qsl.net/haam/>

MARCO Medical Amateur Radio Council.
Professionals enjoying ham radio. Free newsletter & info. WB2MXJ@arrl.net

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.



Aerobic exercise vs. aging...German scientists recruited 125 middle aged people who were healthy but didn't exercise and assigned them work-out routines for the next six months. By the end of the study, those who had been asked to jog or walk briskly for 45 minutes three times a week, or to do a high-intensity interval program, had developed longer telomeres in their white blood cells. Telomeres are tiny caps on the ends of chromosomes that protect DNA from damage.

These caps shrink as humans get older, eventually resulting in cell death and disease. But aerobic exercise appeared to lengthen the participant's telomeres, dialing back the aging process. There was no lengthening in the telomeres of participants who took up weight training.

"They Shall Not Grow Old," a new old movie...take a 100+year enhanced movie, give it a "3-D, color, R-rating" and see what happens? Gone heroes come back to life from the terror of World War I and begin to set records of attendance. The reaction: A series of one night event screenings' that broke box-office records and helped the film gross more than \$11 million.

What happens when women have the same name and birthday in one city? Chaos! That is why your hospital is now using other things, such as your hand-print, your palm-veins, or your iris (eye) for identification. For example, Harris County, Texas, home of Houston, has 528 Martha Garcias which have the first name, last name and samedate of birth! (*Almost unbelievable!*)

Hearing better, think better? Could wearing a hearing aid help stave off cognitive decline? Experts say impaired hearing may increase the cognitive load on the brain, with more energy spent on processing sound and less on thinking and memory. Hearing loss may also exacerbate cognitive decline because it can lead to social isolation and depression. It makes interactions more fatiguing and can lead to breakdowns in communication with caregivers confusion and anxiety.

What about eye strain? Digital eye strain or Computer Vision Syndrome is physical discomfort after using any backlit screen for more than 2 hours. For some, the eyes become dry, itchy and experience blurry vision. Studies show people who work in an office spend an average of 5 hours a day at the computer and another 3 hours on personal devices at home ranging from cell phones, tablets and computer screens. Too much is thought to produce early cataracts and macular degeneration. What can one do about it? Every 20 minutes look to the distance for 20 seconds. Don't forget to blink. This relaxes our eyes from focusing and the blinking moistens your eyes with natural tears. Blue light anti-reflective coating or blue blocking lenses like Transitions and the Eyezen Lens help. The coating can be added to lenses that block the harmful blue light...hours of blue light also interrupts our desire to sleep. Keep the position of the screen just below eye level. Drinking lots of water prevents your eyes from drying out and consider anti-fatigue glasses if you are a hi-time user.

Severe adverse events associated with manipulative therapies...A University of Florida group writing in *American Family Physician* reports severe adverse events associated with manipulative therapies occur in one of 20,000 to one in a million cases of vertebrobasilar injury; one in 2 million to one in 8 million manipulations with lumbar disk herniation; one in 3 to 4 million manipulations in cauda equine syndrome and one in 3-4 million manipulations in death.

A MODERN LIFESTYLE DISEASE—NASH

Non Alcoholic Steato Hepatitis

(As presented on MARCO Grand Rounds of the Air, Feb. 24, 2019.)

Non-alcoholic fatty liver disease is characterized by the presence of an abnormal accumulation of fat in the liver which in some individuals can progress to liver cell injury and inflammation. Hepatocellular ballooning and inflammation are commonly considered as the drivers of disease progression, or as the underlying causes of the disease. As NASH evolves, over time, it can result in excessive scarring in the liver (fibrosis), a natural response to injury which can lead to liver cirrhosis or liver cancer.

NASH is closely related to the triple epidemic of obesity, pre-diabetes, and diabetes, and can be defined as the liver manifestation of the metabolic syndrome. It is heavily influenced by lifestyle (chronic excessive caloric intake, sedentary activity) and is distinct from other fatty liver diseases caused by alcohol abuse or medication side effects.

NASH is a chronic yet silent disease, which means that most patients live with it for several years without experiencing any symptoms and are mostly unaware of their liver condition. NASH can progress to more serious disease stages, such as advanced fibrosis, cirrhosis, liver failure or liver cancer. Liver transplant might then be required.

SYMPTOMS: Usually NONE. When present: enlarged liver, fatigue, dull pain in the upper right abdomen. There may be abdominal swelling, enlarged blood vessels just beneath the skin (ecchymosis). Enlarged breasts in men, enlarged spleen, red palms and yellowing of the skin and eyes (jaundice). You may not be able to see your toes on standing.

CAUSES No known reason why some people accumulate fat in the liver while others do not. There is limited understanding (*hypothyroidism?*) of why some fatty livers develop inflammation that progresses to cirrhosis. Nonalcoholic fatty liver disease and nonalcoholic steatohepatitis are both linked to the following: **Overweight or obesity. Insulin resistance, in which the cells don't take up sugar in response to the hormone insulin. High blood sugars indicating pre-diabetes or actual type 2 diabetes. High levels of fats, particularly triglycerides in the blood. These combined health problems appear to promote the deposit of fat in the liver. For some, this excess fat acts as a toxin to liver cells causing liver inflammation and nonalcoholic steatohepatitis, which may lead to a buildup of scar tissue (fibrosis) in the liver.**

RISK FACTORS: High cholesterol. High triglycerides. Metabolic syndrome. Obesity particularly when the fat is concentrated in the abdomen. Polycystic ovary syndrome. Sleep apnea. Type 2 diabetes. Underactive thyroid. Underactive pituitary gland.

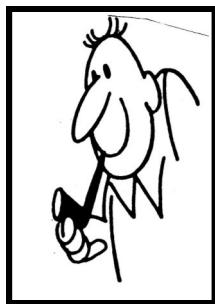
Non alcoholic steatohepatitis is more likely in older people, those with diabetes and those with body fat concentrated in the abdomen.

COMPLICATIONS: The main complication of nonalcoholic fatty liver disease and nonalcoholic steatohepatitis is cirrhosis, which is late-stage scarring in the liver. Cirrhosis occurs in response to earlier injury, such as the inflammation in these diseases. As the liver tries to halt inflammation it produces areas of scarring. With continued inflammation, fibrosis spread to take up more and more liver tissue. If the process isn't interrupted, cirrhosis can lead to: fluid buildup in the abdomen (ascites), swelling of veins in the esophagus which can rupture and bleed. Confusion, drowsiness and slurred speech and liver cancer. End stage liver failure, which means the liver has stopped functioning.

Note: The liver is capable of healing rapidly, for example, it takes only 30 days for the liver to heal after excess ingested overdose poisons such as Tylenol. Supplements to hasten recovery (?) include Vitamin E, yogurt and coffee!—value undetermined.

About 20% of people with nonalcoholic steatohepatitis will progress to cirrhosis.

PREVENTION: Choose a healthy diet. Maintain a healthy weight. Exercise regularly. Lengthen the belt line and shorten the life line—you are what you eat!



5

ADDICTION

Addiction is more common than people realize. There are about 22 million Americans over the age of 12 with an addiction and 80% of those who struggle with a substance abuse disorder also struggle with an alcohol use disorder, AND more Americans are likely to die of an opioid overdose than in an automobile crash.

In a study in the Lancet, addictiveness and harmfulness of popular drugs have been listed. Here are the top five:

Heroin. This is the most addictive drug. It is not only the most addictive drug, it's the most dangerous because the dose that can kill is only 5X greater than a dose for getting high.

Cocaine. It's estimated that between 14 and 20 million people use cocaine.

Nicotine. This is ranked the third most addictive drug. More than 2/3 of Americans who tried smoking reported becoming dependent.

Barbiturates. Also called "downers," these are a class of drugs initially prescribed to treat anxiety and to induce sleep. At low doses barbiturates cause euphoria, but at a higher level they can suppress breathing and cause death.

Alcohol. The WHO estimates over 2 billion used alcohol in 2001 and 3 million died in 2016 due to alcohol.

***** THE SAFEST SEAT ON AN AIRLINER

(Seminar, March 6, 2019 by Capt. Luis Virelha, Clearwater, FL.)

At a recent seminar of high time pilots, mostly airline captains, the discussion was raised as to where your loved ones should sit when traveling by air.

In case of a crash-landing those in the middle aisle gets the worse effect since the undercarriage of airliners are built to "give way" as are the wing-engines to prevent fires. (However, keep in mind the middle aisle is the way to the exit door.) When the plane lands the top of the fuselage (baggage racks) will slide forward and the floor will become elevated. Thus it is important to put your luggage under the seat in front rather than in the rack above if possible to prevent de-cap. To prevent crushing effect you should always have a seat in front of you near the closest exit.

Which flight to choose? Fly the largest plane (best safety record as there is less impact zone). Pay an additional \$50 to fly a large established airline since they have the best pilots, mechanic and "on-time" records. They also have an excess number of aircraft to fill in for disabled planes.

One should always wear tight-fitted-shoes when flying....in case of a crash visualize trying to walk through burning fields of disarray without shoes!. Do not wear nylon clothing while flying because these fabrics will melt with heat and unite with the skin and refrain from using hair spray which is highly flammable..

Make sure your seat belt is not twisted as a twisted seat belt can act like a knife.

In case of crash interlock your fingers together with your arms over your head and bend forward over your pillow

Safest records lie with Boeing aircraft. Jet engines can usually tolerate a 2.5 bird input...be leery if there is a wing dip on taxiing as this tends to emit flammable vapors and check out the window to see if flaps are down without ice on takeoff.

If overwater make sure you apply your life vest correctly the first time as there usually is no second try.

In summary: The safest seats are in aisle #7 next to the window over the wing (NOT in the rear, as it is first to disengage—rip off!).

Air travel is safest *per miles traveled*, BUT air crashes result in 10X more fatalities than car travel and only average a 31% survival rate.

SECRETARY REPORTING

**Joe Breault WB2MXJ
(Dated Feb. 3, 2019.)**

This month's newsletter listed dues payments received (either online or via check) as of Jan. 13, 2019. (See page 12). Your newsletter mailing label has a "Dues due by" date, so if it said due by Jan. 2019 or prior and you are not listed (page12), that means we have not received your dues payment.

You should have received an email invoice to pay by PayPal by clicking on a button in the top left of the invoice. Check your spam folder if you have not received it and need one. If you did not receive the invoice, please email a request for one with the correct email to invoice@marco-ltd.org.

If you prefer to use the old way via snail mail, checks you can send them to Joe Breault, WB2MXJ, MARCO Secretary, 1615 Brockenbraugh St., Metairie, LA 70005.

If we or the system have made a mistake (e.g., you got the cancelled check back or a credit card dues payment was processed but we are not showing you as paid) then please email the details to us at the same email above so we can get it figured out and fixed.

Thanks everyone for supporting MARCO with your dues payments. An accounting of the finances by the treasurer and the membership rolls by the secretary are made at each annual membership meeting.

NEIL ARMSTRONG ON THE MOON

**"WHO WAS MR GORSKY?"
In case you didn't already know this
little tidbit....**

On July 20th, 1969, as Commander of the Apollo 11 Lunar Module, Neil Armstrong was the first person to set foot on the Moon.

"That's one small step for man, one giant leap for mankind," were televised to Earth and heard by millions. BUT, just before he re-entered the lander, he made the enigmatic remark. **"Good luck, Mr. Gorsky."** Asked the meaning Armstrong always just smiled.

On July 5, 1995, in Tampa, while answering questions following a speech, a reporter brought up the 26 year-old question about Mr. Gorsky. Many at NASA thought it was a casual remark concerning some rival Soviet Cosmonaut. However, upon checking, there was no Gorsky in either the Russian or American space programs.

Over the years, many questioned Armstrong as to what the "good luck, Mr. Gorsky" was and this time he finally responded because his Mr. Gorsky had just died, so Neil Armstrong felt he could now answer the question. Here is the answer to "Who was Mr. Gorsky?"

In 1938, when he was a kid in a small mid-Western town, he was playing baseball with a friend in the backyard. His friend hit the ball, which landed in his neighbor's yard by their bedroom window. His neighbors were Mr. and Mrs. Gorsky. As he leaned down to pick up the ball, young Armstrong heard Mrs. Gorsky shouting at Mr. Gorsky:

"SEX! You want sex?! You'll get sex when the kid next door walks on the Moon!"

Neil Armstrong's family confirmed that this was a true story.

GREETINGS FROM OUR MARCO PRESIDENT

Jay Garlitz, AA4F

Spring forward in March means changing to Daylight Savings Time for most of us. We get an extra hour of propagation during early evening hours on 20m and the grey starts at a time when many of us are home and free to chase Dx

As we spring forward to our annual MARCO meeting in April lets recognize our gray area within MARCO, in its greying/graying, appeal and importance. Meeting as a group is a relevant and valued component of organizations. From a generational standpoint the nature of business meetings may be starting to change for working individuals. When there is value professionally the priority tends to be elevated, but otherwise meetings can compete with the many activities that young professionals use for after work recreation, family life, etc.

MARCO Grand Rounds on the Air is highly successful with high participation. It offers the best of MARCO, ham radio, professional comradery, continuing education, and social time. To date based on reservations at the board and membership level our 2019 MARCO business meeting in Tampa does not appear to have the same attraction as the Grand Rounds. The irony is this where these types of issues will be addressed and our future charted.

I mention this dilemma not in disappointment, but in acknowledgement that MARCO is undergoing the need to address the same challenges that are confronting most organizations. As the board reviews the By-laws (which may need internet based meeting support), and brings suggestions to the membership, we will try to provide wisdom in building on the success of MARCO's past, updated to meet the needs of its future.

The MARCO post-meeting cruise out of Tampa is being held April 28-May 5. We have eleven cabins booked on the Carnival Miracle and will be operating DX in three ports. Listen on the air for V31D (May 1), HQ9D (May 2) and ZF2D (May 3). We will send out exact details by our google group e-mail reflector. Anticipated hours will be mid-day with operations on 20m Phone or CW, and 17m phone CW or FT-8. Work us, spot us on DX clusters, and request a DX QSL card from MARCO!

I hope to see many of you at our MARCO booth at Xenia in May. Drop me a note at jay.aa4f@gmail.com to let me know if you are coming and I'll distribute a list of attendees so we can socialize!

Yours in dedication to MARCO

JAY, AA4FL

RADIO-INTERNET COORDINATOR REPORTING...

T. "Chip Keister N5RTF

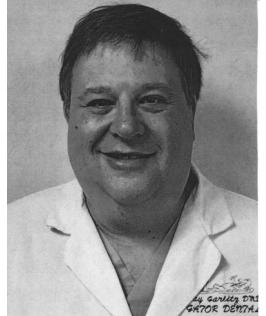
Your latest MARCO streaming audio instructions are as follows: You can listen live to the MARCO CW net and Grand Rounds by internet streaming audio. If you miss the SSB net, check it out later through the Archive. There are no passwords, logins, or registration needed. Keep it on in the background and turn it up when QSB attacks!

To Listen: 1. use a browser to go to the following web page which has a player app and links to the audio stream and archive: <http://marcoaudio.ddns.net:2199/start/tkeister>. There is a world map on the page which updates to show current listeners and locations.

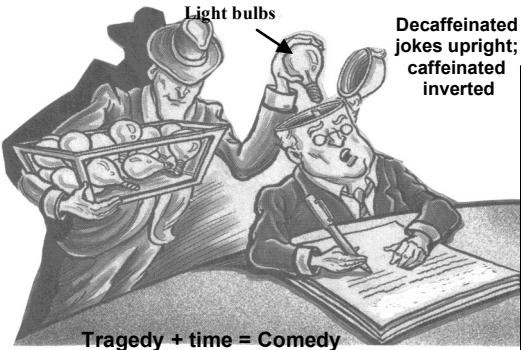
2. The second way is to manually enter:

<http://marcoaudio.ddns.net:8011/stream> into a standard music player on computer, phone, or portable device while the net is in progress. Feel free to share these links with anyone, MARCO member or not. No login or password is required. No cost. There is room for 100 listeners at a time. Again, no limit to downloads. Comments are appreciated

"Chipper," N5RTF



LIGHTEN UP...



7

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5G TELECOM WILL BRING NEW LIFE TO TV-SPORTS

Intel Corp is experimenting with attaching sensors to players and pucks at the 2019 National Hockey League All-Star game in January.

Deployment on football running backs will also enable the viewer to see the action as the player sees it.

More so than just sitting back and aching TV, you're going to be living life in a virtual world without black & blue bruises.

LIGHTEN UP...



Why do women live longer than men? A. Because women aren't married to women.\

Where did the crazy guy walk through the forest? A. Through the psychopath.

A man working with an electric saw accidentally cuts off all of his fingers. At the E.R. his doctor says, "Give me the fingers, and I'll see what I can do." The injured man replies, "*But I don't have the fingers!*" "Why didn't you bring them?" The doctor asks. "*I didn't bring them Doc, because I had no fingers to pick them up!*"

A diner at a restaurant asked a passing waitress "Are you the girl who took my order?" "Yes, sir," the waitress replied politely. "*Well, I'll be darned! You don't look a day older!*"

A boiy was attending his first wedding. After the service, his cousin asked him, "How many women can a man marry?" "Sixteen," the boy responded. "How do you know that?" "Easy, All you have to do is add it up, like the preacher said: 4 better, 4 worse, 4 richer, 4 poorer."

A Dubinier proposed to his girlfriend on St Patrick's Day and asked if she wanted to buy you a sham rock."

Dave & Nadine are at the airport in Phoenix, awaiting their flight. They are dressed in heavy boots, parka, scarf, mittens, all ready to head home to the Canadian winter. An old American couple standing nearby in shorts are intrigued by their manner of dress. The wife says to her husband, "Look at that couple, I wonder where they're from?" He replies, "How would I know? She counters, "You go and ask them." He refuses and she decides to do just that and walks over to the couple and asks, "Excuse me, we've noticed the way you're dressed and wonder where you're from?" Dave replies, "Saskatoon, Saskatchewan." She returns to her husband who asks, "Where are they from?" She replies, "I don't know, They don't speak English."

I was so depressed last night thinking about the economy, excited and asked if I could drive a truck. Pakistan, and when I told them I was suicidal they got all etc., I called the Suicide Lifeline. I got a call center in wars, jobs, my savings, Social Security, retirement funds,

ARE ELECTRONIC HEALTH RECORDS LIKE CANDY?
TOO MUCH WILL MAKE ONE SICK?
Insurance & Government compliance are eating up half of the time clock for patient care.
"We have had an Electronic Health Record system for one year.
We are now officially less efficient and less profitable."
EHRs hve not been demonstrated to improve medical care. BRING BACK PAPER!
(tHIs Is a tRuE JOkE? Smile & cry!)

Happy Landings is printed by
Colorfast Printing - (5 Stars) -
14114 63rd Way N.,
Clearwater, FL 33760
phone 727-531-9506
[Www.colorfastprint.com](http://www.colorfastprint.com)



MEMORIES OF YEARS AGO IN MARCO

Our History Book

Fifteen years ago in Marco, April, 2004

April 2004...The Annual Marco Meeting will be held next month at which time **T. Chip Keister, Jr., N5RTF** will take over the Presidency of Marco from **Keith L. Adams N3IM**.

Bruce Small KM2L reported that "The patient was an 8-year old wire antenna, who presented with a chief complaint of inability to maintain an erect position and inadequate RF emission. The patient inquired as to whether Levitra might help. According to the history, the condition developed acutely during a wind storm about ten days prior. On exam the antenna was seen to have one leg lying on the ground. The wire forming this leg had been completely transected due to trauma. It was determined that the patient was not a candidate for phama and emergency augmentation antennoplasty was recommended. Both potions were brought into the indoor operatory. The distal end of the repaired antenna leg was restored to functional position and tolerated the procedure well...estimated blood loss 5 cc (mine). The patient was advised to resume normal amateur radio intercourse and to avoid wind gusts in excess of 40 mph."

John McCann WB5BHB was complaining about the misspelling of his home town of "Vancleave" Mississippi which MARCO spelled "Vancleve." Correction noted.

Ten years ago, in MARCO, April 2009

The Chicago Annual Meeting is set for June 11-13. Our host will be our President **Harry Przekop**. H.Q. will be at the Holiday Inn Merchandise Mart.

Headlines of MARCO's AETHER, "BOTOX" and sure enough, the story hi-lites our cover girl, the late **Zsa Zsa Gabor** who sported 8 husbands—claimed she "collected them," and stated "love was a waste!" She also said she knew nothing about sex because she had always been married.

Jeff Wolf K6JW had a nice article titled "Setup Needs for Computerized Radio Control."

There was an interesting article "The First Wireless Rescue at Sea," the story of the "Republic," sinking of Jan. 22, 1909.

Bob Morgan in his "News from Canada," reported on a study from the Canadian Diabetes Assoc. which stated, "Despite the association between plasma glucose and cardiovascular disease, studies have shown that intensive glucose lowering in type 2 diabetes does not reduce major cardiovascular events."

Five years ago in MARCO, April 2014.

A little excitement took place on March 11th when a hot wire came through the internet addressed from News Editor **Warren KD4GUA**, which read, "I hope you get this on time. I made a trip to the Ukraine and had my bag stolen from me with my passport and personal effects therein. The embassy has just issued me a temporary passport but I have to pay for a ticket and settle my hotel bills. Will need \$1,950 U.S. Dollars." ...**Jeff K6JW** noted, "I think Warren has been spoofed..don't respond. **Chip N5RTF** aired in from New Orleans. "I thought we had sponsored a DX expedition." Yes, it was a scam and the News Editor hoped no one sent the creeps money.

Bob Conder K4RLC praised Echolink and offered the download address at WWW.Echolink.Org

The secret of the **Ouija Board** was revealed on page 4. In 1891, the first ads started appearing about the magical device that answered questions about the past, present and future with marvelous accuracy. ...people think the answers must be coming from an oher worldly source. The board then became somehow mystical or magical.

MEDISHARE NEWS

Arnold Kalan M.D. WB6OJB,

16690 Charmel Lane

Pacific Palisades, CA 90272

Is looking for your money to donate to

Needy Hams

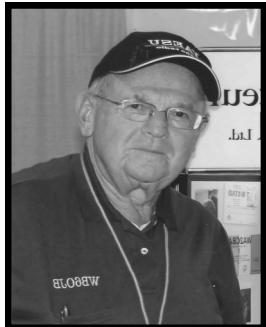
Worldwide.

Distribution will be discussed in

Tampa at the annual

MARCO meeting...

Try and be there.....



THE AIR. (Corrections to Marco)

14.342, Sundays, 11 am Eastern, One Hour Cat. II CME

CALL	HRS.	NAME	QTH
KD4GUA	9	Warren	Largo, FL
KNOS	9	Dave	Virginia
WB9EDP	9	Harry	Batavia, IL
N4TSC	9	Jerry	Boca Raton, FL
KC9CS	9	Bill	Seminole, FL
N6DMV	9	Paul	Torrance, CA
NU4DO	9	Norm	Largo, FL
W1RDJ	9	Doug	Cape Cod, Mass.
K3IM	8	Keith	Mill House, PA
N5AN	8	Bud	Lafayette, LA
WB6OJB	8	Arnold	Pac. Pal., CA
N5RTF	8	Chip	New Orleans, LA
KE5SZA	8	John	Marietta, OK
K6GZ	8	Bill	Hysteria, CA
KM2L	7	Bruce	Clarence, NY
N2OJD	7	Mark	Sydney, Ohio
N4MKT	7	Larry	The Villages, FL
W6NJY	7	Art	Beverly Hills, CA
N9RIV	7	Bill	Danville, IL
K8QA	7	Rich	Knox, IN
WA3QWA	7	Mark	Chesapeake, MD
N2JBA	7	Ed	Amenia, NY
KC9ARP	6	Michelin	Batavia, IL
NOARN	6	Carl	Denver, CO
W4RLC	6	Bob	Raleigh, NC
WB1FFI	5	Barry	Syracuse, NY
KE8GA	5	George	N. Carolina
W8LJZ	5	Jim	Detroit, MI
K6JW	4	Jeff	Palos Verdes, CA
KK1Y	4	Art	Seminole, FL.
N8CL	4	Chuck	Albany, NY
WA1HGY	4	Ted	Mass.
AA4FL	4	Jay	Hawthorne, FL.
KD5QHV	3	Bernie	El Paso, TX
KG4CSQ	2	Ralph	Huntsville, AL
W4DAN	2	Danny	Cleveland, TN
WA1EXE	2	Mark	Cape Cod, Mass
W8CRK	2	Roger	Cincinnati, Ohio
W9JPN	1	Wally	Champagne, IL
N9HIR	1	Bill	Berwyn, IL
KB5BQK	1	Linda	El Paso, TX
N9GOC	0	Pat	Champagne, IL
W3PAT	0	Marvin	Prosperity, SC
W2MXJ	0	Joe	Louisiana
K0FS	0	Fred	St. Louis, MO
W0RPH	0	Tom	Denver, CO
WB9GET	0	Keith	Springfield, PA.

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
2014 (Year of Terrorist)	1756 (47 nets)	37.36
2015	1722 (49 nets)	35.14
2016	1687 (46 nets)	36.67
2017	1536 (46 nets)	34.13
2018	1500 (43 nets)	34.88
2019	336 (9 nets)	37.33

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

THE EVOLUTION OF PAIN

The quest for relief: People have tried almost anything to alleviate pain. Some milestones:

B.C. Opium is used by the Sumerian and Assyrian civilizations, and is mentioned in Egyptian medical scrolls dating back to 1500 B.C.

500-1500 A.D. Leeches are a mainstay in Middle Ages pain treatment.

Early 1800s. Morphine is separated from opium and soon replaces it in many pain medicines.

1831. British scientist Michael Faraday finds an electric current can produce a magnetic field and vice versa. This is the basis for the pain treatment neurostimulation.

1898. Heroin, the newest opium derivative, enters commercial production by Germany's Bayer Co. It is advertised as being at least 10 X as potent a painkiller as morphine with "*none of the addicting properties.*"

1967. Spinal-cord stimulator is tested and advances lead to its wider use for pain in back, arms and legs.

1990. Opioid prescribing surges as drug companies and some pain specialists tell the medical community the drugs aren't addictive.

1995. The FDA approves the opioid OxyContin. The American pain Society promotes the idea of pain as "the fifth vital sign."

Early 2000s. Sales of prescription opioids skyrocket, and reports of overdose and death begin to rise sharply.

2012-17. Opioid prescription rates slow, and the CDC recommends against opioids as first-line treatment for chronic pain. But with more than two million Americans addicted to prescription or illicit opioids, the White House declares a public-health emergency.

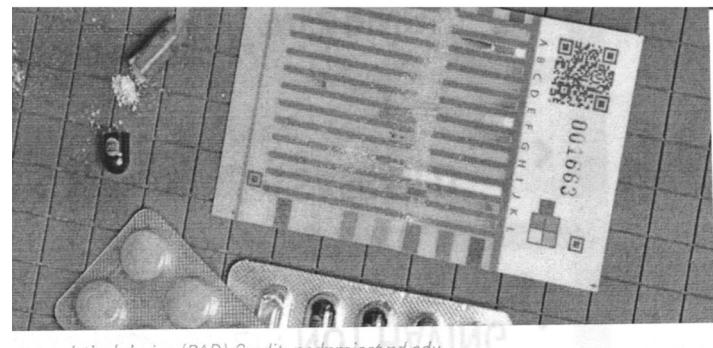
Today, a new world of pain treatment is on the horizon. Advances in measuring pain could show doctors how much pain a patient feels more widely and help them dial the treatments up—or down—more precisely than "*how bad is the pain on the basis of 1-10?"*

Better ability to assess each patient's risk for chronic pain including identifying the genes that make it more likely, could lead to more personalized and effective treatments. And a deeper understanding of pain's causes and new methods to treat it are starting to improve doctor's ability to ease pain without relying on potentially dangerous and addictive drugs.

The need has never been more urgent. More than 50 million adults in the U.S. are living with chronic pain. Unlike acute pain—the sharp instantaneous sensation that alerts the body to injury or trauma—chronic pain can exist long after normal healing, lasting or months or years.

Researchers are now testing neurostimulation approaches that don't require surgery or implanted devices. Doctors at the University of North Carolina, say that chronic pain disrupts normal patterns of brain activity in regions associated with pain, "*so you get a persistent anti-pain signal to the brain*" blocking the agony. With a treatment known as transcranial alternating-current stimulation scientists are delivering weak alternating currents of electricity, imperceptible to study subjects, through electrodes on the scalp. In a recent study they showed that by targeting one brain region, they could enhance natural brain rhythms known as alpha oscillations and significant; decrease symptoms of lower back pain in just one session.

Some pain-medicine experts are returning to an idea originally conceived in the 1970s—combining modern technology with holistic approaches. A growing body of evidence suggests approaches such as acupuncture, hypnosis, mindfulness, meditation, spinal manipulation and yoga may help to manage chronic pain. (**Back to the future?**)



Counterfeit or degraded drugs are a significant problem across the globe,...according to the World Health Organization, about 10% of medical products in low and middle income countries are either outright falsified or substandard.

Researchers from the **University of Notre Dame** have developed a possible solution—a test card known as a **paper analytical device** (PAD) that can be used to quickly "read" a pill—much like a barcode—and alert the user of its contents, allowing them to tell whether it is real, fake or contains degraded ingredients. The user simply swipes a sample of the drug across the paper card and then dips it in water to activate the test.

There is currently no global system to monitor the quality of medicine, and countries in the developing world do not have the infrastructure or the regulatory resources to really handle this issue.

The card contains 12 lanes with all the reagents required to carry out tests for different chemical and functional groups.

For example, one lane contains copper and a base to give a characteristic forest green color with any beta-lactam type antibiotic. The copper lane gives a different and distinctive color with metformin and another lane contains a series of reagents that generate a reactive species that can detect phenol groups, found in drugs like acetaminophen or amoxicillin.

Other lanes specialize in detecting inert fillers like maize meal, or substitute drugs like acetaminophen that might be added to replace a more extensive pain medication.

To use the paper screening tests, the user only needs the actual medicine and water. The card will store the reagents, mix them in the correct order and bring them to the drug sample.

There is a color barcode that you're comparing and you can compare a good quality sample or a reference standard with a mystery sample that you just purchased in a shop and decided whether the match is good or not. If you have a cheap, fast field test, then it opens up some new avenues that citizen scientists can now participate in the challenge of keeping the drug supply good.

Each paper card contains a library of chemical color reactions that is each isolated in its own reaction lane by hydrophobic barriers that are printed onto the card using Whitsides type wax printing. The card is made of Ahitrom 319 chromatography paper, a heavy paper made of pure cellulose fibers. A QR code, color standards and lane labels are then printed onto the card and a Xerox ColorQube wax printer used to print the lines that separate the 12 lanes.

A quick bake makes the wax soak into the paper and a Biomek spotting robot is used to place spots on the different reagents into the lane. Thus far, the researchers have printed out 15,000 test cards.

To test the new device, the researchers trained 20 drug inspectors in Tanzania. They then provided the inspectors with 3,000 samples, only half of which were real. According to results, the inspectors using the PAD cards were able to detect fakes **with a 93% accuracy**.

While the card has proven effective, scientists say that at this time it does not read some drugs currently on the market. They pointed to the 2012 fake medicine crisis in Pakistan where a heart medicine called Isotab killed more than 200 people—as proof that a portable and inexpensive test to spot fake drugs is needed.

Right now over 30,000 cards have been manufactured and it is believed that they can be manufactured in even larger quantities at reasonable prices.

Necrotizing fasciitis (NF) commonly known as “flesh-eating disease”, is an infection that results in the death of parts of the body’s soft tissue. It is a severe disease of sudden onset that spreads rapidly. Symptoms include red or purple skin in the affected area, severe pain, fever, and vomiting. The most commonly affected areas are the limbs and perineum.

Typically, the infection enters the body through a break in the skin such as a cut or burn. Risk factors include poor immune function such as from diabetes or cancer, obesity, alcoholism, I.V. drug use, and peripheral vascular disease. It is not typically spread between people. The disease is classified into four types depending on the infecting organism. Between 55 and 80% of cases involve more than one type of bacteria. Methicillin resistant *Staphylococcus aureus (MRSA)* is involved in up to a third of cases. Medical imaging is helpful to confirm the diagnosis.

Necrotizing fasciitis may be prevented with proper wound care and handwashing. It is usually treated with surgery to remove the infected tissue, and I.V. antibiotics. Often, a combination of antibiotics is used, such as penicillin G, clindamycin, vancomycin and gentamicin. Delays in surgery are associated with a much higher risk of death. Even with high-quality treatment the risk of death is between 25 and 35%.

Necrotizing fasciitis occurs in about .4 % of people per 100,000 per year in the US and about 1 per 100,000 in Western Europe. Both sexes are affected equally. It becomes more common among older people and is rare in children. It has about a 30% mortality rate and has been described at least since the time of Hippocrates. The term “necrotizing fasciitis” first came into use in 1952.

Signs & Symptoms: Symptoms may include fever, swelling and complaint of excessive pain. The initial skin changes are similar to cellulitis or abscess thus making the diagnosis at early stages difficult. Hardening of the skin and soft tissue and swelling beyond the area of skin changes are commonly present in those with early NF. The redness and swelling usually blend into surrounding normal tissues. The overlying skin may appear shiny and tense. Other signs which are more suggestive of necrotizing changes are formation of bullae, bleeding into the skin which is present before skin necrosis (skin turning from red to purple and black due to thrombosis of blood vessels), presence of gas in tissues, and reduced or absent sensation over the skin (due to the necrosis of the underlying nerves). Rapid progression to shock despite antibiotic therapy is another indication of NF. Necrotizing changes affecting the groin are known as Fournier gangrene.

However, those who are immunocompromised (have cancer, use corticosteroids, on radiotherapy, chemotherapy, HIV/AIDS, or prior organ or bone marrow transplantation) may not show normal symptoms. Immunocompromised persons also have twice the risk of death from NF infections, so higher suspicion should be maintained in this group.

Risk factors: More than 70% of cases are recorded in people with at least one of these clinical situations: Immunosuppression, diabetes, alcoholism/drug abuse/smoking, malignancies, and chronic systemic diseases.

NF can occur at any part of the body, but it is more commonly seen at the extremities, perineum, and genitals. Trauma is the usual cause of the infection, such as from I.V. drug injection, insulin injection, animal and insect bites, catheter insertion over the skin, or a fistula. Skin infections such as abscess and ulcers can also complicate NF. Spreading of infection through blood has been suggested for those with strept pharyngitis. For infection of the perineum and genitals, trauma, surgery, urinary tract infection, stones, and Bartholin gland abscess are the usual causes.

Bacteria: Types of soft-tissue necrotizing infection can be divided into four classes according to the types of bacteria infected soft tissue.

Type 1 infection: This is the most common type, and accounts for 70 to 80% of cases. It is caused by a mixture of bacterial types, usually in abdominal or groin areas. This type is usually caused by various species of Gram+ cocci and enterococci, Gram-rods (E-coli, Pseudomonas) and anaerobes (Bacteroides and Clostridium species.)

Type II infection: This infection accounts for 20 to 30% of cases , mainly involving the extremities. This mainly involves Streptococcus pyogenes bacteria, alone or in combination with staphylococcal infections.

Both type of bacteria can progress rapidly and manifest as toxic shock syndrome. Streptococcus species produce M protein, which acts as a super antigen stimulating a massive systemic immune response which is not effective against the bacterial antigen precipitating shock. Type II infection more commonly affects young healthy adults with a history of injury.

Type III infection: *Vibrio vulnificus*, a bacterium found in saltwater, is a rare cause of this infection, which occurs through a break in the skin. Disease progression can be as rapid as type II infection without any visible skin changes.

Type IV infection: Some have described the type IV as a fungal infection.

DIAGNOSIS...Early diagnosis is difficult, as the disease often looks early on like a simple superficial skin infection. The gold standard for diagnosis is a surgical exploration in a setting of high suspicion. When in doubt, a small incision can be made into the affected tissue, and if a finger easily separates the tissue along the fascial plane, the diagnosis is confirmed and an extensive debridement should be performed.

Imaging...Imaging has a limited role in the diagnosis. The time delay in performing imaging is a major concern. Plain radiography may show subcutaneous emphysema which is strongly suggestive of NF. CT scans and MRI are more sensitive modalities. CT is able to detect about 80% of cases while MRI may pick up slightly more.

Scoring System...A WBC less than 15,000 and serum sodium level grater than 135 mmol/l have a sensitivity of 90% in detecting the necrotizing soft tissue infection. Other lab results to be taken into account include CRP, WBC, Hb, Na, Creatinine, & Glucose.

Treatment: Surgical debridement, cutting away affected tissue, is the mainstay of treatment. Antibiotics should be started as soon as this condition is suspected. Tissue cultures are taken. Unstable vital signs should be treated. The aggressive wound debridement should be performed early, usually as soon as the diagnosis is made. Incisions often extend beyond the areas of induration, like the hardened tissue, to remove the damaged blood vessels that are responsible for the induration.

For infection of the perineal area (Fournier's gangrene), wound debridement in this eare can be difficult because of the excretory products. Therefore, regular dressing changes can help to keep the wound at the perineal area clean. Sometimes colostomy may be needed.

Antibiotics...broad spectrum covering gram + (including MRSA), gram-, and anaerobic bacteria. While studies have compared moxifloxacin and amoxicillin-clavulanate and evaluated duration of treatment (varying from 7 to 21 days), no definitive conclusions are set.

Add on therapy...Hyperbaric oxygen, Intravenous immunoglobulin, AB103 treatment and supportive therapy (hydration, wound care, anticoagulants, pain control.)

Epidemiology...Necrotizing fasciitis affects' about .4 in every 100,000 people per year in the US.

History...In the fifth century BC, Hippocrates described necrotizing soft tissue inflation as a disease which was the complication of streptococcal infection when those affected would have “*erysipelas all over the body while the cause was only a trivial accident. Bones, flesh, and sinew (cord, tendon, or nerve) would fall off from the body and there were many deaths..*” The disease was originally called *phagedena gangrenous* or *hospital gangrene*.

PRISON TIME...You spend most of your life looking through bars from inside waiting to get out. At work, you spend most of your time waiting to get out and go inside bars.

John was visiting a friend in the hospital. He had recently quit smoking and was chewing on an unlit cigar when he got on the elevator. A woman said to him with a snarl. “*Sir, there is no smoking in this elevator.*” “I'm not smoking lady. Replied John. “*But you have a cigar in our mouth!*” “*Lady,*” John answered, “*I've got on jockey shorts, too, but I'm not riding a horse!*”

Auto repair shops will go away. A gasoline engine has 20,000 individual parts. An electrical motor has 20. Electric cars are sold with lifetime guarantees and are only repaired by dealers. It takes only 10 minutes to remove and replace an electric motor. Faulty electric motors are not repaired in the dealership but are sent to a regional repair shop that repairs them with robots. Your electric motor malfunction light goes on, so you drive up to what looks like a Jiffy auto-wash, and our car is towed through while you have a cup of coffee and out comes your car with a new electric motor!

Gas stations will go away. Parking meters will be replaced by meters that dispense electricity (*presently selling electricity at 40 cents/per hour's driving*). Companies will install electrical recharging stations; in fact, they've already started. You can find them at select Dukin Donuts locations.

Most (the smart) major auto manufacturers have already designated money to start building new plants that only build electric cars.

Coal industries will go away. Gasoline/oil companies will go away. Drilling for oil will stop. So say goodbye to OPEC.

Homes will produce and store more electrical energy during the day and then they will sell it back to the grid. The grid stores it and dispenses it to industries that are high electricity users. Has anybody seen the Tesla roof?

A baby of today will only see personal cars in museums.

The FUTURE is approaching faster than most of us can handle.

In 1998, Kodak had 170,000 employees and sold 85% of all photo paper worldwide. Within just a few years, their business model disappeared and they went bankrupt. Who would have thought of that ever happening?

What happened to Kodak will happen to a lot of industries in the next 5-10 years and, most people don't see it coming.

Did you think in 1998 that 3 years later, you would never take pictures on film again? With today's smart phones, who even has a camera?

Yet digital cameras were invented in 1975. The first ones only had 10,000 pixels so as with all exponential technologies, it was a disappointment for a time, before it became way superior and became mainstream in only a few short years. It will now happen again (but much faster) with Artificial Intelligence, health, autonomous and electric cars, education, 3D printing, agriculture and jobs.

Forget the book, "Future Shock," welcome to the 4th Industrial Revolution.

Software has disrupted and will continue to disrupt most traditional industries in the next 5-10 years.

UBER is just a software tool, they don't own any cars, and are now the biggest taxi company in the world! Ask any taxi driver if they saw that coming.

Airbnb is now the biggest hotel company in the world, although they don't own any properties. Ask Hilton Hotels if they saw that coming.

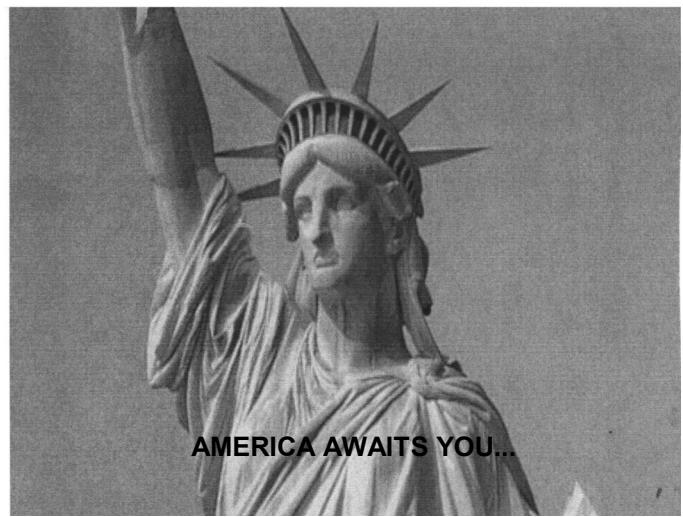
Artificial Intelligence: Computers become exponentially better in understanding the world. This year, a computer beat the best Go-player in the world. 10 years earlier than expected.

In the USA, young lawyers already don't get jobs. Because of IBM's Watson, you can get legal advice (so far for right now the basic stuff) within seconds, with 90% accuracy compared with 70% accuracy when done by humans. So, if you study law stop immediately. There will be 90% fewer lawyers in the future, (what a thought) only omniscient specialists will remain.

Watson already helps nurses diagnosing cancer, its 4 times more accurate than human nurses.

Facebook now has a pattern recognition software that can recognize faces better than humans. In 2030, computers will become more intelligent than humans.

Autonomous cars: In 2018 the first self-driving cars arrived. In the next 2 years, the entire industry will start to be disrupted. You won't want to own a car anymore as you will call a car with your phone, it will show up at your location and drive you to your destination. You will not need to park it you will only pay for the driven distance and you can be productive while driving. The very young children of today will never get a driver's license and will ever own a car.



This will change our cities, because we will need 90-95% fewer cars. We can transform former parking spaces into parks.

1.2 million people die each year in car accidents worldwide including distracted or drunk drivers. We now have one accident every 60,000 miles; with autonomous driving that will drop to 1 accident in 6 million miles. That will save a million lives plus worldwide each year.

Most traditional car companies will doubtless become bankrupt. Traditional companies will try the evolutionary approach and just build a better car, while tech companies (Tesla, Apple, Google) will do the revolutionary approach and build a computer on wheels.

Look at what Volvo is doing right now; no more internal combustion engines in their vehicles starting this year with the 2019 models, using all electric or hybrid only, with the intent of phasing out hybrid models.

Many engineers at other car companies are terrified of Tesla, and so they should be. Look at all the companies offering all electric vehicles. That was unheard of only a few years ago.

Insurance companies will have massive trouble because, without accidents, the costs will become cheaper. Their car insurance business model will disappear.

Real estate will change. Because if you can work while you commute, people will move farther away to live in a more beautiful or affordable neighborhood.

Electric cars will become mainstream about 2030. Cities will be less noisy because all new cars will run on electricity. Cities will have much clearer air as well. Electricity will become incredibly cheap and clean. Solar production has been on an exponential curve for 30 years, but you can now see the burgeoning impact. And it's just getting ramped up.

Fossil energy companies are desperately trying to limit access to the grid to prevent competition from home solar installations, but that simply cannot continue—technology will take care of that strategy.

Health: The Tricorder X price will be announced this year. There are companies who will build a medical device (called the "Tricorder" from Star Trek) that works with our phone, which takes your retina scan, your blood sample and you breath into it. It then analyses 54 bio-markers that will identify nearly any disease. There are dozens of phone apps out there right now for health purposes.

WELCOME TO TOMORROW—it actually arrived a few years ago.

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 Benka, Ken, K8RB, PA
 Dubin Stephan, W3UEC, PA.
 Favaro, Mary AE4BCX, SC
 Johnson, Greg, N8GJ, WI
 Kalan, Arnold, WB6OJB, CA
 Knickerbacker, Guy, W3RJA, P
 Milazzo, Carol, KP4MD, CA
 Rowlett, William, WM4R'1
 Simowitz, Fred, K0FS, MO
 Thompson, Robert WD8ING, KY
THOSE SIGNING-UP JAN

Anderson, Marvin, K3TVI
 Brigham, Ralph, KG4CSQ, AL
 Carswell, Tim, KI7JCY, TX
 Centers, Danny, W4DAN, TN
 Dollinger, Malin, K06MD, CA
 Fitzpatrick, James, WI9WI, WI
 Hablitzer, William, K8WEN, OH
 Krasowski, Bernie KD3QHV, TX
 Krasowski, Linda, KE5BQK, TX
 Laughlin, David, W8EYE, NC
 Lukas, Paul N6DMV, CA
 McCann, John, WB5BHB, MS
 Newland, James, KOEMC, NE
 Nohava, Charles, N8GMB, OH
 O'Connor, John, KE5SZA, OK
 Pasternak, Bill, Kg7NXW, OR
 Quackenbush, Bryan, KC2PRC
 Reichman, Robt, WA3IHV, CA
 Rosenfield, Wayne, K1WDR, FL
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 Showers, Tom, KE5WEB, MS
 Smith, Larry, N4FD, GA
 Smith, Robt., KD6ECP, FL
 Vance, Sam, W4BUD, VA



Thompson, Albert, NE
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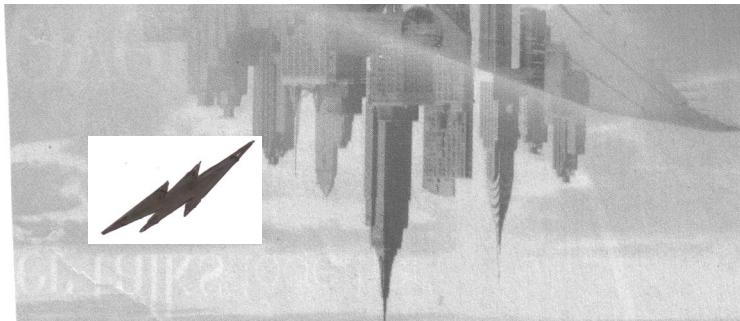
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