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OBSESITY WEIGHT AND CANCER RISK

BEING OVERWEIGHT OR OBESE HAS BEEN LINKED TO SOME CANCERS

Several studies have explored why being overweight or obese may increase cancer risk and growth. The possible reasons that obesity is linked with cancer include:

Increased levels of insulin and insulin growth factor (IGF-1), which may help some cancers develop.

Chronic, low-level inflammation, which is more common in people who are obese and is linked with an increased cancer risk.

Higher amounts of estrogen produced by fat tissue, which can drive the development of some cancers, such as breast and endometrial cancer.

Fat cells may also effect processes that regulate cancer cell growth.

How your weight changes throughout your life may also affect your risk for cancer. Studies have shown that the following factors can affect your cancer risk:

High birth weight.

Gaining weight as an adult.

Losing and regaining weight repeatedly.

Research suggests that maintaining a healthy weight is associated with a lower risk of cancer and of cancer recurrence in cancer survivors.

Types of cancer linked to overweight or obesity: breast, colorectal, uterine, kidney, head and neck, esophageal, pancreatic, endometrium, gallbladder, meningioma, multiple myeloma, gastric cardia and thyroid.

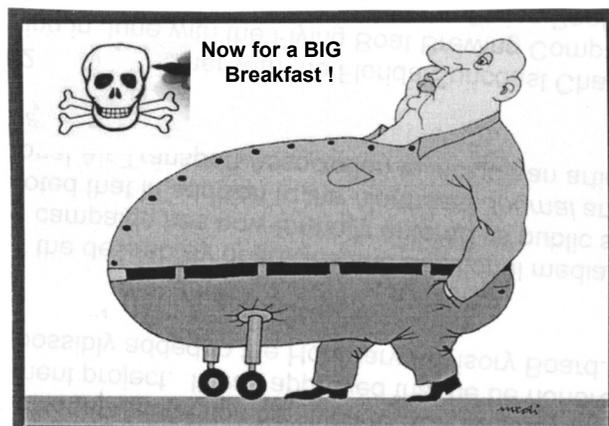
Obesity is measured with body mass index (BMI): the ratio of a person's weight and height and waist measurements. A normal BMI is between 18.5 and 24.9. A BMI between 25 and 29.5 is considered overweight, while a BMI of 30 or higher is obese. In addition, people with larger waist measurements have a higher risk of various diseases, such as heart disease. A normal waist measurement is under 40 inches for men and under 35 inches for women.

Decades of basic, epidemiologic, and clinical research have led to the identification of numerous cancer risk factors. As a result of this work, we know that more than half of all global cancer cases are attributable to preventable causes, including tobacco use, poor diet, physical inactivity and obesity. In addition, vaccination against infection with the human papillomavirus (HPV) and decreasing exposure to ultraviolet (UV) radiation from the sun and indoor tanning devices can further reduce the burden of certain cancers.

We have made major strides in reducing the public health burden due to smoking. Researchers estimate that more than 8 million smoking-related deaths were prevented in the U.S. from 1964 to 2014 because of declines in cigarette smoking.

The strongest association found is with uterine cancer and postmenopausal breast cancer especially estrogen receptor positive cancers.

Most of the studies the researchers looked at were observational so we



LATE BREAKING NEWS

The 2018 Dayton Hamvention, at Xenia, Ohio, is over & Marco President Jay answered an inquiry from Nancy regarding HamCation 2019. He replied, "For 2019 we are looking at the end of April for our annual meeting. Most likely format will be a three day weekend meeting in Tampa, with an optional one week post-meeting cruise. I am trying to work out where we can use Marco's club call/portable in three cruise Dx ports. Jay is looking for feed-back, i.e., how interested is the membership in partaking such an adventure?"

Chip N5RTF reporting...Rain in New Orleans, but Warren can't be heard here, so the Marco streaming audio source will come from one of a variety of SDR receivers up the East Coast. I try to choose the best one each week based on propagation from Florida. Why not connect directly through KiwiSDR? You could, but each SDR receiver has only 4 slots, and 1 or 2 are usually reserved for use by the owner. The streaming audio system acts as a multiplier, allowing up to 100 stations to listen to 1 audio feed without competition. The archive recording is an extra bonus. The amazing thing is that all of this is taking place on a \$39 Raspberry Pi 3.

Here are the instructions again. You can listen to the Marco CW net and Grand Rounds by internet streaming audio:
To Listen: 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/keister>

The second way is to manually enter: <http://marcoaudio.ddns.net:8022/stream> into a standard music player on computer, phone, or portable device while the net is in progress. **No login or password is required.**

Keep up-to-date with "Cutting Edge" medicine.

MARCO NET SCHEDULE

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.

Table with 4 columns: DAY, EASTERN, FREQ, NET CONTROLS. Includes broadcast times for Eastern, Central, Mountain, and Pacific Coast, and frequency information for Grand Rounds.

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

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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.

cannot prove cause and effect, though researchers considered evidence sufficient if an association could not be explained by chance, bias or other confounding factors. And most compared any increases in risk to that of an adult of normal weight having a body mass index of 18.5 to 24.9.

For some cancers, the group found that the fatter the person, the greater the risk. In endometrial cancer, for example, compared with a woman of normal weight, one with a BMI of 25 to 29.9 was at a 50% higher relative risk. But her risk more than doubled at BMIs between 30 and 34.9 and more than quadrupled at BMIs of 35 to 39.9. A woman with a BMI of 40 or more was at 7X the risk for endometrial cancer as a woman of normal weight.

The group found only limited evidence that obesity could be linked to three additional types of cancer: male breast cancer; prostate cancer; and diffuse large B-cell lymphoma, the most common form of non-Hodgkin's lymphoma.

They found no adequate evidence to link obesity with squamous-cell esophageal cancer, gastric noncardia cancer, cancer of the biliary tract, lung cancer, Cutaneous melanoma, testicular cancer, urinary tract cancer or glioma of the brain or spinal cord.

To measure obesity, doctors use the body mass index which is calculated by dividing a person's weight (in kilograms) by their height (in meters) squared (commonly expressed as kg/m2) BMI provides a more accurate measure of obesity than weight alone and for most people it is a fairly good indirect indicator of body fatness.

Other measurements that reflect the distribution of body fat—that is whether more fat is carried around the hips or the abdomen—are increasingly being used along with BMI as indicators of obesity and disease risks. These measurement include waist circumference and the waist-to-hip ratio (the waist circumference divided by the hip circumference).

For those younger than 20 a BMI-for-age growth chart is available at http://www.cdc.gov/growthcharts/clinical_charts.htm:

How common is overweight or obesity? From 2011-2014, nearly 70% of US adults age 20 years or older were overweight or obese and more than 1/3 were obese. In 1988-1994 by contrast, only 56% of adults age 20 or older were overweight or obese.

The percentage of children and adolescents who are overweight or obese has also increased. In 2011-2014, an estimated 9% of 2 to 5 year olds, 17% of 6 to 9 year olds and 20% of 12 to 19 year olds were overweight. In 1988-1994, those figures were only 7%, 11% and 10% respectively. In 2022-2014, about 17% of US youth ages 12 to 19 were obese. In 1988-1994 by contrast only about 10% of 12 to 19 year olds were obese.

ANTIDEPRESSANTS LINKED TO DEMENTIA

Long-term use of some anticholinergic medications are associated with an increased risk of dementia.—according to a new study led by the University of East Anglia (UK).

Anticholinergic antidepressants have been found to be linked with dementia, even when taken up to 20 years before a diagnosis. Examples of frequently-prescribed anticholinergic antidepressants include Amitriptyline, Dosulepin and Paroxetine.

However several other anticholinergic medications, including antihistamines and those used for abdominal cramps, were not found to be linked to dementia—despite previous research suggesting that any anticholinergic might represent a risk.



THE LATEST "CUTTING EDGE"

Researchers at The John Hopkins Kimmel Cancer Center have developed a test for urine, gathered during a routine procedure, to detect DNA mutations identified with urothelial cancers (bladder, ureter, kidney, known as "UTUC", or "Upper Tract Urothelial Cancers). The test is known as "UroSEEK."

The researchers said the test, when combined with cytology, the gold standard noninvasive test currently used for detection, significantly enhanced early detection for patients who are considered at risk for bladder cancer and surveillance of patients who had already been treated for bladder cancer.

There were nearly 80,000 new cases of bladder cancer and more than 18,000 deaths in 2017. UroSEEK is a method of detection that many people have tried to find that is noninvasive.

Most cancers are curable if they are detected early, and the researchers are exploring ways to use cancer gene discoveries to develop cancer screening tests to improve cancer survival. They have also announced the development of CancerSEEK, a single blood test that screens for 8 cancer types, and PapSEEK, a test that uses cervical fluid samples to screen for endometrial and ovarian cancers.

UroSEEK is aimed toward early detection of bladder cancer in risk patients, those who may have blood in their urine or those who smoke, as well as patients who have already gone through a procedure to treat bladder cancer and need to be monitored for any recurrence of the disease. In almost 1/3 of patients, bladder cancer detection is late. The cancer has already gotten into the surrounding muscle. Even in those detected at an earlier stage, the tumors frequently recur. Patients are committed to a lifelong surveillance that requires invasive cystoscopy procedures and biopsy and is costly.

Saying current noninvasive approaches for detection of urothelial cancers are suboptimal, researchers wanted to develop a test for bladder and UTUS cancers that would allow it to be found sooner and cheaper than current methods using cytology which is not particularly sensitive and does not do well in detecting low-grade bladder cancer of UTUC.

Researchers studied 570 patients who were considered at risk and found UroSEEK was 83% positive in those who developed cancer. When combined with cytology the sensitivity increased to 95% who develop these diseases.

PORTABLE SENSOR DETECTS GLUTEN

For people with celiac disease, dining out can be stressful. Now MIT spinout "Nima" has developed a portable, highly sensitive gluten sensor that lets diners know if their restaurant food is indeed safe to eat.

"Nina's" sensor is a 3-inch-tall triangular device with disposable capsules. Diners put a sample of food into the capsule and insert it into the device—in 2 minutes, a digital display appears on the sensor.

For details, look up "Nina" produced by "6SensorLabs.

WHAT IS DOPPELGANGER EXPERIENCE?"

When Brain & Body Part Ways

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Some time ago, about two months after his younger brother died—Chris, a friend of mine in his 50's, woke up early one morning, got off the bed, stood up, stretched, turned around and got the fright of his life!

The shock was electric! "Because I was still lying in the bed sleeping and it was very clearly me lying there sleeping— my first thought was that I had died!"

Of course, Chris hadn't died. He was having what neuropsychologists call a *doppelganger experience*: He found himself inhabiting an illusory body while his real physical body was lying in bed. He says he's not clear how long the feeling lasted. Eventually, "there was this enormous sucking sensation," said Chris, making a long, drawn-out slurping sound. "I felt like I was dragged, almost thrown back into the bed, smack into myself." He woke up screaming.

Doppelgangers are the stuff of literature, found in Edgar Allan Poe's writings. Modern neuroscientists call the doppelganger effect an autoscopic phenomenon (from "autoscopy"; in Greek, *autos* means "self" and *skopeo* means "looking at"), in which a person may hallucinate that they are seeing and even interacting with another "me,"—a visual double.

Probably the most widely experienced and beset-known form of these autoscopic phenomena is the out-of-body experience, in which people often report leaving their physical body and looking down at it from above.

Unnerving as they can be, out-of-body experiences, doppelganger phenomena and other autoscopic hallucinations are probably our best window onto the way our brain constructs our sense of self, starting with the bodily self. Having a bodily self means several things. At its most fundamental, it anchors you in a body that feels like it is yours. You also feel that your body occupies a certain volume in physical space and that you are within that volume looking out with a perspective that feels like your own.

But as Chris's experience shows, there are times—albeit rare—when we aren't anchored in our physical body, suggesting that there is something malleable about the way our brains construct our bodily selves.

Over the years, scientists have found other examples of such malleability. Take the rubber-hand illusion—written up in the journal *Nature* in 1998 by Matthew Botvinick and Jonathan Cohen—in which an experimenter strokes a subject's real hand with a brush while simultaneously stroking a rubber hand. The subject can see only the rubber hand not the real hand, which is obscured by a screen.

So what is happening here? The brain has to make sense of conflicting information: sensations of brush strokes on the real hand and the sight of a rubber hand being stroked. So the brain, in effect, decides that the eyes don't lie: The rubber hand must be the source of the sensations, and so the brain proceeds to embody the inanimate hand.

To create a sense of embodiment, the brain relies on incoming sensations—both from the outside and from inside the body—to construct maps of the body and body parts. We perceive these maps as our bodily selves.

Over the past decade, two teams—one led by Olaf Blanke in Switzerland, and the other by Henrik Ehrsson in Stockholm—have demonstrated full-body versions of the rubber-hand illusion. Just as our brain can take "ownership" of a rubber hand, it can also be fooled—using more elaborate experimental setups—into taking ownership of a mannequin's body or even a virtual body.

These experiments show us that, to create the body-self the brain has to integrate various sensations—such as touch, vision and many other types of internal and external information. There is no one place in the brain where this integration happens. Rather, researchers have identified a whole host of regions that were involved. The various illusions arise when the brain is fed conflicting information and tries to make sense of it.

One can even fool the brain into embodying empty space. For example, in the rubber-hand illusion, if the experimenter takes the rubber hand away and instead moves the brush in the air in a manner suggestive of having a hand there while simultaneously stroking the hidden real hand, some people will soon start feeling touch in empty space. I can attest to this, I was taken aback by the weirdness of this illusion when I experienced it in Dr. Ehrsson's lab.

The brain's process of sensory integration can be fooled outside of the lab too—leading to, for example, the doppelganger experience. If the brain's processes are working correctly, there should be just one representation of the body in the brain. But, sometimes the process goes awry, leading to two representations, and the brain has to choose the representation in which to anchor the self—and sometimes it chooses one, sometimes the other. This is what



neuroscientists now think leads to the doppelganger effect.

Such hallucinations can make people feel that they have a "soul" or something incorporeal that can leave the physical body. This leads to a kind of dualism—the view that the stuff of the body and stuff of the mind are distinct and different.

But what these lab experiments and studies are showing us is that nothing is really leaving the body during an out-of-body- experience. When the brain is operating on sensory information that is congruent (meaning that the sensations of touch match what they eyes are seeing, for example), the brain situates the self in the body and provides a sense of perspective and body ownership.

But when the sensations aren't congruent because someone is being tricked by the rubber hand illusion or suffering from some neurological aberration, the brain does its best to make sense of all the misleading data. The brain can miscalculate the coordinates for the self, positioning it outside the body or in another illusory body.

So modern studies of out-of-body experiences and full-body illusions aren't making a case for dualism. Rather, they are showing us that the sense of bodily self is some thinking that is constructed by the brain moment by moment. The bodily self turns out to be the basis for our greater sense of self which involutes more complex aspects including the narrative self (that is, the stories we tell others and ourselves about who we are) and the social, cultural self.

Our sense of self arises from a complex interaction among brain, body, mind and culture—and in the full-blown selves we are, all aspects of the self interact with and influence one another, But it all begins with the body.

(This interesting article was written by Anil Ananthaswamy and appeared in the August 29-30 edition of the Wall Street Journal.)

BRUSHING AWAY THE HAM COBWEBS

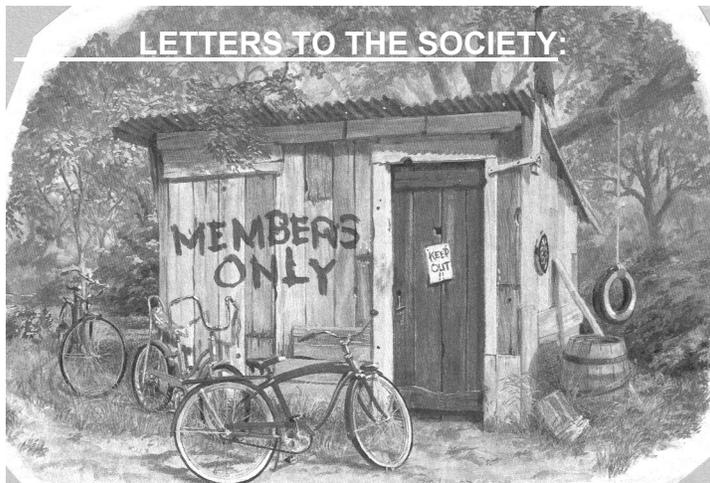
What is the meaning of "CQ"? CQ literally means "Calling any station." Think of a CQ as an advertisement for your station and your operating skills.

Which Q signal indicates you are receiving interference from other stations? A. QRM refers to interference from other stations. QRN refers to interference from atmospheric static and QTH means the station's location. QSB indicates signal fading. QSY means "I am changing frequency."

Are amateur station control operators ever permitted to operate outside the frequency privileges of their license class? A. Yes, but only if necessary in situations involving the immediate safety of human life or protection of property.

What is meant by the gain of an antenna? The increase in signal strength in a specified direction when compared to a referenced antenna.

What could happen if a lead-acid storage battery is charged or discharged too quickly? Trying to get energy into or out of any battery too quickly can cause it to overheat and give off gas or explode.



Kudos from—no luck this issue.

Bruce Small KM2L writes: Received the latest Aether, and I was very impressed by the wealth of clinical information. Good stuff. On page 4, under Walter Winchell's gaze, some news/opinion bits appear, and Warren asks "What is in your opinion?" My opinion is that the column should be titled 'Fake News.' First, the statement that a Tesla home charging system requires 75 amps is completely false. The chargers are adaptive ("smart") and can adjust the load to the situation. Tesla recommends that you have a dedicated 240 V line installed to supply the unit. You specify the current you desire with your electrician, and he performs the appropriate installation. The charging units will work with circuit breakers rated for anywhere from 15A to 100A. The higher the capacity, the faster your car recharges. The standard mobile connector for Tesla Models S and X can carry 40A and for the new Model E it is 32A.

This particular item in Aether ends with a howl about gummint bureaucrats dooming us by insisting on developing "unreliable" alternative energy resources. This is preposterous. The rest of the world is actively shifting to alternative energy production and even the big fossil energy companies are making plans for an alternative energy future. As of 2015, the US generated approximately 14% of its power through wind, solar, biomass and hydroelectric means. The percentage is exceeded by ...Bruce mentions about 30 countries. I just returned from Spain, where windmills are easy to find (and have been since the days of Don Quixote), and small towns have dedicated areas to solar energy farms. Spain is a net exporter of electric power and is profiting from their investment. China has initiated an aggressive electric vehicle development program and is also dedicated to becoming a world leader in solar energy production. We in the USA will be left in the dust and it will be coal dust.

Arnold Kalan WB6OJB apparently is up and improving from his recent surgery as he sent the membership a large "WOW."

Bob Conder, K4RLC in response to the Celiac Disease talk on Grand Rounds reports the condition in his family for which there is no cure only control with diet. "My wife Alanna (a pediatric neuropsychologist) directed a special gluten-free camp at a local YMCA camp, so kids with Celiac could have the camp experience. It was one of two in the US back then. They ran a completely separate gluten free kitchen and had help from the Gluten Intolerance Group and the Nutrition dept. at nearby North Carolina State University.

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.

(Some of Walter's "blessed events" were "fake news;" Some of his protégés have inherited his weakness to produce the same—beware!)

HIV update...Less people are dying from it because of a 3-drug combination that must be taken for a lifetime and which costs between \$1,000 and \$1,400 per month. There are people who have had HIV for over 30 years and are still alive...hot beds for the problem are N.Y., N.J. and Washington D.C. The disease is a disease of primates—dogs and cats not involved. It is a criminal act in some states for a known HIV person to have relations with an innocent victim without their knowledge. Vaccine? Not available—in experimental stage.

How did the football get its strange shape? The football got its shape before it was a football. The first game between Rutgers and Princeton in 1869 was no more football than roller derby is to steeplechase. They played soccer—and used a round #6 soccer ball. However, there were two No. 6 balls—a round one, easier to kick for soccer, and one—more oblong, easier to carry for rugby. In 1874, the boys from McGill University in Canada taught the soccer players from Harvard how to play rugby. Then Harvard taught Princeton, Yale and Columbia. In the 1880s, Walter Camp pushed through rules that changed rugby to football. The forward pass was legalized in 1906 and by 1913, became common after Knute Rockne of Notre Dame used it successfully against Army in 1913. The more passing—the skinnier the football. By 2025 the football may resemble a javelin—ask Tom Brady with his deflated football of 2016?

Winston Churchill on his 82nd birthday was told by a reporter, "I hope I may have the privilege of taking your picture again when you are 100." Churchill replied, "No reason why you shouldn't if you look after your health."

The first practical helicopter appeared in 1936, the Focke-Achgelis FW-761. It had a top speed of 76 mph and endurance of 80 minutes.

The U.S. Air Force dropped the khaki uniform for blue on Jan. 25, 1949.

The "Sleep Leap!" A husband and wife were both asleep. About 3 a.m. the wife dreamed of secretly meeting another man. Then she dreamed she saw her husband coming. In her sleep she shrieked, "Heavens, my husband!" Her husband, waking suddenly, leaped out the window.

Epidiolex, an epilepsy treatment whose active ingredient is cannabidiol—the nonpsychoactive cousin of THC. On April 20th the FDA regulatory panel voted 13-0 in favor of approval for Parkinson's and multiple sclerosis combined. This approval of a medication that might shrink the number of unresponsive patients is a major development.

Meanwhile...Brigham Young University researchers found that THC, the active component of marijuana, can permanently damage the brain after a week of daily use. The study which was conducted on adolescent mice, found that one injection of THC was not addictive, but after a week of regular use, changes occurred in their brains that caused the mice to become addicted.

Cataract surgery lengthens lives in women...A study from the Univ. of California L.A. found that women aged 65 and older who underwent cataract surgery reduced their risk of premature death from all causes by 67%. Risk was reduced from 37% to 69% due to accidents, infections, lung and heart disease and neurological disorders.

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
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Professionals enjoying ham radio. Free newsletter &
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PUTTING TODAY'S WORLD INTO PERSPECTIVE

Excerpts from Steven Pinker's fine article in the Feb. 10, 2018 WSJ



For all their disagreements, the left and the right concur on one thing: The world is getting WORSE. Whether the decline is visible in inequality, racism and pollution, or in terrorism, crime, and moral decay, both sides see profound failings in modernity and a deepening crisis in the West. They look back to various golden ages when America was great; blue-collar workers were thriving in unionized jobs, and people found meaning in religion, family, community and nature.

Such gloominess is decidedly un-American. The US was founded on the Enlightenment ideal that human ingenuity and benevolence could be channeled by institutions and result in progress. This concept may feel naïve as we confront our biggest predicaments, but we can only understand where we are if we know how far we've come.

You can always fool yourself into seeing a decline if you compare rose-tinted images of the past with bleeding headlines of the present. What do the trajectories of the nation and world look like when we measure human well-being over time with a constant yardstick? Let's look at the numbers.

Consider the US just three decades ago. Our annual homicide rate was 8.5 per 100,000. Eleven percent of us fell below the poverty line and we spewed 20 million tons of sulfur dioxide and 34.5 million tons of particulate matter into the atmosphere.

Fast forward to the most recent numbers available today. The homicide rate is 5.3 (a blip up from 4.4 in 2014). Three percent of us fall below the consumption poverty line. And we emit four million tons of sulfur dioxide and 20.6 million tons of particulates, despite generating more wealth and driving more miles.

Globally, the 30-year scorecard also favors the present. In 1988, 23 wars raged, killing people at a rate of 3.4 per 100,000; today it's 12 wars killing 1.2 per 100,000. The number of nuclear weapons has fallen from 60,780 to 10,325. In 1988, the world had just 45 democracies, embracing two billion people. Today it has 103, embracing 4.1 billion. That year saw 46 oil spills; 2016, just five. And 37% of the population lived in extreme poverty, barely able to feed themselves, compared with 9.6% today. True, 2016 was a bad year for terrorism in Western Europe, with 238 deaths. But 1988 was even worse, with 440.

The headway made around the turn of the millennium is not a fluke. It's a continuation of a process set in motion by the Enlightenment in the late 18th century that has brought improvements in every measure of human flourishing.

Start with the most precious resource, life. Through most of human history, continuing into the 19th century, a newborn was expected to live around 30 years. In the two centuries since, life expectancy across the world has risen to 71 and in the developed world to 81.

When the enlightenment began, a third of the children born in the richest parts of the world died before their fifth birthday. Today, that fate befalls 6% of the children in the poorest parts. In those countries, infections, diseases are in steady decline, and many will soon follow smallpox into extinction.

The poor may not always be with us. The world is about a hundred times wealthier today than it was two centuries ago, and the property is becoming more evenly distributed across countries and people. Within the lifetimes of most readers, the rest of extreme poverty could approach zero. Catastrophic famine, never far away in the past has vanished from all but the most remote and war-ravaged regions, and undernourishment is in steady decline.

The world is giving peace a chance. During most of the history of

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nations, war was the natural state of affairs, and peace a mere interlude between wars. Today war between countries is obsolescent, and war within countries is absent from 5/6th of the world. The proportion of people killed annually in wars is about a quarter of what it was in the mid-1980s, a sixth and a 16th of what it was in the early 1950s.

Life has been getting safer in every other way. Over the past century, Americans have become 96% **less likely** to be killed in an auto accident, 88% **less likely** to be mowed down on the sidewalk, 99% **less likely** to die in a plane crash, 59% **less likely** to fall to their deaths 92% **less likely** to die by fire, 90% **less likely** to drown, 92% **less likely** to be asphyxiated, and 95% **less likely** to be killed on the job. Life in other rich countries is even safer, and life in poorer countries will get safer as they get richer.

Despite backsliding in countries like Russia, Turkey and Venezuela, the long-term trend in governance is toward democracy and human rights. Two centuries ago a handful of countries embracing 1% of the world's people were democratic; today, more than half the worlds' countries', embracing 55% of its people are.

Two centuries ago, 12% of the world could read and write; today 85%.

Since the closing days of WW II nuclear weapons have not been used in almost 73 years of saber-rattling (including standoffs with the half-mad despots Stalin and Mao) and the New Start treaty between the US and Russia, capping nuclear arsenals, went into full effect just this year..

The evidence for progress raises many questions, Isn't it good to be pessimistic, many activists ask—to rake the muck, afflict the comfortable, speak truth to power? The answer is ———; It's good to be accurate. We must be aware of suffering and injustice where they occur, but we must also be aware of how they can be reduced. Indiscriminate pessimism can lead to fatalism; to wondering why we should throw time and money at a supposedly hopeless cause.... and it can lead to radicalism.

Is progress inevitable? No. New solutions create new problems, which must be solved in their turn. We can sways be blindsided by nasty surprises, such as the two World Wars, the 1960s crime boom and the AIDS and opioid epidemics.

Secular democracies are the happiest and healthiest places on earth, and the favorite destinations of people who vote with their feet. And once you appreciate that the Enlightenment project of applying knowledge and sympathy to enhance human flourishing can succeed; it's hard to imagine anything more heroic and glorious. .

NATIONAL ID CARDS DUE BY

OCT. 1, 2020



The Federal Govt. has set the date on which domestic air travelers must carry a technologically advanced national identification to pass through airport security.

It requires states to standardize driver's licenses across the nation into a single national identity card. These new cards—boasting holistic images and digital photos—will be needed to

fly federally regulated commercial aircraft or to enter into federal facilities and nuclear power plants. "This should inhibit terrorists' ability to evade detection by using fraudulent identification," the DHS said.

So far, 28 states are issuing the new licenses, and the other 22 have until this October to begin doing so. In order to get a Real ID-compliant license, residents must go to a Motor Vehicles office and present ID, such as a birth certificate or passport.

To compel compliance, the administration has threatened to ban fliers who don't get a Real ID. But those who don't drive won't be required to obtain one. Instead, a valid passport or green card will suffice when the new regulation takes effect.

Here's an *unpopular* opinion: There is a future in newspapers. I don't mean newspaper companies. I mean physical hard copy newspapers—the kind you buy on the street, the kind someone tosses onto your driveway early in the morning. The kind everybody says will be a thing of the past in a few years.

My conviction on this point stems from a decision I made about a year ago—to subscribe to, as we used to say, the paper. I was reluctant to do this, and for the usual reason: You can read all the newspaper's content online, either for free or for a smaller subscription price.

For several years, though I had trouble with online news reading, and I thought maybe it was time for a regressive revolt. I had begun to notice, first, that I remember almost nothing I read online. I must have read scores of online articles in 2016, say, but I can hardly remember one. Yet somehow I can recall things I read in hard-copy newspapers and magazines 20 or 30 years ago; in some cases I can see the words on the page.

I had also begun to feel anxious that, despite all the news reading I do, I was never able to catch up. When you get your news by searching online news aggregators and perusing Twitter, you can spend an hour reading articles—two hours, three hours—and still you feel you've only read the smallest slice of relevant news. You read and read, but unread stories are still everywhere and you spend the rest of your day feeling anxiously ill-informed.

Newspapers mostly rid you of that anxiety. When you read the paper in the morning, you spend 45 minutes doing one thing: reading the news. When you put the paper down, assuming you've made a decent effort to read and understand a fair sampling of items, you've read the news. At that point you can go about your day happy in the knowledge that you have some idea of what sort of things happened in the world yesterday and of what intelligent people think about them.

The newspaper, and especially the serious metropolitan daily, allows you to ingest the news on an array of topics—and be done with it. After spending an hour reading the paper you're as caught up on national and world affairs as any person can claim to be. You're not aware of all the profound and amazing writing "out there," but you're sufficiently well informed, and for the remainder of the day you can apply your mind to other tasks, without anxiety or guilt.

The newspaper brings a kind of epistemological definition to the everyday work of being literate. You can hold the day's knowledge with two ink-stained hands, and when you're done with it, you can throw it away. It won't update and demand to be read in a few hours, and it won't follow you around on your smartphone.

I don't know what the future of newspaper may be. But I know there is one—because newspapers are physical and limited, and so are we.

GOOD NEWS FOR COFFEE DRINKERS

Most of us enjoy coffee or tea to keep us going through the day, but new research suggests that caffeine may also help keep its drinkers going strong later in life.

In a study published in *Nature Medicine*, researchers report a genetic mechanism responsible for triggering chronic inflammation and the subsequent development of age-related CV disease. The findings also highlight the role of caffeine consumption in helping disrupt inflammatory gene activity in some older adults.

"Chronic inflammation is a common denominator for almost all diseases of aging, such as hypertension, cancer, and many neurological disorders," said David Furman, who led the study at Stanford. "Here, we found that some gene networks that normally participate in response to infections are also those that mediate chronic inflammation during aging. We also learned that caffeine plays an important role here and the effect can be pretty dramatic."

During an 8-year study, Furman analyzed survey data, blood samples and medical histories from 100 human participants: a group of adults between ages 20 and 30 and another group of adults over 60 years.

By comparing gene expression data, Furman identified two highly active gene networks in the older age group linked to the production of a powerful inflammatory protein, called IL-1-beta. Of the older age group, nearly half demonstrated high levels of IL-1-beta, as well high levels of nucleic acid metabolites found to boost inflammatory gene activity and production of IL-1-beta. The team also observed that the metabolites caused systemic inflammation and high blood pressure in mice.

Most of the participants with high activity in these inflammatory gene networks were also hypertensive or suffering from arterial stiffness. We found that one of the metabolites that was high in the inflamed participants was adenosine. In our *in vitro* studies, caffeine was a big adenosine antagonist, so we asked what their caffeine intake was like. The team found that those who were chronically inflamed with high levels of *Adenosine* typically didn't consume caffeine. "The effect was pretty big,"



**GREETINGS FROM OUR
NEW MARCO PRESIDENT**

Jay Garlitz, AA4F

Some aspects of my background follows and how it impacts my outlook on our organization.

My XYL, Randi, and I were both born in Miami in the late 1940's. We graduated from the University of Florida, and I from UF dental school in 1982. Both of our families have many members who have been educators. Randi has taught in the public schools, and I have worked with undergraduates, grad students and

dental students.

My schedule is interesting and there is never a boring moment. Providing clinical care, working in dental education, communications/publications, internet publishing, weaving my amateur radio interest with my professional career coupled with travel and time for family makes for an interesting calendar of events. Of course, there are always those curve balls life throws your way.,

I was first licensed at age 12 and had my extra class license soon after my 15th birthday. My education, family, and dental career then took priority. Randi and I were fortunate to start out family while in dental school and I earned my DMD by age 23, I was editor of my classes' dental school yearbook.

Since 1987, I have been courtesy clinical faculty at the UF College of Dentistry. I have been publishing in the Web since 1996. Being recognized by the Florida Dental Association (FDA) as Florida Dentist of the year in 2001 it was not for my clinical talents, but for designing their first online CE courses.

At UF I have taught elective courses on the Digital Dental Office. My own private practice was mostly paper and film free by 2002. In the late 1990's I served as the Chair of Council of Communications of the FDA. A national appointment followed, serving four years on the council of the same name of the American Dental Association in Chicago. At the ADA council I led their committee on electronic communications, and served as council Vice-chair. On the non-dental side of life, I am the founder and long-time CEO of Connected World Internet Ventures, Inc.

By 2005 my life cycle came in sync with the sunspot cycle. Personal on-the-air time and DX chasing became possible. I was appointed trustee of W4DFU club station at the University of Florida (current) and served 10 years as faculty advisor to the Gator Amateur Radio Club. In 2013, I was a member of the T33A DX-perdition to Banaba Island in the Central Pacific and provided surgical dental care while there. My QRZ page lists my operating achievements, other call signs and activities.

After 34 years of private practice I sold my office two years ago and work part-time for the new owner. Our two children are grown, we are grandparents, and while busy, we have time to dedicate to MARCO.

Life seems more complicated for young professionals and their families these days. The amount of school loans can be staggering. Health business profit margins are being squeezed. Changes in society are rapid and providers must adapt. Finding time to be involved in amateur radio and/or organizations can be very challenging.

Many of us have the ability and desire to "Elmer" and create the next generation of amateurs radio enabled health care providers, as well after a stress relieving outlet through ham radio and professional camaraderie. Upcoming Presidents' Greetings columns will discuss strategies as to how we can approach this as a MARCO team.

73 and best wishes for a vibrant future as MARCO,

Jay Garlitz, AA4FL

said Furman. "We considered the effect of coffee in milligrams per week, and apparently the effect was linear and surprisingly high for those having 4-5 cups of coffee per day.



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COMMON BUT COSTLY TECHNOLOGY FAILS.....

An increasingly common CV procedure using a device for atrial fibrillation was no better than drug therapy at preventing deaths, strokes and certain other complications, a new study found.

The outcome of the trial raises questions about the procedure, known as catheter ablation, to treat patients with atrial fibrillation. The procedure, meant to stop abnormal electrical signals from causing irregular heartbeats, involves a doctor inserting a tube through a patient's blood vessel to deliver scars to heart tissue.

At least 2.7 million Americans have atrial fibrillation, which is a common cause of strokes. It can also be treated by anti-arrhythmic drugs including amiodarone, and some patients may take anticoagulant drugs like warfarin to reduce their risk of stroke.

The estimated cost of an ablation procedure in the U.S. is about \$21,300 whereas the annual cost of drugs was about \$720. The study did show the risk of recurrence, to be decreased with ablation however which added to it's value.



Well we lost another great doctor to yet another stupid sex lawsuit. He spent all those years learning and studying to be a good doctor and one lousy incident with a patient and bang he is out of practice! He made the mistake of sleeping with just one of his patients. I just do not understand...he was a brilliant veterinarian!

The Irish fisherman...The rain was pouring down. There standing in front of a big puddle outside the pub was an old fisherman, drenched, holding a stick with a piece of string dangling in the water. A passer-by stopped and asked, "What are you doing?" "Fishing replied the old man. Feeling sorry for the old man, the gent says, "Come in out of the rain and have a drink with me" In the warmth of the pub, as they sip their whiskies, the gentleman being bit of a smart ass, cannot resist asking, "So how many have you caught today?" "You're the eighth," says the old man.

Henry Morgan, 79, the mischief-making radio satirist of the 1940s, died in New York on May 19, 1994. He baited the pharmaceutical industry when he talked about the town of More, Utah, which had 2 doctors. This led to the famous ad which begins, "More doctors recommend..." The makers of "Oh Henry" candy bars withdrew their support after he said the candy was a meal in itself, but when you eat three meals of O'Henry's your teeth fall out.

The late Zsa Zsa Gabor said....I'm a marvelous house-keeper...every time I leave a man, I keep his house. "You never really know a man until you divorce him." "Macho does not prove mucho."

"A man in love is incomplete until he has married, then he's finished." "I want a man who's kind and understanding. Is that too much to ask of a millionaire?" "I never hated a man enough to give him his diamonds back." "I know nothing about sex because I was always married." "Husbands are like fires, they go out when unattended."

My first wife died of acute mushroom poisoning. "What did your second wife die from?" asked a friend. "She died from a fractured skull. " "A fractured skull! What happened?" asked the friend. "She wouldn't eat her mushrooms."

A couple has 6 daughters, 5 of whom look similar. The husband on his dying bed confronts his wife: "I have but one dying wish, who is the father of the girl who looks different?" The wife looks him in the eye and says, "YOU!"

Doctor: "Ma'am, are you sexually active? Woman: "Well, sometimes I am.....and sometimes I just lie there."

How can I miss you if you won't go away?

"No, just spots," replies, "No, just spots." "Have you ever seen a doctor?" The man receptionist asks, "I keep seeing spots in front of my eyes." The man complains, "The receptionist asks him why he is there. The man TOR. The receptionist asks him why he is there. The man complains, "I keep seeing spots in front of my eyes." The man receptionist asks, "Have you ever seen a doctor?" The man replies, "No, just spots."

MEMORIES OF YEARS AGO IN MARCO

Our History Book

Eighteen years ago in Marco

June, 2000...Bruce Small KM2L received the leadership gavel from out-going President Bob Currier via land-line. Keith Adams N3IM was named President Elect. Jim Mornar N9TK replaced Navy Astronaut Charles Brady who was shipped to the Pacific, as guest speaker at the Annual Banquet.

10% of Marco members, a total of 29, showed up in Dayton and put time in at the Marco booth.

Present Marco Members who reported in the Newsletter CME report *then included* Warren KD4GUA, Bruce KM2L, Arnold, WB6OJB, Jim W8LJZ, Keith N3IM, Burt, KA7LOT, Mark WA3QWA, Fred K0FS, Mary AE4BX and Ian K3IK.

Thirteen years ago in Marco

June, 2005.. The then "Marco Newsletter" reported Arnold Kalan WB6OJB was named President-Elect and will become the 25th Marco President in May 2006. Danny Centers W4DAN was elected "Asst. Secretary" and with work with Secretary Robin Staebler in running the organization.

There was an article entitled "There are no four-letter words in Ham Radio." The FCC decency rules ban "language or material that in context, depicts or describes, in terms offensive as measured by contemporary community standards for the broadcast medium sexual or excretory activities or organs." That is why the FCC can police 5-letter words on commercial radio but NOT in the movies or in magazines nor cable or the internet.

Nine years ago in Marco

June, 2009...Now "Marco's Aether" reports "The Internet Vanishes! A coronal mass ejection could melt wiring in electrical transformers or evil men could be at fault!" The following story gave a history of the internet. One doctor is reported to have told his patient, "You can take this pill and get better in two days, or do nothing and get over it in 48 hours."

Paul Lukas N6DMV reported on his recent trip to Hungary and the late Doug Sanders W3FYA reported all the latest dental news.

Five years ago in Marco

June 2013...Headlines of Aether read "THE AGING SKIN." The story goes on to depict Rx for and with wrinkles, laser resurfacing, Botox, facelifts, eyelid surgery. The front cover depicts a beautiful young woman who states she is only 107 years old.

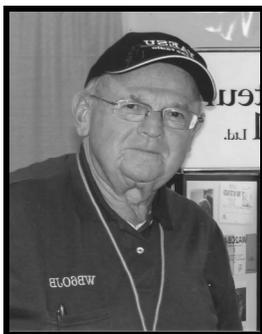
Mary Favaro AE4BX gave a run down on the Myrtle Beach Annual meeting in her home town. We were having trouble with the terrorist who was stalking our airways and causing us to move Grand Rounds from 14.307 to the present 14.342.

Jeff Wolf K6JW commented on Bruce Small KM2L's recent surgery

SAFETY RESOURCES...The FCC requires every licensee to perform a station analysis to ensure that operation is within the maximum legally permissible exposure limits. The justification of these limits is in the FCC's Office of Engineering & Technology Bulletin 65. Supplement B deals with the Amateur Radio Service. This is available by visiting our web pages at [Http://www.marco-ltd.org](http://www.marco-ltd.org). On the Home Page is a link to an Excel spreadsheet that will calculate the minimum safe distance from your antenna. Available links: RF Safety calculator by Ken Harker at Univ. /Texas; ARRL Safety Committee; FCC OET bulletins and others.

MEDISHARE REPORT

MediShare is MARCO's way of helping Ham operations and operators pay their way when hardships arise. Arnold Kalan WB6OJB, MediShare Director (on the left) reports a slow steadying inflow with no large output lately. We are looking for both donations and projects. Arnold can be reached at wb6ojb@yahoo.com.



CME RANKINGS, 2016

8 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	14	Warren	Largo, FL
N4TSC	13	Jerry	Boca Raton, FL
WB6OJB	13	Arnold	Pac.Pal., Calif.
N5RTF	13	Chip	New Orleans, LA
WB9EDP	13	Harry	Batavia, IL
KNOS	13	Dave	Virginia
N2JBA	13	Ed	Amenia, N.Y.
WA3QWA	12	Mark	Chesapeake, VA
KC9CS	12	Bill	Seminole, FL.
W1RDJ	11	Doug	Cape Cod, Mass.
W6NJY	11	Art	Beverly Hills, CA
N5AN	11	Bud	Lafayette, LA.
NU4DO	11	Norm	Largo, FL.
WB1FFi	11	Barry	Syracuse, N.Y.
N4MKT	10	Larry	The Villages, FL.
WA1HG Y	10	Ted	Mass.
KD5QH V	10	Bernie	El Paso, TX.
W8LJ Z	10	Jim	Detroit, MI
N6DM V	9	Paul	Torrance, CA
KE5S Z A	9	John	Marietta, OK
KE8G A	9	George	N. Carolina,
N2OJ D	8	Mark	Sidney, Ohio
K8Q A	8	Rich	Knox, IN.\
N9H I R	7	Bill	Berwyn, IL
KB5B Q K	7	Linda	El Paso, TX.
N9R I V	7	Bill	Danville, IL
W0R P H	7	Tom	Denver, CO.
N8C L	7	Chuck	Albany, N.Y.
N9G O C	7	Pat	Champagne, IL
WA1E X E	6	Mark	Cape Cod, Mass.
N0A R N	4	Carl	Denver, CO.
W3P A T	4	Marv	Prosperity, SC
W9J P N	3	Wally	Champagne, IL
WB2M X J	3	Joe	Lafayette, LA
KC9A R P	3	Michelle	Batavia, IL
W9B P P	3	Susan	CA or CO.
K1M I C	2	David	
K4C S Q	2		Alabama
W4D A N	1	Danny	Tennessee

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	1536 (46 Nets)	34.13
2018	471 (14 nets)	33.64

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

SO YOU WANT TO BE AN EXTRA?

Question from the Extra Examination

- Q. What special restriction does the FCC impose on amateur antennas mounted on motor vehicles? A. None.
- Q. If an amateur antenna structure is located in a valley or canyon, what height restrictions apply? A. The structure must be no higher than 200 feet above ground level at its site.
- Q. What special document is required before a Canadian citizen holding a Canadian amateur license may operate in the U.S.? A. No special document is required.

Hypothermia is reduced body temperature that happens when a body dissipates more heat than it absorbs. In humans, it is defined as a body core temperature below 95 degrees. Symptoms depend on the temperature. In **mild** hypothermia there is shivering and mental confusion. In **moderate** hypothermia shivering stops and confusion increases. In **severe** hypothermia, there may be paradoxical undressing, in which a person removes his or her clothing, as well as an increased risk of the heart stopping.

Hypothermia is caused by exposure to extreme cold and from any condition that decreases heat production or increases heat loss. This includes alcohol intoxication but may also include low blood sugar, anorexia and advanced age. Body temperature is usually maintained near a constant level of 97.7-99.5 degrees through thermoregulation. Efforts to increase body temperature involves shivering, increased voluntary activity and putting on warmer clothing.

Treatment of mild hypothermia involves warm drinks, warm clothing and physical activity. In those with moderate hypothermia, heating blankets and warmed i.v. fluids are recommended. People with moderate or severe hypothermia should be moved gently to prevent cardiac arrhythmia. In severe hypothermia extracorporeal membrane oxygenation (ECMO) or cardiopulmonary bypass may be useful. In those without a pulse, cardiopulmonary resuscitation (CPR) is indicated along with the above. Rewarming is typically continued until a person's temperature is greater than 90 degrees. If there is no improvement at this point or the blood potassium level is greater than 12 mmol/liter, resuscitation may be discontinued.

Hypothermia kills about 1,500 a year in the U.S. It is more common in older people and males. One of the lowest documented body temperatures from which someone with accidental hypothermia has survived is 55 degrees in a near-drowning of a 7-year-old girl in Sweden. Survival after more than six hours of CPR has been described. For those for whom ECMO or bypass is used, survival is around 50%. Deaths due to hypothermia have played an important role in many wars. The term is from the Greek meaning *under heat*.

Hypothermia is defined as any body temperature below 95 degrees. With this method it is divided into degrees of severity based on the **core temperature**.

Other cold-related injuries that can be present either alone or in combination with hypothermia include: **Chilblains**: superficial ulcers of the skin that occur when a predisposed individual is repeatedly exposed to cold. **Frostbite**: the freezing and destruction of tissue. **Frostnip**: a superficial cooling of tissues without cellular destruction. **Trench foot or immersion foot**: a condition caused by repetitive exposure to water at non-freezing temperatures.

The normal human body temperature is often stated as 97.7-99.5 degree's. Hyperthermia and fever are defined as a temperature of greater than 99.5-100.9 degrees.

SIGNS & SYMPTOMS: Mild: Vague symptoms with sympathetic nervous system excitation (shivering, high blood pressure, fast heart rate, fast respiratory rate, and contraction of blood vessels), These are all physiological responses to preserve heat. Increased urine production, due to cold, mental confusion, and hepatic dysfunction may also be present. Hyperglycemia may be present-, as glucose consumption by cells and insulin secretion both decrease, and tissue sensitivity to insulin may be blunted. Sympathetic activation also releases glucose from the liver. In many cases, however, especially in alcoholic patients, hypoglycemia appear to be a more common presentation. Hypoglycemia is also found in many hypothermic patients, because hypothermia may be a result of hypoglycemia.

Moderate: Low body temperature results in shivering becoming more violent. Muscle mis-coordination becomes apparent. Movements are slow and labored, accompanied by a stumbling pace and confusion although the person may appear alert. Surface blood vessels contract further as the body focuses its remaining resources on keeping the vital organs warm. The subject becomes pale. Lips, ears, finger, and toes may become blue.

Severe: As the temperature decreases, further physiological systems falter and heart rate, respiratory rate, and blood pressure, all decrease. This results in an expected heart rate in the 30's at a temperature of 82

degrees.

Difficulty speaking, sluggish thinking and amnesia appear; inability to use hands and stumbling are also present. Below 86 degrees, the exposed skin becomes blue and puffy, and walking almost impossible. The person exhibits incoherent or irrational behavior, including *terminal burrowing* (hide & die syndrome) seeking small enclosed spaces, such as underneath beds or in holes. It is often associated with paradoxical undressing where the patient attempts to remove all his clothing.

CAUSES: Hypothermia is frequently complicated by alcohol consumption. Any condition that decreases heat production, increases heat loss, or impairs thermoregulation, may contribute. Thus, hypothermia risk factors include: substance abuse, homelessness, any condition that affects judgment (such as hypoglycemia), the extremes of age, poor clothing, chronic medical conditions and living in a cold environment. Alcohol consumption increases the risk of hypothermia by its action as a vasodilator. Between 33% and 73% of cases are complicated by alcohol.

Water immersion...hypothermia is a major limitation to swimming or diving in cold water. Heat is lost much quicker in water than in air. A water temperature of 50 degrees can lead to death in as little as one hour and water temperatures near freezing can cause death in as little as 15 minutes. A notable example of this occurred during the sinking of the *Titanic*, when most people who entered the 28 degree water died in 15-30 minutes. The actual cause of death in cold water is usually the bodily reactions to heat loss and to freezing water, rather than hypothermia or loss of core temperature itself. For example, plunged into freezing seas, around 20% of victims die within two minutes from cold shock, uncontrolled rapid breathing, and gasping causing water inhalation, massive increases in blood pressure and cardiac strain leading to cardiac arrest and panic. Another 50% die within 30 minutes caused by cold incapacitations or inability to use the hands and limbs for swimming as the body protectively shuts down the peripheral muscles to protect its core.

MANAGEMENT: Aggressiveness of treatment is matched to the degree of hypothermia. It ranges from noninvasive, passive external warming to active external rewarming, to active core rewarming. In severe cases resuscitation begins with simultaneous removal from the cold environment and management of the airway, breathing and circulation. Rapid rewarming is then commenced. Moving the person as little and as gently as possible is recommended as aggressive handling may increase risk of a dysrhythmia.

Hypoglycemia is a frequent complication and needs to be tested for and treated. I.V. thiamine and glucose is often recommended. For mild cases treat with passive rewarming (dry clothing and moving to warm environment & sweetened liquids by mouth); for moderate cases treat with active external rewarming (heating blankets, hot water bottles in both armpits and groin) and for severe cases use active internal rewarming (warmed I.V. fluids, warm humidified inhaled air or use of extracorporeal rewarming such as via a heart lung machine or extracorporeal membrane oxygenation (ECMO)).

In those without signs of life CPR should be continued during active rewarming. For V-fib, a single defibrillation should be attempted. The AHA recommends up to three doses of epinephrine before 86 degrees is reached. **Do not declare a person dead until their body is warmed to a near normal temperature of 90 degrees since extreme hypothermia can suppress heart and brain function.**

NOW HEAR THIS...

On May 7thk, all US chain restaurants with 20 or more locations, that sell food—will have to post the calorie content of their menu items.

The rationale behind the US FDA mandate, was that it might make customers, think twice about ordering a meal that contained more calories than they should consume in an entire day. But whether posting calorie counts will help trim the proportion of US adults and children who are overweight or obese remains to be seen. US consumers have had nearly a quarter of a century to familiarize themselves with nutrition labeling required by the FDA since 1994. Will this work?

Celiac disease is a long-term autoimmune disorder primarily affecting the small intestine that occurs in people who are genetically predisposed. Classic symptoms include gastrointestinal problems such as chronic diarrhea, abdominal distention, malabsorption, loss of appetite and among children failure to grow normally. This often begins between six months and two years of age. Non-classic symptoms are more common, especially in people older than two. There may be *mild* or *absent* G.I symptoms, a wide number of symptoms involving any part of the body or *no obvious symptoms*. Celiac disease was first described in childhood— however, it may develop at any age. It is associated with other autoimmune diseases, such as diabetes mellitus type 1 and thyroiditis, among others.

Celiac disease is caused by a reaction to gluten, which are various proteins found in wheat and in the grains such as barley and rye. Moderate quantities of oats, free of contamination with other gluten containing grains, are usually tolerated. The occurrence of problems may depend on the variety of oats eaten. Upon exposure to gluten, an abnormal immune response may lead to the production of several different autoantibodies that can affect a number of different organs. In the small bowel, this causes an inflammatory reaction and may produce shortening of the villi lining the small intestine (villous atrophy). This affects the absorption of nutrients, frequently leading to anemia and vitamin deficiencies.

Diagnosis is typically made by a combination of blood antibody tests and intestinal biopsies, helped by specific genetic testing. Making the diagnosis is not always straightforward. Frequently, the autoantibodies in the blood are negative, and many have only minor intestinal changes with normal villi. People may have severe symptoms and be investigated for years before a diagnosis is achieved. Increasingly, the diagnosis is being made in people without symptoms, as a result of screening. Evidence regarding the effects of screening, however is not sufficient to determine its usefulness. While the disease is caused by a permanent intolerance to wheat proteins it is not a form of wheat allergy.

The only known effective treatment is a strict lifelong gluten-free diet, which leads to recovery of the intestinal mucosa, improves symptoms and reduces risk of developing complications in most people. If untreated, it may result in cancers such as intestinal lymphoma and a slightly increased risk of early death. Rates vary between different regions of the world, from as few as 2 in 300 to as many as 1 in 40, with an average between 1 in 100-170 people. In developed countries, it is estimated that 80% of cases remain undiagnosed, usually because of minimal or absent G.I. complaints and poor awareness of the condition. Celiac is slightly more common in women than men. The term “celiac” is from the Greek.

Signs & symptoms: The classic symptoms of celiac disease includes pale, loose, and greasy stools (steatorrhea) and weight loss or failure to gain weight. More common symptoms are subtle or primarily occur in organs other than the bowel itself. It is also possible to have celiac without any classic symptoms whatsoever. This represents at least 43% of the cases in children. Many adults with subtle disease only have fatigue or anemia. Many undiagnosed considered asymptomatic actually are not, but have become accustomed to living with a chronic bad health status as if it was normal, and they are able to recognize that they actually had symptoms related to celiac after starting the gluten-free diet and improvement is evident, in contrast to the situation prior to the diet.

The diarrhea that is characteristic of celiac is chronic pale, of large volume and abnormally bad smelling. Abdominal pain and cramping, belatedness with abdominal distension and mouth ulcers may be present. As the bowel becomes more damaged, a degree of lactose intolerance may develop. Frequently, the symptoms are ascribed to irritable bowel syndrome (IBS) only later to be recognized as celiac disease; a small proportion of people with symptoms of IBS have underlying celiac and screening for celiac is recommended for those with IBS symptoms.

Celiac leads to an increased risk of both adenocarcinoma and lymphoma of the small bowel or other non-Hodgkin's lymphomas. This risk is also higher in first-degree relatives such as siblings, parents and

children.

Celiac has been linked with a number of conditions, such as Dermatitis herpetiformis, an itchy cutaneous condition that may respond to gluten withdrawal. It is associated with other medical conditions, many of which are autoimmune disorders: diabetes mellitus type 1, hypothyroidism, primary biliary cholangitis, psoriasis, vitiligo, autoimmune hepatitis, and more.

Celiac disease is caused by a reaction to gliadins and gluten ins (gluten proteins) found in wheat, barley and rye and a small number who react to oats.

Celiac disease may be triggered by surgery, pregnancy, infection and emotional stress.

Diagnosis: Often difficult. Trial of a gluten-free diet, follow by a rechallenge with some gluten-containing food in one meal a day over 6 weeks. Small bowel biopsy and serological blood tests with elevated IgA antibodies along with serology for anti-transglutaminase antibodies and genetic testing.

Treatment: At present, the only effective treatment is a lifelong gluten-free diet. No medication exists that will prevent damage or prevent the body from attacking the gut when gluten is present. Strict adherence to the diet allows the intestines to heal, leading to resolution of all symptoms in most cases.

The term “gluten-free” is generally used to indicate a supposed harmless level of gluten rather than a complete absence. The exact level at which gluten is harmless is uncertain and controversial. The FDA issued regulations in 2013 limiting the use of “gluten-free” labels for food products to those less than 20 ppm of gluten/kg.

Refractory disease: Between .3% and 10% of people have refractory disease, which means that they have persistent villous atrophy on a gluten-free diet despite the lack of gluten exposure of more than 12 months. If alternative causes of villous atrophy have been eliminated, steroids or immunosuppressants may be considered.

Refractory celiac disease should not be confused with the persistence of symptoms despite gluten withdrawal caused by transient conditions derived from the intestinal damage which generally reverts or improves several months after starting a gluten-free diet., such as small intestinal bacterial overgrowth, lactose intolerance, fructose, sucrose and sorbitol malabsorption and pancreatic insufficiency.

People of African, Japanese and Chinese descent are rarely diagnosed: this reflects a much lower prevalence of the genetic risk factors. Population studies also indicate that a large proportion of celiac remain undiagnosed; this is due, in part to many clinicians being unfamiliar with the condition and also due to the fact it can be asymptomatic.

History: Humans first started to cultivate grains about 9500 BC in the Fertile Crescent in Western Asia, and it is likely that celiac disease did not occur before this time. The pediatrician Samuel Gee gave the first modern day description of the condition in children in a lecture in London in 1887. He perceptively stated: “If the patient can be cured at all, it must be by means of diet.”

The various denominations of Christians celebrate a Eucharist in which a wafer or small piece of sacramental bread from wheat is blessed and then eaten. Wheat flour contains around 13% gluten, so a single communion wafer may have more than 50 mg of gluten, an amount which will harm the health of many people with coeliac disease especially if consumed daily.

Many churches offer their communicants gluten-free alternatives, usually in the form of a rice-based cracker or gluten-free bread. Catholics may receive from the Chalice alone or ask for gluten-reduced hosts; gluten-free ones however are not considered to still be wheat bread and hence invalid matter.

The Jewish festival of Passover may present problems with its obligation to eat matzo, which is unleavened bread made in a strictly controlled manner from wheat, barley, oats or rye. This rules out many other grains that are normally used as substitute for people with gluten sensitivity, especially for Ashkenazi Jews, who also avoid rice. Many kosher-for-Passover products avoid grains altogether and are therefore gluten-free. Potato starch is the primary starch used to replace the grains.

Acupuncture is a form of alternative medicine in which thin needles are inserted into the body. It is a key component of traditional Chinese medicine (TCM), TCM theory and practice are not based upon scientific knowledge, and acupuncture is a pseudoscience. There is a diverse range of acupuncture theories based on different philosophies and techniques vary depending on the country. The method used in TCM is likely the most widespread in the USA. It is most often used for pain relief and muscle spasm though it is also used for a wide range of other conditions. Acupuncture is generally used only in combination with other forms of treatment.

The conclusions of many trials and numerous systematic reviews of acupuncture are largely inconsistent which suggests that it is not effective. A systematic review of systematic reviews found little evidence on acupuncture's effectiveness in treating **pain**. The evidence suggests that short term treatment with acupuncture does not produce long-term benefits. Some research results however, suggest acupuncture can alleviate pain, though the majority of reproach suggest that acupuncture's effects are mainly due to the **placebo effect**. A systematic review concluded that the analgesic effect of acupuncture seemed to lack clinical relevance and could not be clearly distinguished from bias. A meta-analysis found that acupuncture for chronic low back pain was cost-effective as an adjunct to standard care while a systematic review found insufficient evidence for the dose-effectiveness of acupuncture in the treatment of chronic low back pain. It is contraindicated in pregnancy

Acupuncture is generally safe when done by an appropriately trained practitioners using clean needle technique and single-use needles. When properly delivered, it has a low rate of mostly minor adverse effects. Accidents, bleeding and infections are associated with infractions of sterile technique or neglect of the practitioner.

A review stated that the reports of infection transmission increased significantly in the prior decade. The most frequently reported adverse events were a rare pneumothorax and infections. Since serious adverse events continue to be reported, it is recommended that acupuncturist be trained sufficiently to reduce the risk.

Scientific investigation has not found any histological or physiological evidence for traditional Chinese concepts such as *qi* (or life force), *meridians or channels*, and acupuncture points ("*A-shi*" points), and many modern practitioners no longer support the existence of life force energy (*qi*) flowing through meridians, which was a major part of early belief systems. Acupuncture is believed to have originated around 100 BC in China. Over time conflicting claims and belief systems emerged about the effect of lunar, celestial and earthly cycles, *yin* and *yang* energies, and a body's rhythm" on the effectiveness of treatment. Acupuncture grew and diminished in popularity in China repeatedly, depending on the country's political leadership and the favor of Western medicine. Acupuncture spread first to Korea in the 6th century AD, then to Japan through medical missionaries and then to Europe, starting with France. In the 20th century, it spread to the US and the spiritual elements of acupuncture (*such as meridians etc.*) that conflicted with Western beliefs were abandoned

Acupuncture is a form of alternative medicine. It is used most commonly for pain relief, though it is also used to treat a wide range of conditions. The majority of people who seek out acupuncture do so for musculoskeletal problems, including low back pain, and muscle and joint problems. Acupuncture is generally only used in combination with other forms of treatment in favor of tapping needles into nerves.

The most common mechanism of stimulation of acupuncture points employs penetration of the skin by thin metal needles, which are manipulated manually or the needle may be further stimulated by electrical stimulation. Acupuncture needles are typically made of stainless steel, making them flexible and preventing them from rusting or breaking. Needles are usually disposed of after each use to prevent contamination. Reusable needles when used should be sterilized between applications.

The skin is sterilized and needles are inserted, frequently with a plastic guide tube. Needles may be manipulated in various ways, including spinning, flicking, or moving up and down relative to the skin. Since most pain is felt in the superficial layers of the skin, a quick insertion of the needle is recommended. Often the needles are stimulate by hand in order to cause a dull localized, aching sensation that is called *de qi*,

as well as "needle grasp," a tugging feeling felt by the acupuncturist and generated by a mechanical interaction between the needle and skin.

De-qi refers to a sensation of numbness, distension, or electrical tingling at the needling site which might radiate along the corresponding meridian. If *de-qi* cannot be generated, then inaccurate location of the acupoint, improper depth of needle insertion, inadequate manual manipulation, or a very weak constitution of the patient can be considered, all of which are thought to decrease the likelihood of successful treatment. If the *de-qi* sensation does not immediately occur upon needle insertion, various manual manipulation techniques can be applied to promote it such as plucking, shaking or trembling.

Usually about 5-25 needles are inserted for 10-20 minutes for 6-8 treatments.

RELATED PRACTICES:

Acupressure, a non-invasive form of bodywork, uses physical pressure applied to acupressure points by the hand or elbow, or with various devices.

Acupuncture is often accompanied by **moxibustion**, the running of cone-shaped preparations of moxa (made from dried mugwort) on or near the skin, often but not always near or on an acupuncture point. Traditionally, acupuncture was used to treat acute conditions while moxibustion was used for chronic disease. Moxibustion could be direct (the cone was placed directly on the skin and allowed to burn the skin, producing a blister and eventually a scar) or indirect (either a cone of moxa was placed on a slice of garlic, ginger or other vegetable, or a cylinder of moxa was held above the skin, close enough to either warm or burn it).

Cupping therapy is an ancient Chinese form of alternative medicine in which a local suction is created on the skin; practitioners believe this mobilizes blood flow in order to promote healing. It has been used in Olympic swimmers to increase the blood flow to the muscles.

Electropuncture is a form of acupuncture in which needles are attached to a device that generates continuous electric pulses (this has been described as "essentially transdermal electrical nerve stimulation (TENS) masquerading as acupuncture")

Fire needle acupuncture also known as fire needling is a technique which involves quickly inserting a flame-heated needle into areas on the body.

Sonopuncture is a stimulation of the body similar to acupuncture using sound instead of needles.

Acupuncture point injection is the injection of various substances (such as corticosteroids) into acupoints.

Auriculotherapy, "ear acupuncture."

Many of us were taught in medical school about the body projection in the motor area of the brain called the **homunculus**, the site of incoming body pain signals. For example, if the left thumb were injured pain would be referred to this brain thumb area which would then radiate **endorphins** (*pain killers*) thus neutralizing the pain—a plausible explanation of how acupuncture works. This would explain how acupuncture works in *acute* conditions but not chronic ones.

RISK OF FORGOING CONVENTIONAL MEDICAL CARE

As with other alternative medicines, unethical or naïve practitioners may induce patients to exhaust financial resources by pursuing ineffective treatment. Professional ethics codes set by accrediting organizations such as the National Certification Commission for Acupuncture and Oriental Medicine requires practitioners to make "timely referrals to other health professionals as may be appropriate.

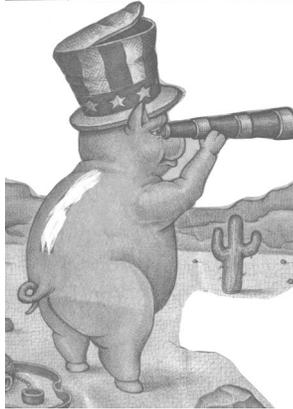
Purpose of this discussion is to enable the practitioner to have some confidence when talking about this subject.

Note: About 80% of the world's available opioids are consumed in the USA. 91 Americans die each day from opioid addiction.

Think of heat & cold (which dilute pain impulses), massage, electro-magnetic pulses ("*Actipatch*," available through Amazon), ultrasound, are more modern forms of acupuncture.

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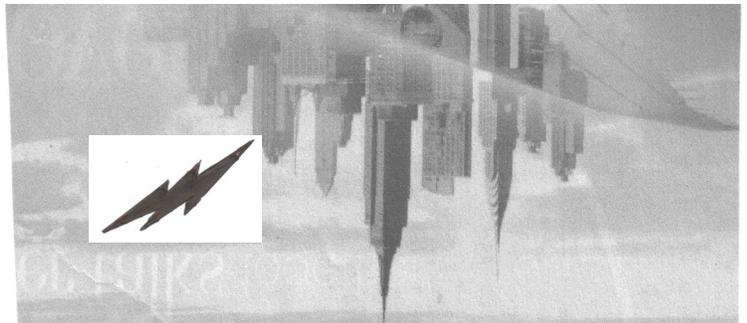
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