

A GOOD BIRTHING POSTURE

Hey, all you about-to-be moms out there: Practice *squatting*, to get your muscles and ligaments comfortable in this position in preparation for the big day! Research by Andrea Radkey of Grace Maternity Hospital in Halifax, Nova Scotia, Canada, showed that out of 102 women with normal first pregnancies, the 54 who gave birth by adopting the squatting posture during the second stage of labor (on a standard delivery bed, using the bars at the foot of the bed for support), averaged 54 minutes for pushing time to get the baby out. That was a *half-hour less* than the time it took the rest of the women, who did their pushing in the standard (doctor-preferred) reclining position.

What's more, while more than 75 percent of the 'squatters' were able to deliver without their doctors' having to use forceps, two-thirds of the 'recliners' needed this help to get their babies out in the world.

Another bonus: The cesarean rate was under 2 percent in the squatters, compared with 9 percent in the recliners!

Radkey believes the squatting posture enables women to breathe more naturally and supply more oxygen to mother and baby during the pushing phase of delivery. "This results in less maternal exhaustion and, potentially, a lower incidence of fetal distress," she said in her report to the Society of Obstetricians and Gynecologists at the annual meeting this year in Halifax. Hurrah for Radkey!

The reclining position was strictly the brainchild of modern obstetrics. While it gave doctors a better view of what was going on vaginally, it defied a woman's instinctively chosen posture for pushing, as well as all laws of gravity! □□□

LINUS STRIKES AGAIN!

Matthias Rath and Linus Pauling have written two absorbing papers about an ongoing research project at the Linus Pauling Institute of Science and Medicine in Palo Alto. Dr. Pauling, who sent the articles, said in his accompanying note, "I think that Dr. Rath has made a great discovery." Although still in the preliminary stage, the work has all the earmarks of my favorite kind of biomedical blockbuster — one we can put instantly to use without risk!

Cholesterol together with fats don't circulate on their own in the bloodstream, but first are bound with proteins (by our industrious liver) into tiny packages called "lipoproteins." We've all heard of "good" lipoproteins like HDL that lower the risk of coronary heart disease, and "bad" ones like LDL that raise it. A less well-known one investigated by Drs. Rath and Pauling, called "Lipoprotein(a)" [abbreviated Lp(a)], has been linked for a number of years with plaque build-up in arteries, i.e., atherosclerosis, although how it promotes plaque is not really known. Lp(a) is similar to LDL except it has an extra protein tacked on (by sulfur-carrying molecules) to its main protein.



Matthias and Pauling had a hunch. Naturally, it rose out of fascination with vitamin C and their ongoing explorations of its still uncharted roles in the body. The curious fact about Lp(a) was its presence mainly in *species unable to make vitamin C*, including humans. Conversely, mammals that biosynthesized vitamin C didn't seem to have detectable Lp(a) in plasma. Was it possible the body used Lp(a) to augment vitamin C (ascorbate), or maybe to substitute for it when food sources of ascorbate were skimpy for a spell?

Meanwhile, Back at the Lab...

While Matthias and Pauling were offering the novel hypothesis that mysterious Lp(a) is a surrogate for ascorbate (*Proc. Natl. Acad. Sci. USA*, August 1990, pp 6204-7) their experiments in progress were looking good. Here are the results, published in the December 1990 issue of the same journal (pp 9388-90):

(1) In healthy guinea pigs, which, like ourselves, can't make their own ascorbate, Lp(a) shows up as an apparently normal constituent of blood plasma, just as in humans.

(2) Placed on a diet otherwise nutritious but very low in ascorbate, the guinea pigs soon had serious atherosclerotic lesions in the walls of major arteries. This confirmed earlier reports by scientists of a straightforward link between low ascorbate in guinea pigs and the development of atherosclerosis. By way of contrast, rabbits, which synthesize their own vitamin C, must be given an unnatural diet high in oxidized (rancid) cholesterol before similar lesions show up.

(3) In the guinea pigs on the low-ascorbate diet, Lp(a) accumulated in the atherosclerotic lesions. The authors conclude Lp(a) must be a factor in the development of atherosclerosis in this animal model.

(4) **M**ost importantly, guinea pigs given the same diet *but with ample ascorbate* did NOT develop atherosclerosis.

(5) **W**hile Lp(a) showed up as a blood plasma component in these normally-fed animals, Lp(a) did NOT accumulate in the walls of their (plaque-free) arteries.

Why, we might ask, if Lp(a) causes such mischief in little beasts and people, does the body go to the trouble of making it? Also, why would anyone consider it a surrogate for a do-gooder like vitamin C?

One reason, according to Rath and Pauling, is that *at low levels*, Lp(a) particles have the capacity to augment or pinch hit for vitamin C's *antioxidant* properties. Vitamin C is the antioxidant without peer in the plasma, valiantly protecting blood lipids against peroxidative damage that "seems to be critically involved in cardiovascular disease and in cancer, rheumatoid arthritis, and other pathological and degenerative processes, including aging."

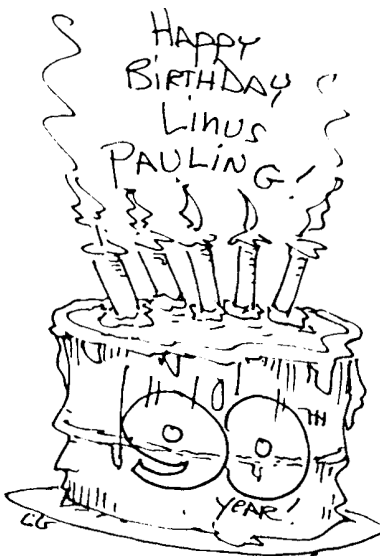
They suggest that, *again at low levels*, Lp(a) also shares with vitamin C the ability to speed up healing of wounds and other cell-repair mechanisms.

Lp(a) can reinforce the actions of a natural blood-clotting substance, fibrin, which could be a life-saver during hemorrhage. So far so good!

The Key is C

Rath and Pauling say the events that turn Lp(a) from friend into foe probably have to do with *ascorbate depletion*. Ascorbate and Lp(a) appear to have a see-saw relationship with each other. Very low vitamin C in tissues causes Lp(a) synthesis to soar.

If the deficiency goes on and on, and more Lp(a) continues to be made, Lp(a)'s tendency to encourage clot formation and tangles of fibrin in arteries could end up as obstructive damage instead of wound healing. This might be one scenario behind Lp(a)'s nasty reputation as "the missing link between atherosclerosis and thrombosis."



The see-saw effect shows up not just in guinea pigs but in people with heart disease, who tend to have high Lp(a) in plasma and in their atherosclerotic lesions, while low ascorbate levels are commonly found in the same compartments of the body.

Not only in coronary heart disease, but in *cancer and diabetes*, low levels of ascorbate seem to go with high levels of Lp(a). According to Rath and Pauling, "Despite different causes, the progression of these diseases is dependent on the integrity and stability of the tissue, particularly the extracellular matrix. Ascorbate depletion in these pathological states will cause Lp(a) to increase and make up the deficiency at the sites of disease progression."

Regardless of the ailment, it looks as if the easiest way to stop Lp(a) from multiplying out of bounds is to fortify our system with vitamin C. Rath and Pauling say what's important is that it prevented the plaques and the dumping of Lp(a) in the arterial walls of guinea pigs, and clearly has the potential for doing the same for people! I'm sure we'll be hearing more from the team as the work progresses.

Thanks to this study, I'll derive even more comfort from my 'cocktail': a teaspoon or so of ascorbic acid crystals, and/or of non-acidic vitamin C powder (buffered with calcium, magnesium and potassium), in water or juice, a few times a day, for a total of 3-10 grams—much more if I'm fighting off a bug—as I've done for 35 years. *L'chaim!*—To life! □□□

STALKING THE WILD GASES

Warning! The following may offend delicate sensibilities. It's about the ill winds that blow no good—especially if *we* are blowing them. Ever on the lookout for easy answers to complex problems, I offer some tidbits gleaned from doctors of the alternative persuasion, dippings into biomedical tomes, and personal success stories of The Great Gasbags!

If you've ever ridden on a mule you'll know we're not the only species that breaks wind loudly and rapturously. Gases are produced in quite surprising volume in normal digestion, *liters* of it. Some of it exits upwards (belching) and some of it downwards (flatus). Most of it, surprisingly, diffuses from the gut into the *bloodstream*, to be excreted by the *lungs* into the expired breath.

Flatulence is funny only when it doesn't hurt. Tests with normal young men who had no digestive complaints or pain showed they passed wind 13 times a day on the average—the upper limit being 21. Other studies have shown that high-volume gas producers can be totally without distress or marked flatulence, while normal amounts of gas make some folks double over. Discomfort, abdominal distention, and pain therefore are not simply explained by "excess gas," even though passing of flatus often brings relief. The key may lie in *The Merck Manual* phrase: "... the basic abnormality in persons with gas-related problems may be a hypersensitive intestine."

I suspect a lot of gas problems arise from commonplace (indoor) working and social circumstances where flatulence = inconvenience = acute embarrassment! In susceptible folks, fear and tension may cause one part of their gut to billow out like a balloon while another section closes down like a vise. I knew a wise lady doc who diagnosed many patients' problems as "rapid transit syndrome," caused by having to drive daily in Los Angeles traffic.

Irritable bowel syndrome is the name given to the commonest of all gas-inspired complaints. For many, the *only* relief—after a lot of tests and expense—is finding out they haven't got a "real" disease! A killer it's not, but irritable bowel syndrome can be fiendishly resistant in the long term to both medical and "natural" remedies.

Friendly Baking Soda

In earlier, simpler times, doctors used the term "acidosis" to cover a multitude of sins. They were aware of the body's normal struggle to maintain a balance between acidic and alkaline products of metabolism (involving heroic efforts by the kidneys and lungs), and they knew acidic conditions often won out. Sodium bicarbonate—plain old Arm & Hammer baking soda—was a staple in most households. It still is. *Its usefulness goes far beyond neutralizing over-acidity in the stomach.* As a matter of fact, probably many more stomachs secrete below-normal amounts of hydrochloric acid (HCl). Doctors used to test for it, but few nowadays are concerned, although I think they should be. Normally, when a partially digested ball of food, or bolus, leaves the stomach, it has a highly acid content. The bolus's acidity is a stimulus for an outpouring of soothing, neutralizing bicarbonate, secreted by the pancreas into the duodenum (upper part of the small intestine), which doesn't have the stomach's special ability to avoid self-digestion by corrosive HCl.

Everywhere in the digestive tract but the stomach an alkaline environment is needed. Digestive enzymes remain inactive without it. The pancreas is the main bicarbonate maker for the digestive tract; since bicarbonate ions also can sashay from the gut into the bloodstream, they provide acid-neutralizing power elsewhere in the body. For instance, they help to rid overworked muscles of lactic acid.

I reported in FL 52 on the sensible theory by William H. Philpott, M.D. in *BRAIN ALLERGIES* (1987, Keats Publishing, New Canaan, CT 06840), that pancreatic production of ample bicarbonate is an important key to all-over healthy functioning—just as vital as the same organ's secretion of insulin and digestive enzymes. He believes, however, that many, many unsuspecting folks have chronically inadequate bicarbonate secretion. One reason might be low stomach acidity, providing little stimulus to the pancreas. Other inhibitors include such everyday ones as anxiety and stress, chronic overeating of foods to which one is allergic, nutrient deficiencies, and so on. He believes the effects of long-term under-secretion of bicarbonate touch

upon every facet of physical and emotional health. (His book is a treasure.)



However, back to today's modest goal—toning down flatulence in irritable bowel sufferers! In FL 52, 53, and 56, I laid out my personal program in which I take 1/4 to 1/2 teaspoon of a mixture (roughly half and half) of sodium bicarbonate and potassium bicarbonate stirred into a half-cup of water no sooner than 45 minutes after each meal, so as not to neutralize HCl in my stomach, since I don't make enough HCl. I also take pancreatic digestive enzymes along with the bicarbonate salts. In the year or two that I've been on the regimen, I've been allowed to forget about my gut most days, for the first time in forty years!

However, I'm constantly getting letters from readers asking where they can find potassium bicarbonate. Apparently, few pharmacies at present stock it, although it's not a prescription item. If none is easily obtainable, plain old baking soda will do. If you're on a sodium restricted diet, check with your physician first.

From the label on Arm & Hammer's baking soda (If they haven't been sued after all those years, the stuff must be pretty benign):

"Directions: Level 1/2 teaspoon in 1/2 glass of water every 2 hours up to maximum dosage or as directed by a physician....Each 1/2 teaspoon contains 20.9 mEq. (.476 gm) sodium.

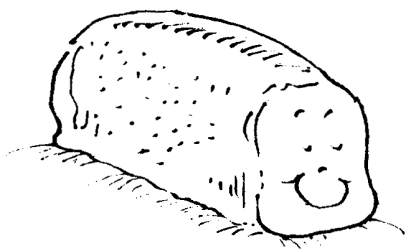
"Warnings: Except under the advice and supervision of a physician: (1) do not take more than eight 1/2 teaspoons per person up to 60 years old or four 1/2 teaspoons per person 60 years or older in a 24-hour period, (2) do not use this product if you are on a sodium restricted diet, (3) do not use the maximum dose for more than 2 weeks..."

Importance of Stomach Acids

A companion tactic in the anti-flatus strategy presents some hazards. For those of us whose stomachs don't make enough HCl, supplements of betaine hydrochloride with pepsin, or glutamic acid hydrochloride with pepsin (both are non-prescription) can be invaluable. But for persons with ulcers, or anyone taking cortisone medications, or aspirin and other anti-inflammatory drugs, the supplements can cause pain, ulcers, and bleeding in the stomach. The best and clearest rationale for taking HCl supplements, as well as which cautions to observe, are given by Jonathan V. Wright, M.D., in *DR. WRIGHT'S GUIDE TO HEALING WITH NUTRITION*, 1984, Rodale Press, Emmaus, PA. Look in the index under "Stomach acidity, low" for an eye-opening list of just a few of the problems that may be provoked by too little HCl. Low stomach acid is a condition he sees often in his practice, many times in patients who think they have too much. "...when we actually measure stomach acid in people who've been taking antacids regularly, better than half have subnormally low levels of acidity. ...In fact, some investigations have found it in more than 50 percent of those over 60."

Beg, borrow, or, best of all, buy Dr. Wright's book; he writes in plain language about patients he has treated for ailments ranging from depression to weak fingernails, using 'alternative' medicine and nutrition. Many of his suggestions lend themselves to self-help, including (with many cautions) those on HCl supplements for low stomach acid. By the way, the latter may be well worth pursuing for unexpected benefits many report: resistance to intestinal flu, and a big reduction in bad bowel smells.





Too Much Gluten?

Another factor that's commonly overlooked in dealing with the 'windy miseries' is what I can best describe as "Gluten Overload." We've been eating grains for only ten thousand years—a wink of an eye in evolutionary time. Wheat and rye (to a lesser extent barley and oats) contain a protein known as gluten that's not found in the foodstuffs pre-agricultural people thrived on such as berries, fruits, bulbs, land and sea vegetables, nuts, seafood and game. In persons with hereditary celiac disease, the gliadin fraction of gluten destroys the small intestine's digesting and absorbing surfaces, which can lead to devastating illnesses. A strict non-gluten diet is the only cure and prevention.

Recent studies in gastroenterology journals hint at the possibility that many of us who don't have celiac disease can develop celiac-like damage to the gut if we continually eat gluten-containing products, especially wheat, day after day. Bloating, distention, and flatulence may be the obvious result, but more sinister ones can develop as we continue to absorb nutrients poorly and pile up deficiencies.

Ann Louise Gittleman's new book, *SUPER NUTRITION FOR WOMEN*, Bantam Books, 1991, has wonderful tips on how to avoid gluten overload, especially in this era of fiber-consciousness where heart-health programs keep prodding us to eat "complex carbohydrates." Well and good, she says, except it gives the green light to indiscriminate gobbling of bread, bran, bagels, muffins, and dry cereals—mostly made of wheat.

So, to the legions of internal trumpeters out there: Observe yourself for a few weeks, to see if laying off breads and other baked goods made of wheat calms your wind instrument down! If so, you may want

to explore the wealth of easy options Gittleman offers in her book.

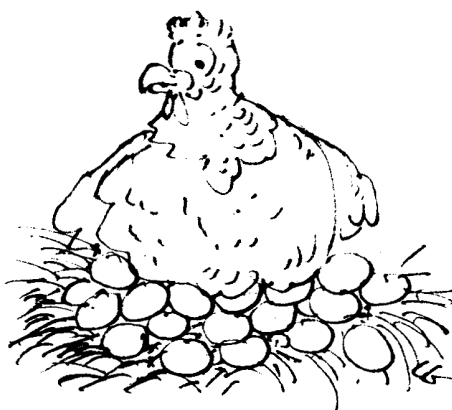
Wheat represents 80 percent of U.S. grain consumption. Gittleman writes: "Estimates of the prevalence of gluten intolerance vary and most do not include individuals with minor gluten malabsorption or wheat allergies. ...In England, home of fresh-baked scones, sandwiches, and pastries at daily teatime, the incidence rises to 1 in 300-400 individuals. On the other hand, in Japan, it is so rare that a celiac society doesn't even exist."

(Other rice- or corn-based cultures also have little celiac disease. It occurs to me that, in one sense, celiac disease is like another one that runs in families, alcoholism: neither can happen if the predisposing substances, respectively gluten and alcohol, are seldom ingested!)

Gittleman was director of nutrition at the Pritikin Longevity Center in Santa Monica and, afterwards, wrote her best-seller, *BEYOND PRITIKIN*, describing the problems she observed in clients who stayed on the Center's largely grain-based diet that was low in Omega 6 and Omega 3 essential fats. Both books reflect the rewarding results she saw in her private practice when she took clients off high-gluten grains and restored the "good fats." Interestingly, Gittleman says that because of their special needs, women who avoid meat and eggs because of today's overblown "cholesterol" scare may have a hard time finding substitute sources of the highly absorbable iron, sulfur, vitamin B12, biotin, etc. they need. She knows her nutritional biochemistry, is not afraid to buck popular shibboleths, and provides wise dietary approaches to women's health concerns.

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MORE ON FLAX

Readers keep asking me about flaxseed—the best way to take it, the amount that will fill Omega 3 requirements, etc. Ground flaxseed (flaxmeal) is more easily absorbed than the whole seeds. You can grind the seeds, available in health stores, in a little electric seed or coffee grinder, or you can buy Fortified Flax, an organic flaxmeal with added vitamin B6. Start easy with one teaspoon, stirred into juice, water, or yogurt, or added to breakfast cereal. It has a slight laxative effect, but many persons love it for that! Most adults can build up gradually to one or two tablespoons of flaxmeal a day over a period of weeks.

One rounded tablespoon contains about two grams of Alena (alpha-linolenic acid), which would fill minimum requirements of the primary Omega-3 fatty acid, according to Donald O. Rudin, M.D. His recommended intake of Alena for most adults is four grams.

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Illustrations by Clay Geerdes and other artists as noted.

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