Dr G's MediSense

Volume 1 Number 1

Enjoy, learn, think, ponder - Putting medical and nutrition news into historical, scientific and just plain practical context. You are free to copy, send or print any of the articles. Just have the courtesy to leave my name and advertising on each page. Written and published by Ann Gerhardt, MD

Zigzagging Along

... "wrong reasoning sometimes lands poor mortals in right conclusions; starting a long way off the true point, and proceeding by loops and zigzags, we now and then arrive just where we ought to be." (from Middlemarch, by George Eliot)

If one applies Eliot's analysis and a great deal of patience to medical research, one can see that science does make progress. However, we only have so long to live (life is a terminal process) and have to make decisions now about how we live that life.

Trying to base those decisions on medical news frustrates most people. Each new discovery seems to contradict some past medical news piece. Humans don't help any: As biologically complex organisms to begin with, they make truth hard to find because they all vary from the 'norm' in some way. What's good for Joe, health-wise, and how he responds in a medical trial, may not be good or true for you or me.

We must recognize (well, you don't really have to, but it would make medical news less vexing) that scientific knowledge is ever-evolving. Identifying one 'fact' usually leads to more questions, the answers to which usually modify the original 'fact.' The word research means "v: to search ***again***; n: systematic inquiry into a subject in order to discover or ***revise*** facts, theories, etc." (my italics).

So I'll try to interpret medical and nutrition news reports for you - within the framework of information already known and the limitations of how the studies were done, with a little of my gut feeling (clearly identified as such) thrown in. Hope it helps. Dr G

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Rantings and Ravings - Oat Bran Defiled

You may not remember the newspaper headlines about oat bran in 1990, but I do. They planted the seed for this newsletter. A lone, miniscule study generated the irresponsible conclusion and headlines that oat bran had no effect on cholesterol levels.

What **arrogance** to say that one measly, negative study overturns reams of positive research with which it happens to conflict. I was infuriated. After huge efforts to get people to eat more foods with soluble fiber, this one article slammed the oat-bran cookbook in our faces.

Mind you, this was no back-section food article. The front-page banner headline led to hours of calming indignant patients; explaining the vagaries of medical research; and cajoling people to resume their oatmeal. The pipsqueak upstart study happened to have Harvard credentials and appeared in the New England Journal of Medicine, so publicity flowed. Unfortunately, no one seemed to have read the details of how it was done.

A mere *twenty* individuals, all *healthy dietitians* (presumably they know how to eat) with *low-normal* cholesterol levels*(!!!)* ate either a huge amount of oat bran or wheat starch with their usual diets. But they *didn't* eat their usual diets, since they were eager-to-prove-what-pristine-diets-they-eat dietitians. They ate less saturated and more poly-unsaturated fat. Both not-so-typical diets affected cholesterol similarly. So big deal.

They proved *only* that enough oat bran to plug a drain does not reduce normal cholesterol levels in people who eat prudent diets. Who in their right mind would say that thin, healthy people with normal cholesterol levels have the same type of metabolism as an obese, cholesterol-clogged, double-cheeseburger glutton? Don't they know that people have different types of metabolisms (metaboli?) that require different dietary approaches? Even the Food & Drug Administration gets it and still allows good ole' Quaker to say, "Oatmeal helps remove cholesterol."

There. It took me 15 years to respond. I've stewed long enough.

Disclaimer and other assorted details: Please read at least once.

Disclaimer: Because you are an extraordinary manifestation of a tangle of unique genetic material, think first, before applying any or all of these articles' information to your life choices. Dr G's just trying to pass along some information. Articles this size can't possibly contain every bit of information that was ever published on a subject. Distillation may leave some things out: Hopefully not crucial pieces. Don't crucify me if some new tidbit of information comes along that contradicts what I wrote. Let me know about it and I'll research it, stir it into the mix of general knowledge and see if something logical gels. This newsletter offers some insight, not The Cure: It's not a doctor's prescription. PLEASE discuss any changes in therapy or lifestyle with your doctor. Subscribing to this newsletter presumes that you accept your own risk when making decisions about your health.

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Reader input: If you want any particular subject to be discussed in Dr G's MediSense, just let me know. If I'm clueless about it, I'll let you know. If you want me to publish an alternate point of view, write to me. If I don't think you are off your rocker, I'll print it: I like controversy. But remember, it's my newsletter. **Contact** algerhardt@sbcglobal.net.

Website to be developed - Maybe soon, maybe not. The goal is to post all newsletters, with an index to article subjects, on the site. If you lose your newsletter (horrors!), and want to retrieve a past article, it will be on the website.

Getting the Most Out of Your Doctor Lesson #1 Talk Before the Doctor Does

Speak up before the doctor even talks (well, maybe wait until after "Hello") to make your primary goal for the visit known. Otherwise, if your priorities differ from the doctor's, yours may not get taken care of. For example, you may be concerned about daily fevers and and a lump. The doctor doesn't know you have these symptoms, and thinks that you are there to adjust blood pressure medication. If you wait to speak up, because of time constraints, the doctor will be walking out the door as you tack on your request. The doctor will feel irritated and have insufficient time for a good evaluation. You will feel short-changed. The patient after you will have to wait longer. So speak up. It's your visit.

LEARN FROM THE THERESA SCHIAVO CASE *by Ann Gerhardt, MD (subscribe at algerhardt@sbcglobal.net)*

Bottom line at the top: Learn from this case, and take steps to keep you from being the source of a legal battle. See below for definitions and complete your Living Will and/or a Durable Power of Attorney for Health. Do it today.

Musings: They say that the ~1500 deaths upon the sinking of the Titanic resulted in saving millions of lives. As a result of the April 15, 1912 disaster, maritime law changed forever, establishing strict safety and emergency response rules. The Coast Guard came into existence to enforce those rules. *It was a perfect example of: "If it doesn't kill us, we should learn from it."*

So too, in regards to the Terri Schiavo debacle: Regardless of where you stand on the politics and ethics involved, you should learn how to keep it from happening to you.

Fact: At age 26 Terri Schiavo suffered brain damage after her heart stopped.
Supposition: A potassium imbalance resulting from an eating disorder caused her cardiac arrest.

Fact: For fifteen years Terri Schiavo's life was maintained by tube feeding to supply her with nutrition and hydration.
Supposition: Surviving for 15 years in this state also means she received very good nursing care. Otherwise she would have developed infections that would have killed her. I want the name of that nursing home for my future.

Fact: Terri Schiavo's fate was the subject of intense legal wrangling for 7 years. Congress passed and President Bush flew to the White House to sign a law requiring the Florida Supreme Court to reconsider her case.
Supposition(s): Terri's husband said she was in a persistent vegetative state and that she would not want to be maintained on 'life support.' Her parents asserted that she showed signs of life and recognition, and that she would have wanted to be supported by feeding and hydration.

Fact: **She could have prevented years of legal battles and emotional agony among her family** with a Living Will or Durable Power of Attorney. No amount of expert testimony could supplant this definitive proof of her wishes.
Reality: Most people don't even consider their own mortality, let alone go to the trouble of completing a durable power of attorney, prior to age 40. A majority of people over the age of 50 haven't done so, and they stand much more of a chance to suffer brain damage.

Prevent this from happening to you: First, understand the options and the medical definitions and considerations (see below). Second, complete **your own Living Will or Durable Power of Attorney for Health** and share it with your next of kin and doctor.

LIVING WILL / DURABLE POWER OF ATTORNEY FOR HEALTH

If you have received the paper version of this newsletter, these documents are attached. If you are online, you can download template documents from: **http://www.jmmdhs.com/downloads/advance_directives_form.pdf** , or have a service complete your documents at a site like: **http://www.lawdepot.com/contracts/healthdir/index.php?ldcn=healthdir&pid=google-health_us-directive_b1&a=t**

With a **Living Will** you determine the medical/nutritional efforts that will be made on your behalf if you are unable to communicate. Unless you want 'everything under all circumstances' or 'absolutely nothing in the absence of response,' you must specify your wishes for each possible medical condition. Another option, the **Durable Power of Attorney For Health**, allows you to define your wishes in general terms, and you name an individual to interpret those wishes and make specific decisions for you. For either option, don't be confined by the document's language. Write in specifics about what you want done under a variety of circumstances. Medical situations frequently defy neat categories that enable simple decisions. Decide about organ donation. **Discuss your wishes with the person who would serve as your medical decision-maker if you become mentally incompetent.** (If you are mentally incompetent now, hide it and complete the forms before you are found out.)

Mental competence is obviously relative, and there are more than a few people pretending to function in society who should be assigned a conservator. However, in the case of medical decision-making for a non-communicating individual, if there is any doubt, a neurologist determines level of brain *continued on pg 4*

HOW DO YOU KNOW IF YOU ARE IN A PERSISTENT VEGETATIVE STATE? *by Ann Gerhardt, MD*

Determining level of brain function is not an exact science. Neurologists can reach different conclusions with subtle evidence that does not clearly fit neat categories.

Think of the brain and body as having three levels of function. **Higher cortical function of the brain,** performed by the brain cortex (large cerebral lobes) - responsible for thinking, acting with volition, and determining our intentional responses to incoming stimuli from the 5 senses.
Brain stem activity, performed by areas of the brain that are in the middle and at the base of the brain - maintains certain automatic bodily functions, such as breathing, swallowing our own saliva but not food, sleeping and waking, uttering random noises, shedding tears, maintaining temperature control and exhibiting certain withdrawal reflexes and eye movements.

Spinal cord and bodily organ function - determine muscle tone, non-purposeful twitching and tendon reflexes, and the auto-pilot function of the heart, liver, kidney, bowel, etc. An intact spinal cord may cause spinal reflexes and random movements due to electrical impulses within the cord, even when the brain (stem and cortex) is dead. Note that breathing is a brain stem, not an automatic organ function.

Brain death is defined as "death based on the absence of all neurologic function". All higher cortical and brain stem function has irreversibly stopped. These patients can not breathe, move, think or perform any purposeful function. There is no feeling of pain or suffering. The patient would die without a ventilator - As long as the ventilator provides oxygen to the body, the heart and other auto-pilot organs will function, in spite of neurologic death.

continued from page 3
function. (In another scenario involving a person who is capable of communicating, but seemingly not acting in his/her best interest, a psychiatrist determines psychological competence. If incompetent psychologically, your conservator becomes the decision maker.)

The medical decision-maker you choose, or **Medical Power of Attorney**, does not have to be your next of kin. Choose someone you believe will always put your best interests first. The person should share your ideas about medical ethics. Ideally, the person won't have any psychological baggage about your relationship - Keeping you alive because he feels guilty about neglecting you when he was an alcoholic doesn't help you in your coma. Some people choose a best friend or an impartial independent party, just so family doesn't have to make hard, emotional decisions.

You may change the document you complete today as many times as you wish. If you change your mind, complete another and give it to your doctor and kin.

Continued ventilation and medications do not interfere with the brain death determination. A neurologist tests the patient for evidence of any brain function. An EEG tests for brain electrical activity, without which the brain is dead. Brain death *is* death.

Coma is not brain death. It means loss of enough brain function to be non-responsive. Higher cortical function is reduced. There may or may not be permanent damage. There may or may not be brain stem injury. The chance of recovery depends on the nature and severity of injury and duration of coma. A person with concussion-induced brain swelling could 'wake' after three days with normal function. Another, with severe stroke, might never regain consciousness.

Vegetative state means loss of all higher cortical function. The patient has no purposeful response, but retains some or all brain stem activity. Breathing, making noises, swallowing, and random eye movements may look like intentional responses, but are not.

Persistent vegetative state is a vegetative state that has lasted a 'long' time. Younger people generally have more chance of recovery than do older people. The chance of recovery greatly declines after 4 weeks in the absence of any return of function. If slight improvement has occurred at 1-3 months, gradual improvement may continue, but rarely to a state of significant cognitive function. If there has been zero sign of returning function after 6 months, the chance of any recovery is vanishingly small.

DOES KILLING PAIN KILL THE HEART? The saga of Vioxx, Celebrex & Bextra

by Ann Gerhardt, MD (subscribe at algerhardt@sbcglobal.net)

For years it was simple - If you had arthritis, you took aspirin (and got ulcers and bruises) or steroids (and got ulcers, bruises and osteoporosis) to reduce inflammation and pain. All other pain killers didn't hit the cause of arthritis, so they generally weren't used for it.

Then came a slew of other **Non-Steroid Anti-Inflammatory Drugs (abbreviated NSAID's), <u>all</u>** of which worked against pain, fever and inflammation. Some were very strong, such as indomethacin and ketorolac, but the drug that works well for one person may not touch another - There is huge inter-person variability of response. Unfortunately, these drugs often destroyed the stomach. People died from ulcer bleeding.

So the search was on for an NSAID that didn't hurt the stomach. Initial attempts, in the form of Lodine and Relafen, helped, but were only half good. Then came the selective **COX2 inhibitors**, Vioxx (rofecoxib), Celebrex (celecoxib) and Bextra (valdecoxib). Compared to drugs like Alleve (naproxen), they **caused less than half the ulcers and stomach erosions**, seemingly filling a niche for people who could not take the usual NSAID's. (Please remember that they still caused ulcer disease - half as often, not zero - That fact usually gets lost in the hype.)

Though COX2 inhibitors were developed for those who can't take the non-selective anti-inflammatories, that's not who has blown the COX2 market into billions of dollars. Soon after initial marketing efforts, which responsibly directed physicians to prescribe appropriately, all pretenses of selectivity dropped. As the newest kids on the block, they were presumably somehow 'better' for pain (which they are not). Between 1999 and 2002, the prescription frequency of COX2 inhibitors increased dramatically, from 35% to 61% of all NSAID prescriptions. Even people who had virtually no risk of ulcer bleeding were prescribed COX2 inhibitors 35% of the time in 2002. **Thus, the growth of COX2 inhibitor use was largely due to patients who had no reason to take them.**

The fault doesn't lie 100% with the drug companies, though they did give a lot of samples to doctor's offices. With cupboards full of samples, well meaning doctors handed them to patients to get therapy started - "Try it for the pain, and if it works, fill the prescription." They couldn't do that with the older NSAID's -With most available in generic form, drug reps no longer sample them.

Then came trouble in COX2 paradise - Studies found more heart and vascular disease in patients taking COX2's. Even the initial trial of Vioxx against naproxen showed three times the cumulative risk of heart attacks (1.8% vs. 0.6%) in 10 months. Everyone assumed that the reason was that naproxen was *preventing* attacks, rather than Vioxx *causing* them. (Compared to the average Joe on no drugs, low-dose aspirin *prevents* heart disease. So people assumed that naproxen was acting similarly to aspirin.)

But ongoing studies (to see if COX2's prevent colon cancer and Alzheimer's disease, for example) have confirmed that, regardless of what drug is used for comparison, **COX2's increase the risk of vascular/heart disease.** (With Celebrex, the least selective COX2, the risk is dose related - 100 mg/day seems to be safe, 200 mg/day slightly increases risk and 400 mg/day triples it.)

continued on page 6

Interesting history

The first pain killers were from plants. The Papyrus of Ebers and a Babylonian clay slab from 3000 B.C. document the use of **henbane** and **poppy** to alleviate pain. Later came **mandragora** (Atropa mandragora), but Galen (~ 200 A.D., from the ancient civilization of Pergamon) warned against overdosing with all of them. Unfortunately the doses that cause pain relief or sleepiness are very close to the doses that really can hurt. Mandragora (from **mandrake root**) produces violent vomiting and delirium. High doses of poppy juice (**opium**) can make one stop breathing and lower doses lead to addiction, as anyone knowledgable about street drugs knows. Henbane (Hyoscyamus niger) distorts vision and produces giddiness and convulsions.

In the Middle Ages the Germans introduced **willow bark** (Salix alba) to relieve pain. It was first used to cool fever in 1806. In the mid 1800's the active ingredient, salicin, was isolated from willow bark and the acetic acid derivative of it was synthesized in 1859 - Voila! **ASPIRIN** was born!

In the late 1800's **phenacetin** was first synthesized and used for pain and fever, but had severe side effects leading to its removal from the market in the mid-1950's. The Germans had introduced **acetaminophen** for pain in 1893, but it wasn't used extensively until 1943, when it was identified as the active by-product of phenacetin, without the severe side effects. In 1955 McNeil Labs named it **TYLENOL** and made it the best selling pain reliever in the U.S.

Cox2's, continued from page 5
Logical, scientific reasons explain this. COX stands for cyclooxygenase, an enzyme that makes prostaglandins in various tissues. There are two forms, COX1 and COX2, which produce different prostaglandins, with different functions, in different tissues. COX2 products cause pain and inflammation in joints. They also relax and keep open blood vessels in the heart, kidney and all over the body. Use COX2 inhibitors and lose the joint pain, at the expense of constricted blood vessels, potentially causing heart attacks and kidney failure.

COX1 products from blood platelets make them clot easily and blood vessels close. In the stomach COX1 products protect the stomach from acid and ulcers. Inhibit COX1 and your heart disease risk is less, at the expense of stomach upset.

The punch line: All the non-selective NSAIDS, like ibuprofen and naproxen block both COX1 and COX2, but not all NSAID's block the two enzymes equally. THIS IS WHY ALL THE NSAID's ARE NOW BEING QUESTIONED BUT SOME ARE BETTER THAN OTHERS. **The only heart-safe NSAID is low-dose aspirin** (81 mg/day), with relatively more opening-blood-vessels effect than closing-blood-vessels effect, so it protects against heart disease.

YOUR CHOICE depends on YOUR risks and degree of pain. If you can't move or sleep due to severe arthritis, you stand to gain more from taking any NSAID, as opposed to the weekend warrior with a twinge in the knee, who might survive with a grin and bear it.

Risks are always relative. People are different. While the studies that caused all this hoopla showed cardiovascular risk, not all people who took the drugs keeled over from a heart attack or stroke. As yet, we just don't know how to predict which people will. "Only" one in five people on long-term NSAID's suffered from ulcers in 1988, prior to the selective COX2s' appearance. While not 100%, often stomach upset heralds the onset of ulcer and should be heeded by stopping the drug. Some, but not all people with familial colonic polyps will be protected by aspirin- with no way to predict which will. Very few patients end up on NSAID-induced dialysis from kidney failure, but people with heart failure, cirrhosis, old age, or pre-existing kidney disease are more likely to. Your decision depends on your odds of risk and benefit.

Alternatives:

1) aspirin or naproxen (which is actually more like aspirin in the effects on the heart than the others) plus a drug (ask your doctor) to block stomach acid - a recent study showed that this combination leads to more ulcer disease than does a COX2 drug;.
2) acetaminophen (Tylenol) or glucosamine for pure pain relief;
3) specific medications for rheumatoid arthritis, if appropriate;
4) low dose COX2 inhibitor plus a baby aspirin (the blood vessels still tend to constrict, but at least something is blocking the platelets), if OK with the stomach

Please discuss this information with your doctor before applying it to your particular situation.

Herb/Spice of the Month: Cinnamon *by Ann Gerhardt MD (subscribe at algerhardt@sbcglobal.net)*

Bottom line at the top: Cinnamon lowers blood sugar (glucose), cholesterol and triglyceride levels in Type II diabetics. It also contains naturally occuring chemicals that have antioxidant and anti-bacterial effects, at least in rats and test tubes. The optimal dose is unknown, but is probably less than 1 gram per day, and high doses have adverse side effects. If you had dreams of treating diabetes with cinnamon rolls, forget it.

Cinnamon - medicine for diabetics: A study published in Diabetes Care found a distinct improvement in diabetics' levels of blood sugar, cholesterol and triglycerides (circulating fat globules in blood) after taking cinnamon capsules daily for 40 days. This improvement occurred in Type II diabetics - people who make insulin, but their bodies can't respond well to its blood sugar-lowering effects. *continued on page 7*

Cinnamon, continued from page 6
Effective Capsule Dose: Since all three daily doses (1, 3, and 6 grams) used in the study similarly improved glucose levels, the lowest effective dose was not identified. Perhaps ½ gram or even ¼ gram would work just as well. Those 'doses' are getting closer to the levels that one might actually consume in food. High doses cause side effects, so the 'more is better' philosophy doesn't apply.

Twenty days after the cinnamon was stopped, the good effects persisted to some degree. Therefore the effect is relatively long-lasting, and one needn't take cinnamon every day to experience benefit. On the other hand, blood sugar, cholesterol and triglycerides were returning to the pre-cinnamon levels, so cinnamon doesn't 'cure' diabetes, it just helps to control it. Hopefully the next study will address this lowest-effective-dose question. Stay tuned....

Cinnamon Roll Dose: Cinnamon weighs ~ 2.4 grams per teaspoon. Cinnamon rolls come in all sizes and degrees of gooey-ness and cinnamon pungency. Based on five different recipes, my best estimate of the cinnamon content range in individual rolls is one tenth to six tenths of a gram per roll. The usual calorie content of a 4 inch cinnamon roll is ~290 calories. It would take between 1.67 - 10 cinnamon rolls (484 - 2900 calories) per day to get a 1 gram dose of cinnamon per day.

Eating 484-2900 extra calories each day would cause weight gain, which would make the diabetes worse. Not a good outcome. **Cinnamon makes lentils taste good,** and lentils are actually good for diabetics - Perhaps that would be a better choice.

How it works: Cinnamon appears to work by improving sensitivity of the body's cells to its own insulin. Cells which are sensitive to insulin will take up glucose, thus lowering blood levels. As the fat cells take up glucose more effectively, though, that glucose will get turned into fat in the cell. Without limiting the number of calories, the diabetic will gain weight.

Other medicinal effects: Certain cinnamon extracts and oils block some bacterial toxins and inhibit infections caused by fungi and yeast (by interfering with their protein metabolism). Cinnamon extract seems to have antioxidant effects in animals.

Toxic effects: Certain components of cinnamon are skin irritants, with repeated exposure frequently leading to rash. The skin of some sensitive individuals may blister and redden after cinnamon oil-containing mud baths. Cinnamon mints, gum and toothpaste have caused mouth and lip sores and rarely pre-cancerous lesions. Workers in cinnamon spice processing facilities frequently suffer from asthma, skin and eye irritation, hair loss and unhealthy weight loss. A group of adolescents, after sucking on cinnamon oil-soaked toothpicks, ended up in the ER with flushing, nausea, and abdominal pain. All these adverse effects are reversible.

Some people may react to one cinnamon product but not another because cinnamon spice and oil come from different trees. The spice comes from Cinnamomum zeylanicum tree bark. Industry obtains the cinnamon oil used in toothpaste, lipstick, chewing gum, perfumes and essential oils from Cinnamomum cassia. Cinnamon oil contains the aldehyde and other natural derivatives of cinnamic acid; all with more anti-infectious activity, but also more toxicity. Natural degradation or laboratory conversion of cinnamic acid may turn it into compounds with blood-thinning activity or similar to styrene, with definite toxicity.

Other sources: Cinnamic acid and related compounds are very common in plants, fungi and yeast and may contribute to the reputed herbal effects of basil, Melaleuca bracteata, Balsam of Peru and cocoa leaves. Chlorogenic acid (a current fad supplement) is a cinnamic acid derivative found in many plants.

Please discuss this information with your doctor before applying it to your particular situation.