The TRUTH About CANCER
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HEROES AGAINST CANCER NEWSLETTER

MARCH

Vol. 3 | Issue 3 | March 2017

In This Issue:

PEMF Therapy: Radiation That Heals Rather Than Harms

By Ty Bollinger

It's been said that energy is the substance of life – the bind that ties, and holds, everything in our universe together. Energy allows us to see, feel, and perceive the world around us, and yet it's so much more than that. Energy quite literally *is* the world around us, just as *we* are energy. Everything from the air we breathe, to the foods we eat, to the clothes we wear, to our bodies themselves exists as a product of energy. Without energy, in other words, there would be no life.

At the same time, the science of physics dictates that each distinct type of energy is accompanied by its own unique energetic signature, or frequency. These one-of-a-kind frequencies are what distinguish one type of energy from another, as well as dictate the way energetic frequencies function both in time and space. The unique energetic signature of an apple, for instance, is what makes this particular fruit stand apart from an orange, both in appearance and taste. On a much grander scale, energetic signatures are what distinguish the vast complexity of a human being from that of a single-celled amoeba.

At the molecular level, energy serves as the universal fuel that drives electrons to "spin" around the nucleus of an atom, no matter what type of organism to which

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Message from Ty Bollinger

Welcome to the March issue of your Heroes Against Cancer newsletter. This month we have three very different articles lined up for you that (as always) I hope you'll enjoy and glean useful information from. Even if the topic may not seem immediately applicable to your personal health situation, our goal with the HAC newsletter is to bring you cutting-edge information so that you can be a health resource for yourself and/or your family & friends if the need ever arises.

First off is my in-depth look at one of the cancer therapies I learned about while filming *The Truth About Cancer: A Global Quest*. At both Hope4Cancer in Mexico and the Center for New Medicine in California we filmed demonstrations of PEMF in action. (Check out Episodes 4 & 7 of the docu-series if you want to go back and see these demos.) In this month's article I dig into the history of PEMF, how it's used, and where you can access this treatment for yourself.

Next up is an article by health blogger and podcaster Tony Isaacs on new cancer tests that your typical MD likely doesn't know anything about. Much of Tony's information for this article came directly from Jenny Hrbacek, RN, who was also featured on *TTAC: A Global Quest*. Jenny is in the midst of releasing an updated edition of her book on cancer testing and is definitely an expert in this area.

Our third article for March isn't about cancer, but it's a health condition that impacts millions. And this disease has a cause that is not being spoken about by the people who are supposed to be in the know. In this article you'll discover the very latest research just published at the end of 2016. Please do yourself a favor and make sure you read it and take every action possible to reduce your exposure to aluminum.

We love hearing from you. If you have any feedback about the newsletter, please drop us a line at support@thetruthaboutcancer.com.

Until next month...

Ty Bollinger

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that atom belongs. But energy also functions with incredible specificity, keeping what you might call the "generic" energies of component atoms functioning harmoniously with one another as part of a much larger and more complex energetic framework. The human body, again, serving as a perfect example of this elaborate energy matrix.

The energetic patterns and frequencies of its vast individual parts must resonate with one another in perfect balance in order for the body's many intricate systems to function in congruence with one another to produce and perpetuate intelligent life. It's a lot like being in a choir, where each member has to sing their part on key, and at the right time, in order for the song to come together and actually sound good.

As designed by our Creator, the human body as a full choir was meant to "sing" in perfect harmony. Each "voice," from our vital organs, to our brains, to our limbs, balancing itself with every other voice and with the director to make beautiful music. This is how it would work in a perfect world, anyway. Unfortunately, we do not live in a perfect world. Because of energetic interference, the members of the body's choir often lose their place in the music and end up marching to the beat of their own drums, creating energetic chaos.

In music, the common sense solution is to have the director identify where in the song the choir went wrong, as well as why, and to bring each individual member back on track. But somehow in medicine, the standard approach to correcting energetic chaos involves either completely removing the voices that are out of sync or flat (invasive surgery), or covering them up as much as possible (pharmaceutical drugs). Almost never does the conventional approach stop and consider: what caused this person's body to get sick in the first place, and how can we correct it rather than just cover it up?

Much like a choir, each part of the human body is meant to "sing" in perfect harmony with all the other parts and systems

What Is PEMF Therapy, and What Does Science Have to Say About It?

Recognizing that the human body functions similarly to a choir, it only makes sense that things like precise organization, regular practice, and fine-tuning are all vital elements for proper maintenance of it. Without these things, the body's "music" will become increasingly more chaotic until there's not a trace left of anything that even resembles music, but rather disarray and mayhem. Or in terms of bodily health, chronic disease and early death.

I'm using a lot of metaphors here, but it's really quite simple: the human body is comprised of an intricate tapestry of energetic parts and systems, each of which bears its own unique energetic signature. While these various signatures are designed to complement one another, various internal and external factors – things like poor diet, stress, and chemical exposure – can not only disrupt their harmonious balance, but also limit their energetic abilities. This ultimately leads to progressively more intense health problems.

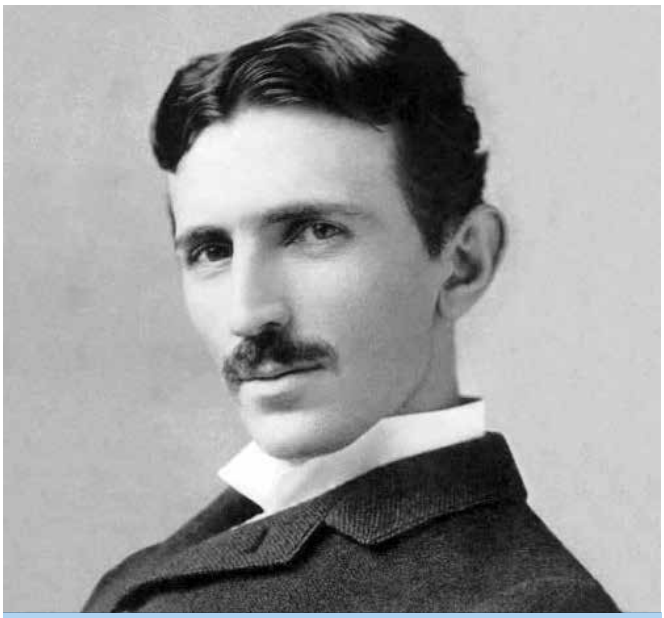
You're probably asking yourself at this point how these types of disruptions and imbalances can be corrected? One novel way is a scientifically-backed, non-toxic therapy

known as pulsed electromagnetic fields therapy, or PEMF. PEMF therapy has been used throughout the world to treat everything from chronic pain and inflammation, to low energy and poor circulation, to neurodegenerative disease and cancer (and everything in between).

PEMF therapy involves applying specialized electromagnetic frequencies to the body that directly interact with the cellular system, which serves as the body's energy center. It effectively increases blood flow to this and other important areas of the body. This in turn delivers much-needed oxygen to muscle tissue. PEMF therapy has the potential to remediate a host of chronic health conditions by fine-tuning the voices of the choir that have gone awry. Due to its customizable nature, PEMF therapy has an almost infinite range of therapeutic applications, including its proven benefits in:[1]

- Increasing blood and lymphatic circulation, as well as platelet adhesion
- Balancing blood pressure and cholesterol levels
- Maximizing cellular metabolism
- Detoxifying the cellular system
- Stimulating the immune system
- Promoting healthy RNA and DNA
- Accelerating the repair of bone and soft tissue
- Relaxing the muscular system
- Improving sleep quality

Another important area where PEMF shows incredible promise is in the treatment of cancer. But before I get into the details of that, let's take a closer look at some of the history, science, and efficacy of PEMF. Primitive forms of static PEMF – the basic use of magnets to aid in healing – have been around for many thousands of years. But it wasn't until the dawn of the 20th century when the late Nikola Tesla, a renowned scientist and inventor, pinned down the concept as a viable medical protocol with profound healing potential.



Nikola Tesla (1856-1943) was a genius responsible for many inventions and was a pioneer in using electricity as a healing modality

Right around the mid-20th century is when the more advanced, pulsed-modulated PEMF technologies that exist today started to appear in clinical settings. First in Japan and throughout Europe, and eventually making their way into the U.S. in the 1970s. After gaining its first approval from the U.S. Food and Drug Administration (FDA) in 1979 as an effective treatment for non-union bone fractures, PEMF therapy would go on to become one of the premier treatments for safely and comprehensively treating chronic illnesses of all kinds.

What first landed PEMF on the radar of mainstream American medicine, though, was a pivotal study published by the late Dr. Andrew Bassett, an orthopedic surgeon from New York who pioneered the rapid healing of broken bones using electromagnetic radiation.[2] His landmark paper on the subject was published in *The Journal of Bone & Joint Surgery* in 1982 after more than 20 years of intensive investigation. His study presented solid evidence that PEMF is a highly effective means by which to accelerate bone healing following an injury.[3] It was from this particular study that more than 2,000 others like it – all university-level, double-blind studies – would be conducted showing benefits from PEMF therapy for many other health conditions.[4]

Some examples of health conditions treated with PEMF include:

» An investigation into the effects of once-daily PEMF to treat cervical, tension, and migraine headaches that showed significant positive results in patients after just 15 days of treatment.[5]

» A double-blind, placebo-controlled trial of PEMF in treating arthritis that showed considerable improvements in patients after just four weeks of treatment.[6]

» A placebo-controlled trial out of Russia looking at twice-daily PEMF treatments for arterial hypertensive patients that showed benefits in patients after just 5-10 days of treatment.[7]

» An observational study looking at PEMF treatment for multiple sclerosis that showed 100 percent improvement in patients after just 4-5 therapy sessions.[8]

» A comprehensive review of 27 randomized, double-blind, placebo-controlled studies that demonstrated relief in patients suffering from chronic pain.[9]

» A paper published in the esteemed *British Journal of Cancer* that showed cancer cells of the breast and liver having a much more difficult time spreading following exposure to PEMF treatments.[10]

Studies have also shown that PEMF therapy can help reduce blood glucose and cholesterol levels, promote the healing of damaged brain tissue following a stroke, fight deadly "superbug" bacteria, protect bones against osteoporosis, and even help address degenerative brain conditions like Alzheimer's, schizophrenia, and post-traumatic stress disorder (PTSD).[11]

The evidence is so overwhelming that PEMF therapy promotes healing by actively stimulating the various electrical and chemical processes in the body that, following the FDA's initial approval of the treatment for use in non-union bone fractures in 1979, the agency later approved it for two more uses. The first was for urinary incontinence and muscle stimulation in 1998, and then for depression and anxiety in 2006. Today, PEMF is commonly used to treat chronic pain, debilitating headaches, muscle wasting and degeneration, motion disorders, and many other conditions.

The FDA approved PEMF as a treatment for non-union bone fractures in 1979. (When a broken bone fails to heal it is called "non-union")

Before his passing, Dr. Bassett made a statement that I believe sums up the full potential of what PEMF therapy has to offer:

"In the decades to come, it is safe to predict bioelectromagnetics will assume a therapeutic importance equal to, or greater than, that of pharmacology and surgery today. With proper interdisciplinary effort, significant inroads can be made in controlling the ravages of cancer,

some forms of heart disease, arthritis, hormonal disorders, and neurological scourges such as Alzheimer's disease, spinal cord injury, and multiple sclerosis. This prediction is not pie-in-the-sky. Pilot studies and biological mechanisms already described in primordial terms, form a rational basis for such a statement."[12]

The late Dr. Linus Pauling, twice recipient of the Nobel Prize for chemistry and peace, had a similar confidence in the potential of PEMF therapy. He once stated that bioelectromagnetics offers benefits to mankind "from infant to geriatric," and that as doctors continue to adopt it into their practices, it will one day "lead to a change in the paradigm of medicine."[13]

But Isn't Electromagnetic Radiation Harmful?

I want to clarify that the type of electromagnetic radiation used in PEMF therapy *isn't* the same as the harmful EMFs emitted by things like mobile phones, wireless routers, computers, televisions, microwave ovens, and various other electronic devices. The "electrosmog" pollution from such products creates a negative stress response inside the body that actually *harms* cells and depletes their energy levels. PEMF therapy does the opposite, helping to balance energy frequencies throughout the body while minimizing the detrimental effects of electrosmog.[14]

The electromagnetic radiation produced by PEMF is far different from the harmful radiation from cell phones and other electronic devices

You should also know that PEMF therapy represents a *dynamic* approach to restoring the body's energy frequency balance, meaning the strength, type, duration, and intensity of the frequencies it creates vary depending on the health issue being addressed. This stands in contrast to some of the older magnetic therapies you might have heard of that are *static* in nature. This means they have fixed strengths and intensities at all times, and are thus far less effective.

Fine-Tuning Your Body With PEMF Therapy

With all this in mind, let's get down to business in identifying, first off, how PEMF therapy can be used to fine-tune one's body for improved health and wellness. In this section, I'll be talking about the use of PEMF therapy for routine maintenance and disease *prevention*, as opposed to active disease *treatment* (which I'll address specifically in the next section). Treating certain *minor* health issues might qualify as prevention, but the focus here will mostly be on how to keep the body "buzzing" at maximum efficiency while helping it to better adapt to the things that cause disease in the first place – one of the most common causes being stress.

The body's normal life cycle involves replacing older (and oftentimes dead) cells with new ones in order to keep everything running smoothly. This process is contingent upon the healthy and efficient flow of energy, of course, which as a person ages gradually starts to deteriorate. Stress, as you may already know, only makes the problem worse. If left unchecked it will accelerate the breakdown of cellular communication, as well as inhibit cellular regeneration, leading to greater and more intense manifestations of disease.

Daily stressors can include things like dealing with traffic, rushing to meet a deadline, or putting up with a hard-nosed boss, as well as eating inflammatory foods that put stress pressure on the body. Our bodies respond to these stressors by producing a low-level "fight or flight" response each time the stressor presents itself.

Your body responds to daily stressors by producing a low-level "fight or flight" response which, if left unchecked, contributes to disease formation

This response is completely normal, as it's how our bodies modulate stress in order to press on and move forward. It's when stress becomes so constant and recurring that our bodies become completely overwhelmed and unable to deal with it all that problems arise.

"The cumulative or chronic occurrence of even mild stressors may not allow adequate or full recovery from these (natural stress) responses, and result in very real and increasingly widespread health problems," warns Dr. William Pawluk, MD, a board-certified family physician and strong advocate of PEMF therapy as a way to prevent stress-induced illnesses. "Stress reactions hasten the decline of our overall health by actually damaging some organs and accelerating the wear and tear on others."

As for the long-term consequences of unmitigated stress, these include many of the most common health conditions people today face. Conditions like rapid aging, heart disease, diabetes, arthritis, chronic fatigue, impaired immunity, anxiety, and depression, to name just a few. It's a gradual progression of disease that Dr. Pawluk describes in terms of four cascading layers:

1 | **Energetic level:** these are minor chemical and/or energy imbalances that the body can easily and quickly fix on its own, assuming the problem doesn't persist due to constant stressors.

2 | **Physiologic level:** these are what emerge when an energetic-level abnormality progresses one step further towards a disease pathology, typically requiring several days for healing.

3 | **Pathophysiologic level:** this is when a physiologic disease is on the verge of becoming pathologic – most chronic diseases become evident at this point – requiring considerably more time to heal on its own.

4 | **Pathologic level:** this is a worst-case scenario in which a disease has battened down the hatches and taken a firm hold inside the body, requiring more extreme interventions because it cannot heal on its own.

When disease progression reaches the pathologic level, it usually means extreme interventions

In other words, it all starts at the energetic level and ends at the pathologic level. This is why Dr. Pawluk and many others in his field strongly advocate for *preventative* PEMF therapy to correct any and all energetic-level "misfires" before they advance into full-blown, pathologic-level chronic disease. Daily or every-other-day PEMF treatments under the careful supervision of a qualified practitioner can provide long-term benefits in the form of lowered stress, improved energy function, and all-around more efficient cell repair and regenerative healing.[15]

PEMF Therapy and Cancer: What You Need to Know

While it's best to avoid ever reaching the pathologic level of disease in the first place, the sad reality for many people is that they're already there and are now looking for answers. The good news for these folks is that PEMF therapy can help them too! As I covered in my documentary series *The Truth About Cancer: A Global Quest*, PEMF therapy is right now being used all throughout the world as both an adjunct and first-line treatment for many different types of disease pathologies; perhaps most notably in treating cancer.

One individual I spoke with for my series, Dr. Martin Bales, LAc, DAOM, a certified thermologist and licensed acupuncturist at the Center for New Medicine (CNM) in Irvine, California, showed how the clinic uses PEMF therapy to treat cancer patients. He explained how cancer cells function at a lower voltage (or electrical potential) than healthy cells, and that PEMF therapy can increase their energy potential. This discourages cancer cells from growing and proliferating.

Dr. Bales and his colleagues utilize low-level PEMF therapies both in a targeted and comprehensive format, depending on the health condition, to raise the hertz of cells throughout the body, effectively boosting their energy and healing potential. He's seen many successful outcomes in using PEMF therapy alongside other treatment protocols such as far infrared sauna therapy, sono-photo dynamic therapy, and hyperbaric oxygen therapy. This success even extends to some of the most aggressive forms of cancer, including cancers of the pancreas and brain. As it turns out, PEMF therapy is FDA-approved for treating brain cancer.

The Hope4Cancer clinic in Tijuana, Mexico, is another medical facility where PEMF therapy is offered as a first-line treatment option for cancer patients. My good friend, Dr. Antonio Jimenez, showed me in person how PEMF therapy works by placing a PEMF device around my neck and giving me a treatment (see cover photo). As the device clicked and produced various shock noises, Dr. Jimenez explained how my body's energy frequencies were being raised to help combat whatever imbalances might be present.

Dr. Martin Bales and a patient at the Center for New Medicine demonstrate a PEMF treatment in Episode 4 of *TTAC: A Global Quest*

Where to Get PEMF Therapy

So, where else can you get PEMF therapy? There are thousands of medical clinics across the U.S. and throughout the world that offer it, including many chiropractic and integrative health practices. You can also purchase PEMF equipment for use in the comfort of your own home. I would suggest using a buyer's guide like the one Dr. Pawluk provides on his website as a good starting point (https://www.drpawluk.com/buyersguide/pemf-starters). It serves as an instructional tool to help potential buyers figure out which PEMF equipment best suits their needs. It's not, as you might suspect, a marketing piece pushing the sale of any particular type or brand of PEMF equipment.[16]

Dr. Pawluk does, however, sell both localized and whole-body PEMF systems on his website that are among the best options out there.[17] He even has a rental service where you can take home a PEMF system on loan to try it out for yourself before actually buying one.[18]

As a closing note, I'd also like to point out that PEMF therapy can be beneficial for pets as well as people. There are even some companies now offering wearable PEMF devices like the "HealFast" that help improve mobility in injured cats, dogs, horses, and other mammals.[19]

About Ty Bollinger

After losing several family members to cancer (including his mother and father), Ty Bollinger refused to accept the notion that chemotherapy, radiation, and surgery were the most effective treatments available for cancer patients. He began a quest to learn all he possibly could about alternative cancer treatments and the medical industry.

Ty has now made it his life's mission to share the most remarkable discovery he made on his quest: the vast majority of all diseases (including cancer) can be easily prevented and even cured without drugs or surgery.

Ty is a happily married husband, the father of four wonderful children, devoted Christian, best-selling author, medical researcher, talk radio host, health freedom advocate, former competitive body-builder, and also a certified public accountant.

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Promising Early Cancer Tests Able to Detect Stage 0 Cancer

By Tony Isaacs

There's exciting news on the cancer front… three early detection cancer tests are reported to detect most cancers when the tumors are only about the size of a pencil tip (about the size of the period at the end of this sentence). Cancer at such an early stage is known as Stage 0 cancer and it is reversable virtually 100 percent of the time.

Other than finding a universal cure for cancer, being able to detect cancer when it is in the earliest stage of development has been the "Holy Grail" of cancer research. Quite simply, the earlier cancer is detected, the better the odds are of beating it. Thanks to revolutionary new advances in cancer testing and detection, we may finally be on the verge of being able to detect many (if not most) types of cancer much earlier than ever before.

The early detection cancer tests are also reported to be extremely accurate as well as relatively affordable. One of the tests, whose cost is estimated to be $850 or less, is able to detect cancer 99 percent of the time and it identifies *where* the cancer is located 97 percent of the time. Another test, which detects lung cancer in very early stages of development, costs around $1,200. A third test detects the amount of cancer in the body (but not the location), and is set to cost less than $200. Even better news is that all of this vital information is available from simple blood tests!

One potential course of action is that working with a qualified healthcare provider, a person could use the less expensive test to identify the presence of cancer. If that test comes back positive then one could proceed using the second test to determine the **type** and **location** of the cancer, and what kind of treatment will be most effective. Thereafter, the less expensive test could be used to monitor treatment progress.

In other words, for around $1,000 to $1,350 you could detect the presence of cancer, identify it, and begin a

therapeutic program to eliminate it in the very earliest stages. Meanwhile you could be monitoring progress periodically with tests costing less than $200.

If these tests work as predicted, existing medical tests such as mammograms, colonoscopy, and PSA testing could become obsolete for many kinds of cancer.

Liquid Biopsies and Other Early Detection Tests

Author, registered nurse, and cancer survivor Jenny Hrbacek (who you may remember from *TTAC: A Global Quest*) talked about the early detection cancer tests during this author's *The Best Years in Life* radio show in October 2016. Ms. Hrbacek is perhaps the go-to authority on early cancer detection, which is a major topic of her book *Cancer Free! Are You Sure?* [Note: Find out more about Ms. Hrbacek at the end of this article.]

Ms. Hrbacek said that two of the most promising early detection tests are so-called liquid biopsies. These are non-invasive tests that require only a drop of blood and test for the presence of the Enox2 protein – a protein which is only produced on the surface of cancer cells. Here are some details on these cancer tests and how you can access them:

The ONCOblot® Test

You may have heard about The ONCOblot® test, developed by ONCOblot® Labs in Coppell, Texas, previously on The Truth About Cancer, as it is a favorite test of several of the docu-series experts. The ONCOblot technology is in the process of changing hands after the death of the owner, and is forecast to be available once again in early April 2017.

Under its previous ownership ONCOblot was able to detect 20 different sites of origin for cancer and 25 different types of cancer. Results for the test have typically taken about three weeks. The cancers detected by the test included:

- Bladder
- Breast
- Cervical
- Colorectal
- Endometrial
- Esophageal
- Gastric
- Hepatocellular
- Kidney
- Leukemia
- Non-Small cell
- Lung Small cell
- Lymphoma
- Melanoma
- Mesothelioma
- Myeloma
- Ovarian
- Pancreatic
- Prostate
- Sarcoma
- Squamous Cell
- Follicular Thyroid
- Papillary Thyroid
- Testicular Germ Cell
- Uterine

Jenny Hrbacek, RN, is featured in Episodes 3 and 4 of *TTAC: A Global Quest*

The way ONCOblot® testing works is that a test kit is ordered and delivered to your physician (the kit must be ordered by a physician). Blood is then drawn and the completed test kit is sent back to ONCOblot® Labs. It typically takes about 3 weeks (15 business days) for ONCOblot® Labs to complete the test and send the results back to your doctor.

A study published in the journal *Clinical Proteomics* found that the ONCOblot® test detected mesothelioma 4 to 8 years in advance of clinical symptoms.

[Note: As mentioned above, due to the sale of the ONCOblot® technology, tests are temporarily unavailable. However, according to Ms. Herbacek, the tests are on track to become available again by the first of April. Patients and physicians can leave contact information at the following location and ONCOblot® Labs will notify you when the tests become available: http://ONCOblotlabs.com/information-request/]

The QuickLab ENOX2 Test

Another ENOX2 liquid biopsy test is a new one developed by Dr. Richard Davis and his company QuickLab in Clearwater, Florida. Set to debut by the time this newsletter is published, Dr. Davis's test detects whether or not you have ENOX2 protein circulating in your blood and how much you have. Test results take only 24-48 hours and the test is relatively inexpensive, costing $175 for the kit, testing, and reporting. You will, however, need to work with a physician who orders the test kit from QuickLab.

An interesting aside is that Dr. Davis was inspired to create the test due to his own experience with cancer. Three years ago he was diagnosed with Stage IV liver and lymph cancer and healed himself using only natural/alternative methods. He wanted a test that could be used to determine how his treatments were working, as well as a screening test that could be used proactively as part of a yearly physical. Once the test is available, you'll be able to find out more at www.Quicklab.com. Dr. Davis also plans to develop a directory listing of doctors in the 50 states who are willing to administer the test.

EarlyCDT®-Lung test

EarlyCDT®-Lung is a blood test that has the ability to help detect cancer before it is visible on the standard CT diagnostic test usually used to find lung cancer. The test measures seven autoantibodies to aid in the detection of lung cancer earlier and with higher specificity than CT scans.

Lung cancer is the most common cancer in men and the fourth most common cancer in women. Each year, lung cancer kills nearly 160,000 Americans – taking more lives than breast, prostate, colon, liver, kidney, and skin cancers combined. Lung cancer is usually only detected after symptoms appear, when the cancer is in its latest stages. If lung cancer is detected early, at Stage I or Stage II, survival rates triple. Find out more at: http://www.myinnovativelab.com/lung-cancer/

Why Tumor Size Matters When It Comes to Cancer Detection

The ONCOblot®, Qwicklabs, and EarlyCDT® tests can detect cancer which has as few as 2 million cells. By comparison, standard cancer tests such as CT scans are unable to detect cancer until the cancer has grown to anywhere from several billion cells to trillions of cells. In other words, these tests are able to detect cancer when it is anywhere from several thousands of times smaller than conventional cancer tests to over a million times smaller.

Traditional cancer tests detect tumors only when they are at least 2mm in size, about the size of a pinhead, but often do not detect cancer tumors until they are at least pea sized (8mm) and become clearly visble on CT scans. In lung cancer, fast-growing lung tumors such as large or small cell carcinomas grow to the size of a pinhead in an average of 1.1 years. The tumors reach pea size at 2.3 years.

A little over a year later, at 3.4 years, the fast-growing tumors will be the size of a golf ball, which is the point where tumors become clinically apparent and physical symptoms appear. From there, the tumors grow to the size of a grapefruit at 4.6 years, which is the terminal stage (the stage where death occurs).

Intermediate-growing lung tumors, such as squamous cell carcinomas and adenocarcinomas, reach the size

of a pinhead at 4.2 years, the size of a pea at 8.4 years, the size of a golf ball at 12.6 years, and grapefruit size (terminal size) at 16.8 years

Thus one can see the rapid growth rate of cancers from the time they are only a pinhead in size until death occurs. Fast-growing tumors go from golf ball size where symptoms become apparent to death in little more than a year.

What to Do If Cancer Is Detected in Early Stages

When cancer is detected in a very early stage, relatively simple natural cancer therapies and good health practices may be all that is needed to eliminate the cancer. However, most people have been conditioned to treat all cancers using mainstream treatments – especially chemotherapy. Not to mention that most mainstream oncologists are going to recommend chemotherapy even when the cancer has been detected early. What many people are unaware of is that non-traditonal (i.e. natural or alternative) cancer therapies can be more successful than mainstream therapies for virtually all cancers, and that is especially true of cancers which are detected early.

Instead of opting for conventional cancer treatments which are harsh, expensive, and often dangerous, cancers in early stages can be healed with fairly simple and inexpensive natural therapies. These might include detoxing and avoiding future toxins, changing to a healthier anti-cancer lifestyle, employing a healthy diet which includes cancer-fighting and immune boosting foods, and using natural anti-cancer supplements that support the immune system.

The Truth About Cancer website, the Heroes Against Cancer newsletter, and TTAC docu-series are all filled with information about how to naturally beat cancer and keep cancer at bay.

Chemo Sensitivity Testing

Chemo sensitivity testing is an emerging field with great promise for improving patient outcomes. Many people end up opting for chemotherapy due to urging by their doctor and/or oncologist, as well as pressure from family and friends. Therefore it is important to be aware that **conventional chemotherapy can be greatly enhanced with chemo sensitivity tests**. These tests enable a person to personalize their treatment by finding out which drugs are most effective against their particular cancer(s). Sadly, the majority of patients are never offered the option of such tests. If you or a loved one does choose to go the allopathic cancer treatment route, it would be a very good idea to inquire about (and insist on!) such tests.

A chemo sensitivity assay is a laboratory test that measures the number of tumor cells that are killed by a particular cancer drug once tumor cells have been removed from the body. The assay may help in choosing the best drug or drugs for the cancer being treated with a goal of giving each patient the best opportunity for a positive response to their drug treatment.

As Ms. Hrbacek explains, the word "goal" is used advisedly because even though drug therapy can be effective against cancer cells, it is not a cure. There are inherent problems administering any cytotoxic drug, even if it is the best choice for the patient's tested cancer cells. Side effects can be debilitating and lasting. Plus, tumors have the ability to develop drug resistance. That means patients need repeat sensitivity testing and adjustments to the treatment plan. Perhaps most importantly, drug therapy does not address the root causes that enabled cancer to first gain a foothold.

Chemo sensitivity testing can prevent your exposure to a drug that not only would be *ineffective* at fighting the cancer, but could also be extremely damaging to the immune system. Without chemo sensitivity testing, a person falls victim to the one-size-fits-all, broad-based

approach of conventional oncology. Usually, standard drugs from the National Comprehensive Cancer Network (NCCN) guidelines will be prescribed – even when a more effective drug may remain on the shelf.

Patients who elect for conventional chemotherapy treatments can see improved outcomes with chemo sensitivity testing

Worse still, a person may be prescribed a less effective drug because it is one that the oncologist wants to sell. Perhaps because they have considerable inventory of the prescribed drug on hand, and/or the amount of profit (markup) the oncologist makes on that particular drug.

An earlier form of chemo sensitivity testing was "drug efficacy (or response) testing," which has been around since the 19th century through the work of Drs. Louis Pasteur and Paul Ehrlich in determining which antimicrobial (antibiotic) would kill a certain strain of bacteria. Drug efficacy testing is routinely done today, for example, with bladder infections. Patients give a urine sample to the lab where it is tested against the various antibiotics used for urinary tract infections. The doctor then writes a prescription for the antibiotic that was shown to do the best job of knocking out that particular infection.

Integrative oncologists have been using sensitivity testing for years. Actor and author Suzanne Somers is a well-known alternative cancer treatment advocate. She has interviewed many cancer doctors and written several books on cancer therapy after her first-hand experience with breast cancer. She is quoted in *Cancer Free! Are You Sure?* as having this to say about chemo sensitivity testing:

"Now that I realize chemo sensitivity tests exist, it feels unconscionable that chemotherapy would ever, ever be administered without testing first to find out if the chemo is even compatible with the specific cancer."

A few notes of caution: As mentioned earlier, chemo does not "cure" cancer. For that matter, neither does radiation or surgery. In fact, **both chemo and radiation *create* dangerous cancer stem cells** which are far more difficult to eliminate than regular cancer cells. The main reason these mainstream treatments do not cure cancer is that they fail to address and eliminate the root causes (usually toxins), which enabled cancer to gain a foothold in the first place. Nor do those treatments enhance the immune system which is the body's natural first line of defense against cancer. Chemo and radiation both damage the immune system as well as vital organs such as the heart and liver.

Alternative/Natural Agent Sensitivity Testing

This testing identifies natural substances that will be the most effective treatment for attacking cancer cells and boosting immune system function. Therapeutic doses of vitamin C, for example, have been shown to kill cancer cells and vitamin C does not have the toxicity or the tendency for the development of drug resistance that chemo does.

Jenny Hrbacek reports that, even though there are increasing numbers of patients who are seeking natural therapies, she thus far she has only identified two labs (both outside the United States), which offer any type of testing for natural substances Many of the substances the labs test are those which support the immune system while aiding in the reduction of the number of

cancer cells through a process called angiogenesis or apoptosis. The two labs are:

1 | **Research Genetic Cancer Center (RGCC), Greece**, which tests for 46-48 natural substances ranging from mistletoe and Metformin to Artecin® and Thymex®. They add new substances periodically. Find out more at: https://www.rgcc-group.com

2 | **Biofocus®**, located in Germany, tests for 14 different natural substances ranging from quercetin and Inositol.IP6, to curcumin and amygdalin B17 (laetrile). Find out more at: http://www.biofocus.de/molekulare-onkologie

Angiogenesis is the process that the body uses to signal the growth of blood vessels to a tumor to provide it with nutrition for growth. The Angiogenesis Foundation in Cambridge, Massachusetts, reports that all cancerous tumors release angiogenic growth factor proteins that stimulate blood vessel growth to tumors. Anti-angiogenic therapies literally starve the tumor of its blood supply by interfering with this process. An angiogenisis test identifies natural substances that are anti-angiogenic to the individual patient's tumor cells.

Apoptosis is the process where cells die due to normal programmed cell death. However, as part of the cancer process, cancer cells lose their natural programming and refuse to die. They keep replicating endlessly, forming a protective barrier to protect themselves from compounds which might otherwise be deadly, and ultimately spreading to other parts of the body. The apoptosis test identifies natural substances that cause cell death to the individual patient's tumor cells.

Another company, Rational Therapeutics, takes living tumor tissue and puts it in contact with different immunontherapies and drugs to determine which treatments will be most effective. You can learn more about this company at: https://www.rational-t.com/

Other Early Detection Tests Worth Noting

RGCC Research Genetic Cancer Center's Comparative Genomic Hybridization test detects cancer stem cells circulating in the blood. The test costs $500 Euros (approx. $535) and can tell what kind of cancer, how much cancer, and the site of origin. Find out more at: https://www.rgcc-group.com

Biocept can give you enumeration as well as biomarker identification of breast, prostate, colorectal, lungs, gastric, and melanoma cancers and is usually covered by insurance. The cost is $625. Find out more at: http://biocept.com

Also worth noting when it comes to cancer testing:

» Researchers from a study at the Fred Hutchinson Cancer Research Center developed a simple checklist of six warning signs to help detect ovarian cancer earlier: pelvic pain, abdominal pain, bloating, increased abdominal size, feeling full quickly, and difficulty eating.

» Thermograms detect cancer earlier than mammograms, are considerably more accurate with and are much safer. Unlike mammograms, thermograms do not cause cancer and the tests result in far fewer false positive results which cause unnecessary surgeries and chemo treatments. [Editor's note: See the Oct 2016 edition of Heroes Against Cancer newsletter for more about thermography.]

Mammograms are not the best test for breast cancer and often result in false positives that lead to unnecessary medical interventions

» Exact Sciences, a Wisconsin-based diagnostics company, has developed a stool test shown to be 98 percent accurate for detecting cancer and up to 83 percent effective for spotting pre-cancerous lesions. Learn more at: http://www.exactsciences.com/

About Jenny Hrbacek, RN

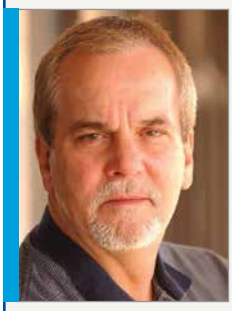
I first learned about the new early detection cancer tests from Jenny Hrbacek, the author of *Cancer Free!: Are You Sure?*, during an interview on my weekly radio show last fall and she is the source who provided me with, and pointed me towards, a substantial amount of the information contained in this article. (You can listen to my interview with Ms. Hrbacek here: www.blogtalkradio.com/tbyil/2016/10/05/this-weeks-guest-is-jenny-hrbacek-author-of-cancer-free--are-you-sure).

I believe that Ms. Hrbacek, who says that her mission is "to change how cancer is detected in the United States," is one of the best resources for the latest information on early cancer detection. Here is some more information about Ms. Hrbacek:

Jenny Hrbacek set out on a life changing journey when she was diagnosed with breast cancer in 2009. She hosts "The Cancer Free University" on TVN (The Vitality Network). She appears in "The Truth about Cancer: A Global Quest" documentary series and has appeared at the *Cancer Answers Global Summit*. She is also featured in the *Cancer Connection* segments on Dong Kauffman's TV show, "Know the Cause."

Ms. Hrbacek has also started a public awareness campaign named "No Lump or Bump" to spread the word that the old lump or bump detections methods have become obsolete and to tell about the new tests which detect cancer much earlier and which may be able to save millions of lives.

About Tony Isaacs



Tony Isaacs is a member of the National Health Federation and the American Botanical Council. He is a natural health advocate and researcher and the author of numerous articles and books about natural health including *Cancer's Natural Enemy.*

Tony's articles are featured on The Truth About Cancer, the Health Science Institute's Healthiertalk website, CureZone, the Crusador, Health Secrets, the Cancer Tutor, the Silver Bulletin, the New Zealand Journal of Natural Health and several other venues.

He also runs The Best Years in Life website which helps people avoid prescription drugs and mainstream managed illness and live longer, healthier, and happier lives naturally. In addition, he hosts the Yahoo Oleandersoup Health group of over 3,500 members and the CureZone Ask Tony Isaacs - Featuring Luella May forum.

Tony and his partner Luella May host The Best Years in Life Radio Show every Wednesday evening on BlogTalk Radio.

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Charlene's Cancer-Fighting Kitchen

Guanabana Kiwi Pineapple Smoothie

This tropical fruit smoothie features the exceptionally powerful anti-cancer fruit called guanabana. Also known as soursop, guyabano, and graviola fruit, this fruit is rich in the phytochemicals annonaceous acetogenins that arrest cancer development and activate apoptosis – natural cell death.

Guanabana is also rich in minerals and B vitamins, while pineapple is loaded with the proteolytic enzyme bromelain which is well known for its cancer-fighting properties.

Aloe Vera has acemannan, an immune-boosting compound and antioxidant amplifier making it a powerful healing agent. These three components, together with the remaining ingredients, are a delicious, nutrient-dense blend that packs a powerful punch against cancer cells, while meeting the body's nutritional demands.

Yield: Two 16-ounce servings
Preparation time: 10 minutes

Ingredients:

- ½ cup fresh or packaged* guanabana. If fresh, peel and remove seeds.
- 1 organic banana, sliced and frozen
- 1 cup fresh pineapple, peeled and cubed (including the core, it's concentrated with the digestive enzyme bromelain)
- 1 organic kiwi, peeled OR wash well and leave the skin on for extra fiber
- 3 tablespoons fresh Aloe Vera gel
- 1 handful organic kale, washed
- 1 teaspoon Spirulina flakes
- 1 tablespoon cold pressed coconut oil
- 1 cup fresh almond milk OR coconut milk OR substitute spring or filtered water

Directions:

1. Slice the Aloe Vera stalk lengthwise and scoop out the flesh. Place the gelatinous flesh in the blender.
2. Put the remaining ingredients in the blender and process at medium speed for 10 seconds and then on high for 20 seconds more or until smooth.
3. Pour into glasses, garnish with fresh fruit if desired and serve. Enjoy!

*Packaged guanabana can be purchased online: https://store.grinrealnature.com/?gclid=CK izYDcx8cCFYI-cGwodtkABKw

For all recipes, please use fresh, organic, locally-grown ingredients whenever possible, including organic, non-irradiated spices. This will give you the maximum cancer-fighting benefits.

Healthy Omega-3 Mackerel

Mackerel is a delicious white-fleshed fish with a savory flavor known for its high omega-3 fatty acid content. Sage is a memory enhancer, antioxidant, and anti-inflammatory herb that compliments this dish. Walnuts are also good brain food with their healthy fats.

Suggested side dishes include broccoli, which is one of the key cruciferous veggies that fight cancer. Squash or sweet potato, both high in carotenoids that are vital for fighting cancer and good health, are other healthy options.

This tasty combo is perfect for an immune-boosting, cancer-fighting, clear-thinking meal.

Yield: Two 8-ounce servings
Preparation time: 30 minutes

Ingredients:

- 1 pound Mackerel fillet
- 2 cups butternut OR acorn squash OR sweet potato, peeled and diced into ¾-inch cubes
- 1½ cups broccoli, cut into florets and stem chopped
- ¼ cup chopped walnuts (optional for garnish)
- 1½ cups spring OR filtered water
- Freshly ground black pepper and pink OR sea salt to taste

Marinade:

- 2 cloves garlic, minced
- ¼ cup ghee, melted*
- ¼ cup whole, fresh sage leaves, coarsely chopped
- 3 tablespoons freshly squeezed lemon juice
- Pinch of fresh black pepper and pink OR sea salt

Directions:

1. Carefully wash the fish and pat dry.
2. In a flat casserole dish mix the marinade ingredients and place the fish in it to marinate. After 10 minutes turn the fish over to marinate the other side.
3. Meanwhile pour the water into a 9x13 inch glass baking dish and set aside.
4. Peel and cut the squash or sweet potato. Place pieces in the pyrex dish and bake for ten minutes at 300 degrees Fahrenheit while the fish is marinating.
5. Remove dish from oven. Add the fish with the marinade and bake for 15 minutes or until the fish is flaky when pulled apart with a fork.
6. While the fish is baking, wash the broccoli, cut into florets and place in a steamer. Steam over the stove for 5-10 minutes or until it turns bright green and is still firm. Turn off the heat and cover for two minutes and serve as a side dish with ghee if desired.
7. Remove the fish from the oven and serve immediately with the squash and broccoli. Enjoy!

**Ghee can be found at specialty food stores including Whole Foods and Trader Joe's and online.*

Lemon Sage Artichoke Galette

The galette is an open faced pie that originates in France. This delightful entree features a gluten-free, dairy-free, buckwheat flax base filled with tasty veggies famed for their anti-cancer benefits.

Artichokes have been praised for their liver and kidney detoxifying attributes and anti-cancer phytonutrients of quercetin, rutin, and cynarin. These are concentrated antioxidants that help shrink tumors and prevent them from spreading.

Combined with the remaining super spices and ingredients this dish is sure to become a favorite anti-cancer meal option.

Yield: 8 slices
Preparation time: 30 minutes

Filling Ingredients:

- 8 artichoke hearts, quartered
- 3 baby turnips, quartered
- 1 cup fresh spinach leaves, washed and coarsely chopped
- 1 tablespoon sun dried tomatoes, finely chopped
- 1 teaspoon coconut oil
- ¾ cup red onion, julienned
- 1 clove garlic, crushed and chopped
- 2-3 tablespoons pine nuts (optional)

Spices:

- 6 fresh sage leaves, coarsely chopped
- 1 teaspoon fresh thyme leaves
- 3 tablespoons fresh lemon juice
- Splash of Balsamic vinegar
- ¼ cup spring OR filtered water
- ½ teaspoon freshly ground black pepper
- ¼ teaspoon pink OR sea salt, to taste

Crust Ingredients:

- 1 ¼ cup buckwheat flour* (or grind your own from untoasted buckwheat kernels)
- ¼ cup ground flaxseed (or grind your own from organic flax seeds)
- ½ cup cold pressed coconut oil, semi-hard
- ½ teaspoon fine pink OR sea salt
- ¼ cup very cold water, added gradually

Filling Directions:

1. If using frozen artichoke hearts, take out eight artichoke hearts and set aside in a bowl to defrost.
2. In a separate bowl add all the remaining ingredients except pine nuts, spinach, salt and pepper.
3. Stir in the artichoke hearts when semi-defrosted.
4. Heat a saucepan on the stove until the teaspoon of coconut oil melts. Then place all the ingredients in the pan, except the pine nuts and spinach, over medium low heat stirring occasionally until the artichokes are tender (approximately 10-15 minutes).
5. Allow to cool then adjust the seasoning by adding salt and pepper to taste.

Crust Directions:

1. In a bowl add the buckwheat, flax flour, and salt, mixing it with a fork for even distribution.
2. Add the coconut oil and blend with a pastry cutter or large fork. When it looks like pea-sized crumbs, add water slowly and knead with hands gently a few strokes until it holds together like cookie dough. Note: this process can be

accomplished very quickly in a food processor with the plastic blade or regular blade on pulse for 30 seconds until the dough forms.

3. Then place dough on a lightly floured surface and roll out with a rolling pin. Place in a lightly oiled 9-inch pie or tart dish allowing the excess to hang over the sides. Add the spinach and pine nuts to the filling and place the filling inside the dish, folding the dough slightly over the first two inches of filling.
4. Bake at 350 degrees Fahrenheit for 20 minutes or until the crust is light brown.
5. Allow to cool for five minutes. Then slice into eight pieces and serve with additional pine nuts and drizzled extra virgin olive oil. Enjoy!

**Buckwheat flour can be purchased in most health food stores along with ground flax seed. This product (available in stores and online) is a whole grain that you can grind in a food processor or blender:* http://www.bobsredmill.com/organic-raw-buckwheat-groats.html

About Charlene Bollinger

Charlene Bollinger is a devoted Christian, happily married wife, joyful mother of 4 beautiful home-educated children, health freedom advocate, co-founder of CancerTruth.net, former model/actress/fitness buff, and lover of healthy food and healthy living.

After losing various family members to conventional cancer treatments, she and her husband, Ty, learned the truth about cancer and the cancer industry and together work tirelessly helping others learn and live free, healthy lives.

Currently, Charlene is working on compiling a cookbook to help families learn that they can indeed cook healthy, delicious food in this toxic world. Along with her husband, Ty, she is also the co-owner of Infinity 510 Squared Partners Publishing Company.

Solving the Alzheimer's Puzzle: New Research Confirms Aluminum's Key Role in the Epidemic

By Celeste McGovern

If they had to suffer a modern scourge, most adults say they'd rather have cancer than Alzheimer's.

Unlike cancer, there is no promise of a cure for Alzheimer's, no treatment on the horizon, nothing mainstream medicine can offer to even slow its intrusion. It strikes unpredictably, silently crippling neurons, robbing its victims of their memories, shrinking their brains, their independence and judgment, erasing their personalities, and eventually claiming their lives. It is currently the sixth leading cause of death.

The disease which afflicts more than five million Americans today and more than 40 million people globally is expected to soar to more than 150 million by mid-century. As your age increases, so do your odds of being stricken. If you are fortunate enough to reach the ripe old age of 85, you will also have about a one in two chance of being demented by Alzheimer's.

Public health agencies, doctors, and patient support groups say there is nothing you can do to prevent it. The greatest risk factors for getting Alzheimer's they identify are your age and your genes. But that message – that Alzheimer's disease is just a bad lottery ticket – is in contrast to a growing body of evidence that points to a single environmental toxin as a primary culprit in some (if not most) Alzheimer's cases.

Aluminium's toxicity to the central nervous system is documented way back to the early 20th century, shortly after the metal began to be extracted from its stable natural form in the earth's crust in the 1890s. Its association with Alzheimer's is decades old and supported by hundreds of studies. But public health advocates, if they acknowledge the connection at all, downplay it as "unsubstantiated" or dismiss it as "myth." Evidence against the metal with a long rap sheet for brain toxicity just keeps piling up, however.

The latest research comes from the United Kingdom, and the lab of aluminum researchers at Keele University. Professor of bioinorganic chemistry Christopher Exley has been studying the effects of the metal in biological systems there for more than 30 years – in fish gills, breast tissue, baby formula, mice and bumblebees, heroin addicts – and the brains of Alzheimer's patients.

The brains of a group of Alzheimer's victims reveal unprecedented levels of a metal known for its neurotoxicity. It's the latest in a growing pile of research you're not being told about aluminum

For the current study, published in the Journal of Trace Elements in Medicine and Biology,[1] Exley got hold of rare samples of brain tissue from 12 patients who had died from an uncommon "familial" form of Alzheimer's that strikes people young – in their 30s and 40s as opposed to their 60s and 70s. These patients have genetic mutations associated with a protein called amyloid-beta, which has been heavily implicated in all forms of Alzheimer's.

The Case of Auguste Deter and the Significance of "Familial" Alzheimer's

This familial form of the disease may be rare, affecting only two to three percent of Alzheimer's sufferers, but they are something like canaries in a coalmine. Understanding how these susceptible patients are affected is key to unlocking a whole spectrum of the disease.

The very first case of Alzheimer's was one of these young patients. Her name was Auguste Deter. The wife of a railroad worker, she suffered memory loss and delusions that began in her late 40s and she couldn't sleep at night when she would often wail for hours. She was institutionalized in Frankfurt, Germany, in 1901 at age 51 where Alois Alzheimer was her doctor.

Dr. Alzheimer had observed this new condition in other patients recently, but in none as young as Auguste. After she died in 1906, he examined her brain and found the hallmark "senile plaques" and "neurofibrillary tangles" of the disease named for him.

Auguste's brain slides were re-discovered recently and in 2012 scientists reported in *The Lancet* that new analysis revealed she carried the PSEN1 gene mutation leaving her vulnerable to Alzheimer's.[2] Auguste was a medical curiosity at the turn of the last century, but today a half million Americans under age 65 have her disease.

The first "familial" Alzheimer's case: Auguste Deter

In this latest study, aluminum was found in every brain sample tested, and at "extremely high" levels. "Overall, the concentrations were higher than all previous measurements of brain aluminum except cases of known aluminum-induced encephalopathy," Exley reported.

The Kidney-Brain Connection

Since the 1970s, doctors have known that aluminum in tap water can cause kidney patients to acquire "dialysis-associated encephalopathy" (DAE).[3] This is a brain disorder that can look like Alzheimer's. In several hospitals worldwide, dialysis patients developed symptoms including speech impairment, tremors, memory loss and delusional behaviour, sometimes years after treatment. When they died, often within a few years of symptoms beginning, high levels of aluminum were found in their brains. As a result, water now used for dialysis is purified to exclude any trace of the metal.

DAE also stoked scientific interest in the connection of aluminum to Alzheimer's. Research showed that aluminum disrupts the blood brain barrier,[4] kills neurons and glial cells, activates the brain immune system and causes brain inflammation;[5] increases oxidative stress,[6] damages mitochondria[7] – the energy powerhouses in every cell of the body – and alters gene expression.[8] It's been suspected in a host of other nervous system diseases including autism, ALS, and Parkinson's.[9]

In the early 1990s scientists established that aluminum is linked to redistribution of proteins related to the "tangles" in the brains of both Alzheimer's and dialysis patients.[10] They determined that aluminum binds to amyloid-beta and that only a tiny amount of the metal disrupts its normal configuration, causing it to form beta-pleated sheets. These findings were confirmed by a decade of research and beta-sheets in turn were shown to be impervious to normal degradation and related to neurotoxicity in vitro.

Aluminum's ability to increase amyloid-beta neurotoxicity was demonstrated in a 2002 study which showed that transgenic mice fed a diet high in aluminum developed increased amyloid-beta levels and plaque deposits.[11] Through these studies and dozens more, the Aluminium-Amyloid Casc;ade Hypothesis[12] for Alzheimer's gradually crystallized.

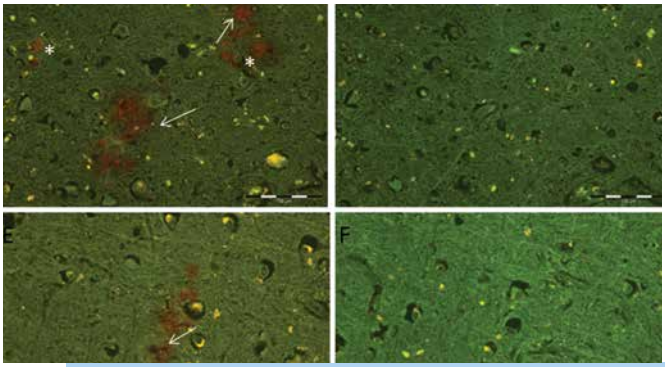
Unanswered Questions About Aluminum in Water and Alzheimer's

The theory fell out of fashion in the 1990s, but not because it had been disproven. Some epidemiology studies found a link between water aluminum levels and Alzheimer's rates – and some didn't. But that was hardly refutation; many aluminum exposures wouldn't be controlled in that sort of study and epidemiology without controls is very weak science.

Some scientists also doubted the data on aluminum content in Alzheimer's brains and some disagreed about whether aluminum-induced changes in lab animals' brains were the same as those in humans. But these objections raised questions and didn't answer any.

A 2011 review in the *International Journal of Alzheimer's Disease*13 disputes each of these old criticisms and says new evidence of the role of aluminum and other metals in Alzheimer's has emerged and new technology is available to answer the questions.

It cites a 2009 study14 in which Japanese researchers combined X-ray spectroscopy and transmission electron microscopy to clearly show that aluminum is at the core of senile plaques of amyloid-beta. And the fluorescence microscopy used by Exley's team in the UK is not in doubt and provides stunning and unequivocal images of aluminum in brain tissue of Alzheimer's patients.



Frontal lobe tissue taken from patient with "familial" AD showing extensive deposits of aluminum as distinctive orange fluorescence

Aluminum's Growing Rap Sheet

Hundreds of aluminum studies have been published in recent years, and not a single one has illustrated a benefit of aluminum inside any living creature. Rather, it's been demonstrated to hamper more than 200 vital biological processes in plants, animals, and humans, and evidence of its toxicity just keeps accumulating:

» Red toxic aluminum sludge spilled from production plants recently in Hungary[15] and Brazil,[16] killing dozens of people, injuring hundreds more, and destroying vital ecosystems for decades to come – or perhaps permanently.

» A large emerging body of evidence, and a 2015 medical textbook called "Vaccines and Automimmunity[17] document how aluminum in vaccines can induce chronic immune inflammation and a host of neurological and autoimmune diseases[18] such as Guillain-Barré syndrome and multiple sclerosis.

» A growing literature shows that aluminum in vaccines can provoke unwanted immune system activation[19] linked to CNS disorders, skin reactions,[20] and allergy.[21]

» Waste from aluminum production has been demonstrated to induce cancer-causing mutations.[22]

» A 2016 study of 10,567 individuals found that those with chronic aluminum exposure had a 71 percent increased risk of developing Alzheimer's.[23]

» A study from Switzerland published in the *International Journal of Cancer* in December 2016 provides the first experimental evidence that aluminum induces breast cancer in mice, adding to long list of research linking aluminum in deodorants to the disease.[24]

» French researchers established that ingested aluminum – an unavoidable ingredient in the modern heavily packaged and processed diet – damages the gut lining and is a likely contributor to Inflammatory Bowel Disease.[25]

Aluminum, present in many packaged and processed foods, damages the gut lining

» Images taken by researchers in 2014 clearly show that the sperm of men seeking fertility help at an IVF clinic is heavily loaded with the metal.[26]

Very new studies hint at the mechanisms of aluminum's injury: A 2016 study published in *Scientific Reports*[27] demonstrated how aluminum commonly added to vaccines can be cytotoxic in two ways. Firstly, at the injection site. Secondly, other forms of aluminium added to vaccines as "adjuvants" to stimulate the immune system have been proven to migrate[28] from where it is injected in muscle to distant sites in lymph nodes, spleen, and brain where it settles long after injection.

This "slow brain translocation" via a Trojan horse mechanism[29] has been used to explain a well-documented new encephalitic/chronic fatigue disorder called Macrophagic Myofasccitis that may follow intramuscular vaccination with aluminum adjuvants.

We're Living in The Age of Aluminum

These last observations are especially worrying. When Auguste Deter was diagnosed with Alzheimer's, aluminum had only just been unleashed by industry. Production was at a mere 450 million tonnes annually in 1895. Today, aluminum is the most predominant structural metal in use. About 50 billion tonnes are produced annually and that is expected to rise to 80 billion by 2023.

But its use architecturally is probably the least of our health worries. Aluminum may be in your water – if your municipality adds it to the treatment process. It's in food (preservatives, colorants, caking agents, baking powders, self-rising flour and as a contaminant from foils, cans, pouches and from cooking with aluminum pots and pans). It's even in baby formula.[30]

But it is also a primary component of many vaccines where it serves as an "adjuvant" to artificially activate the immune system. This delivery system bypasses the usual protective and excretory mechanisms of the gut, kidney specialist Suzanne Humphries explains and is especially dangerous to babies.[31]

The escalating use of aluminum as an adjuvent in vaccines is especially dangerous for infants

As the authors of a 2013 study into the action of aluminum concluded, "continuously escalating doses of this poorly biodegradable adjuvant in the population may become insidiously unsafe, especially in the case of overimmunization or immature/altered blood brain barrier…"[32]

Vaccine Doses Have Been Steadily Rising

But that is exactly what is happening. Before Congress shielded vaccine manufacturers from liability over vaccine injury in 1986, only the DTP (now Dtap) vaccine contained aluminum as an adjuvant. Children born before 1985 would have received somewhere between 250 mcg and 1,000 mcg of aluminum, depending on their individual doctor, since there was no mandated schedule.

With lawsuits over injury removed from their equation, manufacturers used the troublesome but efficient aluminum adjuvant more and more. In the Winter 2016 issue of the *Journal of American Physicians and Surgeons*, researcher Neil Miller shows that babies have aluminum injected in pneumococcal, hepatitis, DTaP and other vaccines and their exposure to the toxic metal from this source has climbed from 3,925 micrograms (mcg) pre-2000 to 4,925 mcg today.[33] As well, since the CDC recommended that pregnant women receive an aluminum-containing pertussis vaccine (Tdap) in 2011, and aluminum crosses the placenta and accumulates in fetal tissue, millions of babies are receiving more of the metal than they ever would have been exposed to naturally.

Miller also notes that while doctors are very careful about the amounts of aluminum they allow premature babies to be exposed to in their food intravenously because of the known toxicity, a single hepatitis B vaccine given at birth contains 250 mcg of aluminum – 20 times higher than permitted safety levels. "Babies weigh about 12 pounds at two months of age when

they are injected with 1,225 mcg of aluminum from their CDC-recommended vaccines," adds Miller, "50 times higher than safety levels for preemies."[34]

Why Haven't Health Authorities Reacted?

But surely health authorities must see this obvious problem? They do. Miller cites transcripts showing that vaccine safety regulators knew damning evidence about aluminum in vaccines for years – discussing its health dangers and its neurotoxicity as far back at least as a meeting in 2000.

Dr. John Clements, currently a developer of a band-aid vaccine for ear infections and vaccines against plague and anthrax,[35] was with the World Health Organization's Expanded Programme on Immunization at the time when he attended the meeting and summed up the disincentive to address safety: "There are not easy and obvious substitutes to aluminum adjuvants," he said. "The existing vaccines, if they change the adjuvant for any reason, would need to be resubmitted for clinical trials for safety and efficacy and it would take a great deal of time to do that."

He went on to add, "Aluminum is not perceived, I believe, by the public as a dangerous metal. Therefore, we are in a much more comfortable wicket in terms of defending its presence in vaccines." Clements had captured the prevailing public health attitude: What the public doesn't know, doesn't matter.

The Camelford Disaster of 1988

Long before any of this aluminum research had begun, villagers in picturesque Camelford in Cornwall, England, became unwitting subjects in a large human aluminum experiment back in 1998. A truck driver who was new to his job mistakenly deposited a 20-tonne delivery of aluminum sulphate into their household water supply instead of a reservoir tank.

Aluminium is commonly used to clarify water but the doses the Camelford villagers received when they turned on their faucets is estimated to have been 500 to 3,000 times the maximum accepted European Union level. Residents noticed the effects within minutes. The cloudy, sticky water was acidic; it burned children in their baths, blistered skin, caused hands and lips to stick together, turned fingernails blue and hair green, induced stomach cramps and diarrhea and caused joint pain.

Residents of Camelford, England, were unwitting subjects to extreme aluminum exposure in 1988 when 20 tonnes of aluminum sulphate was accidentally dumped into their village water supply

The water authority waited a full 16 days to inform (by newspaper ad) the villagers about the accidental water poisoning – the worst in British history. And in the quarter century that followed, several of the exposed residents became ill, they had documented cognitive impairment,[36] tested for high blood aluminum levels, and many developed dementia symptoms and early-onset Alzheimer's disease.[37]

An inquest in 2014 heard that post-mortem examination of the brains of several of these residents revealed extraordinarily high aluminum content. Carole Cross who died at age 58 after suffering for years of failing memory, and Richard Gibbons who developed bloody stools, skin rashes, and ulcers following the water poisoning and was diagnosed with epilepsy in 2005 and died at age 60, both had levels of aluminum far beyond those found in brains of non-exposed individuals.

Michael Rose, a coroner hearing evidence of the case in 2014, fell short of saying that aluminum caused Gibbons' dementia, though it was clear he believed it did. Science is "on the edge" of proving a clear causal connection, he said, and it is only a matter of time before it does, in the same way that asbestos took time to be linked to cancer. "Somebody will in 20, 30 or 40 years be able to solve the problem immediately."

Twenty to 40 years is a long time to wait in the current Alzheimer's epidemic. And most patient advocacy groups seem to be in no hurry to solve the problem. Alzheimer's Disease International, "The Global Voice on Dementia," makes no mention of aluminum at all: a search for the term on its website yields zero results.

The Alzheimer's Association dismisses the aluminum connection as a "myth" – and presents it as an outdated idea, thoroughly explored way back in the "1960s and 1970s."

"Since then," the association say, "studies have failed to confirm any role for aluminum in causing Alzheimer's. Almost all scientists today focus on other areas of research, and few experts believe that everyday sources of aluminum pose any threat."[38] It sounds like it's echoing a 2014 review claiming the "Aluminum Hypothesis Dead" by unknown researcher Theodore Lidsky, a paid consultant to the International Aluminium Institute.[39]

Contrast the association's statement to the remarks of British aluminum scientist Exley, who describes the latest findings on aluminum as "unequivocal in their confirmation of a role for aluminium in some if not all Alzheimer's disease."

"I don't believe that is the only factor, but I think it is an important one which should be considered very seriously," he adds. "At the very least, these new results should encourage everyone and even those who have steadfastly maintained that aluminium has no role in the disease to think again." Put into the context of what is already known about aluminium and Alzheimer's disease, he says, the significance of the latest study findings is "overwhelming and compelling."[40]

Why Aren't Patient Advisory Groups Speaking Out?

It also raises some troubling questions about so-called patient advocacy organizations. Where do groups like the Alzheimer's Association which studiously denies all of this overwhelming science get their funding? A large percentage comes from pharmaceutical companies, of course.[41] Does it take its directives from its pharma donors? From the $186 billion aluminum industry? From the negligent public health authorities trying to keep us all in the dark about vaccine dangers?

Where do advocacy groups such as the Alzheimer's Association get their funding and how come they're not actively educating the public on the dangers of aluminum?

It doesn't seem to care about helping those with the devastating disease. The Aluminum Association offers vacuous advice about "healthy eating" and "gentle exercise" while failing to tell patients about published data showing that drinking 1.5 L (around 50 ounces) of silica-rich mineral water an hour before 30 minute

workouts increases aluminum excretion in sweat up to 10-fold. Or that Alzheimer's patients who drank just one litre of mineral water high aqueous silica content, such as Fiji or Volvic and Spritzer, augmented urine excretion of aluminum without compromising the levels of other essential metals including iron and copper. And that after just three months of doing this, three of 15 patients showed cognitive improvements.

That may not sound very impressive, but considering where pharmaceutical industry treatments for Alzheimer's are, these water results are profound.

Drug Companies Failing in Quest for Effective Alzheimer's Treatment

In late 2016, Eli Lilly & Co's plummeting stocks reverberated throughout the industry after it announced its latest experimental Alzheimer's drug to try to stop the build-up of beta amyloid had failed.

That announcement came on the heels of Pfizer Inc., Johnson & Johnson, and their partner Elan Corp.'s revelation that their highly anticipated experimental Alzheimer's drug called bapineuzumab was clinically insignificant and studies confirmed the drug's lack of efficacy.[42]

"I think it's time to diversify our approaches, or otherwise 10 years from now, we'll have the same result," neurocognitive scientist Murali Doraiswamy from Duke University recently lamented to the *Wall Street Journal.*

But diversification doesn't sound hopeful either, when one of the most promising new avenues of exploration is an Alzheimer's vaccine – adjuvanted with aluminum hydroxide.[43]

Today, Alzheimer's disease is mocking mainstream medicine and public health. They spend $3 billion a year on drugs that try to mitigate the symptoms of the devastating disorder but admit that treatments for it haven't really improved since Auguste's Deter's day. Isn't it time we told them where we want them to look?

About Celeste McGovern

Celeste McGovern is a Canadian independent journalist who lives in the United Kingdom.

She has been writing for magazines for more than 20 years. Her reporting on Canada's justice system won her a national award for investigative journalism. Her writing on public health issues and foreign aid spending has appeared in media including *Reader's Digest, The Report* news magazines, *What Doctors Don't Tell You,* the *Calgary Herald* and Greenmedinfo.

She investigates stories the mainstream media won't cover at her website, www.ghostshipmedia.com.

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