

## ECZEMA: A NUTRITION CONNECTION

Patricia Rather and her husband Vincent Taylor live in Sonoma, a small town fifty miles north of San Francisco. A stained-glass craftsman, Vince does his work in a small studio he built in his back yard under a large tree. His aesthetic designs appear in the windows and doors of quite a few buildings in northern California. When he isn't swamped with back orders, Vince shows his work at community art fairs. Five years ago he met Pat. She was teaching English as a Second Language at Sonoma State University. A longtime folk dancer, she got Vince hooked on dancing before they got married. Their daughter Bené was born in October of 1983 when Pat was 40 and Vince 39, and Alex came along two and a half years later, in March 1986. Pat folkdanced vigorously and swam throughout her pregnancies which were unremarkable except that she allowed herself to gain not so much weight, as she puts it, as tonnage! They are close to their children, full time parents. Pat nursed Bené all through her second pregnancy and is still breastfeeding Alex, who was 19 months when I visited the family in October.

Last January when Alex was ten months old, he began getting what looked like a diaper rash. By April, the hot red rash had spread to the baby's back, shoulders, stomach, the creases in his elbows, and behind his knees. Alex's regular pediatrician was away when Pat brought him in for an emergency visit, but the doctor who examined him said it was eczema and might be related to foods like cow's milk, eggs, peanut butter, or orange juice to which a baby was sensitive. Pat told him Alex was mostly on breast milk, with a scattering of other foods but hardly any of the ones mentioned, except a little milk in cereal. The doctor prescribed a mild cortisone ointment which she applied to the broken out areas. The rash cleared up like magic, but a few days after Pat stopped smearing on the creme, it was back. Dutifully, Pat put on more ointment and the eczema cleared up again, but after she stopped using it, Alex broke out. After a

few more rounds, Pat decided to leave off the ointment for a stretch before the baby's appointment with his regular pediatrician. When she brought him in, he had a nasty, full-blown eczema over the same areas as before.

The pediatrician responded by prescribing a stronger version of the ointment. Pat told me, "I realized the doctors felt Alex was 'cured' as long as I was willing to use the cortisone creme on him. From my point of view, he still had eczema. From their point of view, he was cured. That was when I thought I'd have to look for other answers."

Bené had never had eczema, nor had either parent. But Pat recalled with a chill that her mother for years had a stubborn rash on her hands. Worse yet, Pat's younger brother not only had severe eczema all through his childhood but was still getting outbreaks. Even if Alex might have an inherited tendency, the thought of keeping him slathered with increasingly powerful steroid ointments for who knows how long was very upsetting to both parents. They asked a nutritionist to explore some other options.



Pat Rather and Vince Taylor

First, it was necessary to identify and avoid if possible the allergens or foods causing the outbreaks, then treat the irritated areas to help them heal, and finally to build up Alex's immune system so he would be less sensitive to foods and substances in his environment. Medical and pediatric literature on eczema emphasizes the first two approaches, while the "alternative" healthcare literature stresses the third as well.

Since the outbreaks didn't start until Alex was ten months old, there was a chance some of the foods he was getting to supplement breast milk might be partly responsible. But there was also a more complex possibility: the eczema might be related to *what Pat was eating, since breast milk was still the baby's main food.* Another factor was that, at ten months, Alex had begun to crawl all over the house and yard. Their yard is a comfortable mix of lawn, vegetable garden, and flower beds, with plenty of dirt which both children love to muck about in. Who know what manner of microbial wild life might be irritating the baby's skin! Faced with the complicated job of unraveling all the threads leading to eczema, it's no wonder many pediatricians opt for cortisone ointment.

### The Program Begins

Pat had tried switching laundry soaps, using different brands of paper diapers, and so on, without any visible improvement in the rash. For months, she and Vince had been giving Alex soothing oatmeal baths and stopped using soap on his skin. Trying to keep the baby off the floor and out of the yard would be "cruel and unusual punishment" as well as impractical, so they elected to ignore any possible perils from that source for the time being. Towards the end of May of this year, the family began the following regimen:

- They treated the rash directly with non-steroid ointments.
- They helped Alex to build up his resistance to allergies by adding certain supplements to his diet.
- Pat removed possible allergenic foods FROM BOTH THE BABY'S AND HER OWN DIET.

**T**he only easy part of the program was the first, Pat told me in October. The health counselor has asked her to apply various emollients to different sections of the rash, to see which appeared to be the most effective. Pat tried a zinc oxide paste; then she switched in turn to Desitin® (a mixture of zinc oxide, cod liver oil, lanolin, petrolatum, and talcum), vitamin E in the d-alpha tocopherol form squeezed from a punctured capsule, primrose oil squeezed from a capsule, and food-grade linseed oil. From the results, she and Vince decided to use a combination of Desitin and linseed oil, massaging Alex gently for several minutes twice a day. Of course, every piece of their clothing was covered with goop, but the baby enjoyed their ministrations and his skin began to look better.

**G**etting Alex to take supplements was tougher. Mostly, the nutritionist wanted Alex to get more vitamin C, pantothenic acid (a B vitamin), vitamin E, and zinc than he was getting from his diet. Supplements of these nutrients have been found especially useful in ameliorating allergies and eczema by experienced practitioners of alternative medicine like Jonathan Wright and pediatrician Lendon Smith.<sup>2</sup> Pat tried a chewable children's vitamin-mineral tablet, but no way was Alex having any! Pat was able to get him to take drops of a multi-vitamin liquid formulated for infants, but gave up on the pantothenic acid powder dissolved in juice, which he wouldn't accept. Ditto vitamin C. She ended up taking them herself, hoping a little extra would be available to Alex via her milk! Finally, she found an orange-flavored tablet containing a modest amount of zinc and vitamin C that he would swallow after Pat put it in a small shot glass full of water overnight to dissolve. She could also squeeze a bit of vitamin E on his tongue once in a while.

### The Good Oils

**T**he most successful supplements, in terms of acceptance, were linseed oil and a tasty emulsified liquid form of EPA and DHA—two important omega-3 fatty acids. He happily took almost a tablespoon of each a day. The essential fatty acids, along with zinc, happen to be prime movers and shakers in skin disorders. While pediatric literature universally stresses the need for linoleic acid, which is the chief fatty acid in the omega-6 group of essential (i.e., vitaminlike) fats, a healthy skin needs fatty

acids from BOTH groups, omega-3 and omega-6. Linseed oil pressed from seeds of the flax plant (the plant spun into linen thread) is an unusually rich source of omega-3 alpha-linolenic acid, and also contains omega-6 linoleic acid, thus covering all bases. EPA and DHA are the ultrapolyunsaturated omega-3 fatty acids derived from fish oils. Linseed oil and fish oils have been shown to exert a healing effect on inflammatory skin conditions such as eczema\*. Historically, both oils have been used widely—internally and externally—in folk medicine of many countries for skin and rheumatic ailments.

### Here Comes the Tough Part

**T**he hardest part of the regimen was ahead—cutting down on potential food allergens. The nutritionist asked Pat and Vince to use as a guide the chart from *The Allergy Self-Help Book*<sup>3</sup> entitled “Common and Uncommon Causes of Food Allergy” (see below). The problem wasn't the baby—Pat could find foods in the “Sometimes Cause Allergies” and “Seldom Cause Allergies” columns for him but he depended mainly on breast milk anyway. No, it was Pat! I'll let her tell it as she described it to me when I visited the Taylor-Rathers in October.



Bené at 3 years

\*For complete discussion of their role in human health, see *The Omega-3 Phenomenon* by Donald O. Rudin, M.D. & Clara Felix. Rawson Associates: New York, 1987.

**PAT:** Soon after the middle of May, I began the diet for Alex and me. We eliminated all foods in the “Most Commonly Cause Allergies” and “Often Cause Allergies” lists, except potatoes, and coffee and wine for me. I can only tell you it was hell! I was eating mainly rice, vegetables, fruit and meat, and I was BORED with it. For about ten days, I was mad at the health counselor, Vince, the kids—everyone! Also, I was going crazy trying to get Alex to take the different supplements, usually without luck. But mostly I was miserable because I missed bread, dairy, sugar, and bakery goods. It never occurred to me until then that I might actually be *addicted* to them, almost as if they were drugs, or cigarettes. Looking back, though, I think I was suffering withdrawal symptoms!

**CLARA:** How did you keep it up?

**PAT:** I don't think I could have, except I was really afraid Alex would get the awful kind of eczema I remembered my younger brother having when he was little, where he used to scratch until he bled. Also, I couldn't face years of Alex having to have cortisone cremes. I *know* there must be side effects, because the cortisone gets absorbed in the body. Anyway, in May I still thought I would only have to keep the diet up a few weeks longer. By the end of June, though, Alex still had the rash. It was letting up—I hardly ever had to use the cortisone ointment—but I was beginning to face the fact that this was not going to be a quick thing and I had many more months ahead of the diet.

**CLARA:** So what kept you going?

**PAT:** Desperation about Alex, mostly. Also, it made me realize how much of my pleasure in life was linked to “greasy tidbits” as we used to call them in my family! So as I craved them awfully, I couldn't help but muse at the superficiality of some of the values concerning food in my life! After about two weeks, though, my boredom with food began to pay off, because I started to lose all the weight I'd gained with both pregnancies. [*Pat is a fine featured woman who looks a dozen years younger than her age. I knew her originally because we folk-danced at Ashkenaz, a dance cafe in Berkeley. She was a regular there before she had her first baby, and I remember her as always lithe and slender.*]

**CLARA:** You've got your girlish figure back for sure! But I never thought you ever had a weight problem, except for gaining a lot when you got pregnant.



Vince and Alex, 3 mos.

TABLE 1

### — Common and Uncommon Causes of Food Allergy —

While anyone can become allergic to any food, some foods are more apt to cause allergies than others.

Most Commonly Cause Allergies	Often Cause Allergies	Sometimes Cause Allergies	Seldom Cause Allergies
Corn	Alcohol (in adults)	Bananas	Apples
Eggs*	Berries	Beef	Apricots and their juice
Fish*	Buckwheat	Celery	Barley
Milk	Cane sugar	Cheese	Beets
Nuts*	Chocolate	Cherries	Carrots
Wheat*	Coconut	Chicken (in females)	Chicken (in males)
	Coffee (in adults)	Coloring agents	Cranberries and their juice
	Mustard	Cottonseed	Grapes and their juice
	Oranges or citrus	Flavoring agents	Honey
	Peanut butter	Garlic	Kiwi fruit
	Peas	Green beans	Lamb
	Pork	Melons	Lettuce
	Potatoes*	Mushrooms	Lobster
	Soy (in adults)	Onions	Oats
	Tomatoes*	Plums	Peaches and their juice
	Yeast	Prunes	Pineapples and their juice
		Spices	Raisins
		Spinach	Rice
		Vitamins	Rye
		Water: tap, chlorinated and softened	Salmon
			Salt
			Soy (in children)
			Squash
			Sweet potatoes
			Tapioca
			Vanilla extract
			Vinegar
			(apple cider)



SOURCE: Adapted from Basics of Food Allergy, by James C. Breneman (Springfield, Ill.: Charles C Thomas, 1978).

\*Odors of these foods can cause symptoms.

**PAT:** As a matter of fact, I never could stay under 120 pounds before, unless I made a lot of effort by depriving myself and keeping myself hungry pretty often. Now I can eat as much as I want but I just don't seem to want a lot. [Laughs] If it isn't made of wheat, sugar, and dairy, I'm not too interested.

**CLARA:** Do you crave those foods all the time?

**PAT:** No, thank God! Actually, after the first ten days or two weeks, it got easier and easier. I really don't think about it much any more. I feel good. What I eat now I'm sure is more balanced than before. The main thing is that by July, Alex's skin was definitely clearing up. The last time I needed to use cortisone creme was June 6. By the way, I never did fill the prescription for the stronger cortisone—I just used the original creme, sparingly. He had a few mild outbreaks [Pat referred to the notebook in which she keeps a diary of foods eaten and possible reactions by Alex to them.], but by the middle of August he was entirely clear.

[Pat and I were sitting on the sunny patio on a warm Indian summer day. Four-year-old Bené and a visiting girlfriend were having a make-believe tea party on the grass, and 19-month-old Alex who had been digging in the dirt ran up and climbed on his mother's lap, grinning at me. His arms and legs were brown with garden soil, but his skin was clear and smooth.].

**PAT:** Now if you look at him, you wouldn't say the eczema is right under the surface, the way it used to be, even when he wasn't broken out.

**CLARA:** I don't see anything at all.

**PAT:** I can still feel a little roughness.

**CLARA:** What's happening now in terms of diet?

**PAT:** I decided to try wheat, then corn, one at a time, on Alex, but not to eat them myself because it's easy now for me to stay below 120 pounds on the diet. I figure I'll just keep eating this way. I know it's healthier, and it also makes me think up new things to prepare, like tofu [a cottage-cheeselike product made from soybeans]. Ordinarily, I'm really conservative when it comes to new recipes, because I hate to cook and to follow recipes, but I've been sauteeing tofu and I kind of like it, actually! Of course I've got my new bad habits—mainly potato chips! They've become my basic treat. Alex likes them too, and he hasn't broken out. I still drink coffee and wine, and I salt my food quite a bit. But Alex's skin is still just fine.



Pat and Alex

**CLARA:** When did you begin to introduce him to some of the foods in the "Most Commonly Cause Allergies" list?

**PAT:** [consulting her food diary] September 11, wheat bread. He didn't break out. September 19th we got invited to a Mexican student's house [Pat recently began teaching again, part-time two days a week] and we had to eat corn tortillas, so I started him on corn and he hasn't broken out. He's also fine with potatoes. No eggs, citrus, or peanut butter yet, and no dairy products.

**CLARA:** You're still staying away from these foods yourself?

**PAT:** I haven't had any wheat bread, crackers, cookies, or other things made with wheat or milk since May.

[Some background material: Before the rash first appeared, Alex though mainly on breast milk had been eating the following, much as Bené had done at the same age: wheat toast, wheat crackers, 9-grain hot cereal, canned salmon or tuna with a bit of mayonnaise, bananas, apple juice, and various prepared baby foods, including meat, chicken, peaches, plums and carrots. No eggs, except in mayonnaise, and only a little cow's milk added to cereals. Pat herself, of course, was eating everything: lots of milk, cheese, eggs, baked goods, nuts, and sweets.]

**CLARA:** What's a typical day's diet now for you and Alex?

**PAT:** We both start out having hot oatmeal—no milk or sugar, just oatmeal, water and raisins. We both like the taste that way. No butter either. He's also having corn flakes lately—just dry—and also wheat toast. At 11 o'clock, I usually have a piece of bread made of rye or rice flour—no wheat—and coffee. Sometimes pineapple juice for both of us. Alex is nursing quite a lot.

Lunch for me is a salad, sometimes with tofu—my new thing! Maybe rice bread with hummus [a tasty Middle-Eastern style spread made from pureed garbanzo beans]. I ate a lot of fruit salads and watermelon this summer. Now, I snack on apples and grapes during the day. Sometimes Alex eats the fruit—mostly he throws things on the floor! He may have more corn flakes and more bread; he's not big on anything but breast milk right now. He doesn't care for meat. Sometimes he'll eat a whole banana, other times he'll pitch it!

For dinner I usually prepare a big salad. I'll use salad vegetables and add steamed carrots, squash, greenbeans, and a spicy peanut butter dressing—just a little, in case it may affect him. Vince, Bené and I will have meat or chicken. We may have potatoes sometimes, or rice. The only fish on the okay list is salmon. We love it but we haven't been getting it much since it's so expensive. Usually, I try to feed Alex whatever we're having, but right now he's not interested in the meat or vegetables. He'll chew on raw carrots or celery a bit.

I have another snack before I go to bed. I find I eat a lot more meals with less food at each meal than I used to before. [Alex runs over and climbs on her lap, saying loudly to his mother, "Noorss, noorss!" He gets his snack of breast milk, smiles engagingly at us, climbs down and runs off to play.]

**CLARA:** I see what you mean about his nursing, but you're giving him terrific immunity factors and almost everything else he requires.

**PAT:** I don't know what he'd eat if he weren't nursing—I'd really be up a creek! I've always relied heavily on milk products to feed Bené. She loves milk, cheese, also peanut butter, tuna—all the things I can't give Alex right now.

**CLARA:** Probably he'll be able to eat many of those foods eventually. He IS on the pale side. Have you thought about getting liver for him once or twice a week? Lamb liver would be okay, or liver from range-fed beef. You should be able to get it at the healthfood store. Less chance of pesticides or hormones than in cattle fattened in feedlots.

**PAT:** What about the cholesterol in liver?

**CLARA:** Don't worry about cholesterol at this age. He's on a high-cholesterol diet anyway—breast milk is high in fat AND cholesterol. There's a good reason: cholesterol is important for building tissues and making hormones. The brain needs large amounts, too.

**PAT:** I love liver. If the children don't eat it, I will.

**CLARA:** Pat, when you look back at everything, what could have been mostly responsible for the eczema?

**PAT:** We don't know! Even after eliminating foods, it's still so vague and nebulous as to what cleared up Alex's skin. Maybe the zinc was the most important. Sometimes, I think it was more that he was deficient in zinc than any other factor. [Boys need more zinc than girls, even as babies. On the nutritionist's program, Alex was getting zinc supplements and he was also absorbing some zinc from his daily Desitin applications. Zinc and essential fatty acids are absorbed effectively from the skin.] It's so hard to tell!

**CLARA:** I suspect the linseed oil and fish oils were a big help, too.

**PAT:** I'm glad he cleared up, but it's frustrating trying to figure out the specific things that may have caused the eczema, or cured it. My brother is 35 years old and he still breaks out. It's true, though, he never tried approaching it with diet and supplements.

**CLARA:** It's complicated, trying to work from two angles—the possible allergens in Alex's diet and also in your milk. Meanwhile, his immune system is getting tougher, he's getting plenty of teeth, and his digestive system is maturing, so eventually he may be able to handle the foods that could have set off the eczema. Since he's doing well, and you enjoy keeping your weight down, you may as well hang in there.

**PAT:** Right, I'll just keep introducing things gradually until he finds more foods he likes. One thing that bothers me is that I've gone back to eating a lot of meat. Before, I was tending towards a more vegetarian and fish diet, which I think is healthier, but without milk, cheese, eggs, fish and bread, I get very hungry for meat!



**CLARA:** You're making a lot of milk each day and you need good protein foods. I'm sure you'll be able to add fish soon. Besides, you won't be nursing forever—it only seems that way!

**PAT:** That's what you think! I forgot to tell you Bené still wants her "morning nursing" and her "nighty night nursing"! It's largely symbolic, for comfort, but she's unhappy if we skip it.

**CLARA:** There's no way you're going to keep it up when the kids are in high school! [Pat breaks up. Bené, by the way, is a buoyant child with pensive brown eyes, like Pat's.] About the meat, just enjoy it. You're balancing it with lots of fruit and vegetables and cereal fiber. Also, the omega-3 oils you're getting have a generally protective effect. [Pat uses walnut oil in salads, and takes a spoonful each of linseed oil and the emulsified fish oils she gives Alex. Additionally, she takes a multi-vitamin/mineral, extra E and C, plus about 2000 mg of calcium to compensate for no dairy while she's breastfeeding.]

**PAT:** I'm glad you said that, because there's only so much tofu I can eat! [We both laugh.]

**CLARA:** Since the wheat you reintroduced to Alex hasn't caused him any problems, how do you feel about starting it again for yourself?

**PAT:** I don't want to, because without it I keep my weight down without starving myself. Honestly, I believe every tasty tidbit that's fattening is made of wheat! Try to think of one that isn't—it's hard to. Or milk and sugar: ice cream, cakes, pastry, pizza....

**CLARA:** The entire social structure revolves around seductive foods!

**PAT:** You eliminate those and so much of the temptation to overeat is gone. The sweets I crave once in a while are like the ones I had in my childhood—chocolate chip cookies, that kind of thing... [She laughs ruefully.] I don't want to talk about it!

[Vince walks over and greets us with a big smile. He has just come home from seeing a client. At 43, he's slim and fit-looking.]

**CLARA:** I'm finding out from Pat what a learning process this has been for both of you!

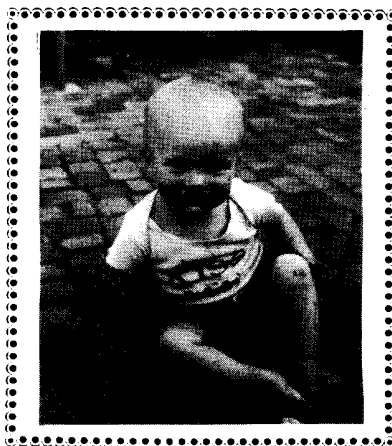
**VINCE:** It was very hard on Pat, at first. Bene and I eat all the things she has to stay away from!

**CLARA:** Pat, have you considered going back to eating wheat and milk just one day out of four? A "rotation" diet like that is supposed to keep the potentially allergic or addictive tendencies quieted down.

**PAT:** I don't think I could maintain it. I can't be moderate—it's in my nature to be *immoderate*! That's why this is easy for me—I just don't eat those things at all. I think eating only a little bit would be harder for me.

**VINCE:** It's funny, when you realize that some of the foods connected to Alex's eczema could be the ones Pat depended on for her recreational eating. At the same time, they made it hard for her to keep her weight down.

**PAT:** I didn't have much faith in the diet changes and the supplements, at first. I only thought it was worth a try because there wasn't any other way to go, just more cortisone ointment. The amount of time the program took at the beginning was appalling. When I started, I thought, well, I'll try it for a month. Hah!



**Alex, 18 mos.  
Dirty, happy, rash-free.**

**VINCE:** What she or I didn't anticipate was the diet ending up having a lot of benefit not just for Alex but for her, personally. Who knows if she'll stick to it for the rest of her life, but it's given her good information about what's good for *her*—the way it makes her feel and the weight she lost.

### Summing Up

**E**czema, sometimes referred to as atopic dermatitis, tends to run in families. It may flare up in an infant, disappear after a few years, then show up in some other form of allergy later. Each individual is unique, but here, in summary, is what worked in Alex's case:

- Typical allergenic foods were removed from the baby's diet.
- The same ones were taken out of the mother's diet so they wouldn't be reflected in the breast milk.
- Desitin®, a non-prescription ointment containing zinc oxide and codliver oil, was applied, together with food-grade linseed oil, to the broken out areas once or twice a day.
- Alex was given supplemental zinc and vitamin C, plus a multi-vitamin.
- The mother took extra C and E, in addition to her regular vitamin/mineral supplement and calcium.
- Mother and baby took daily spoonfuls of linseed oil and an emulsified fish oil concentrate of omega-3 fatty acids EPA and DHA.
- The program began towards the end of May, five months after the rash began. By July, the eczema was much improved. There were minor outbreaks, but by the middle of August the skin remained clear. Wheat was added to the baby's diet on September 11, and corn September 19, with no outbreaks. Other foods will be added one a time, allowing several weeks to watch for reactions.

Except for the breast milk component, similar measures have been reported to be helpful for adults with chronic eczema. Some doctors are recommending, in addition, capsules of oil of evening primrose. They contain a fatty acid that has an anti-inflammatory effect—gamma-linolenic acid. It's rare in foods, but breast milk is an exceptionally good source. ■

1. Jonathan V. Wright, M.D. *Dr. Wright's Book of Nutritional Therapy*, Rodale Press, 1979. *Dr. Wright's Guide to Healing with Nutrition*, Rodale Press, 1984
2. Lendon Smith, M.D. *Feed Your Kids Right*, McGraw Hill, 1979.
3. Sharon Faeltens and editors of *Prevention Magazine*. *The Allergy Self-Help Book*, Rodale press, 1983.

## FRESHEN UP YOUR MEMBRANES

I know many F.L. readers have been opting for better health by increasing their intake of omega-3-rich oils. *I hope they are increasing their antioxidant rations at the same time.* When we eat whole, fresh sources of these essential fats such as flax seed (linseed) and walnuts, they contain enough natural vitamin E to keep the unsaturated oils from oxidizing for a while. On the other hand, when we consume goodly amounts of linseed oil and fish oils (MaxEPA, cod liver oil, salmon oil, etc.), the natural ratio of vitamin E-to-oil in the original flax seeds and live fish will have been greatly altered by commercial processing. The polyunsaturated omega-3 fatty acids from these oils, after appropriate metabolic changes, become incorporated into our cellular membranes which are largely made up of lipids (fats). *Wherever this happens, the membranes and tissues become more resilient and flexible, but also more vulnerable to attack by peroxide, superoxide, and other naturally occurring but potentially harmful forms of oxygen.* That's where vitamin E and the other antioxidants can come to the rescue.

Whether inside our bodies or in the natural world outside, substances rich in polyunsaturated lipids will display the same sort of susceptibility to attack by oxygen free-radicals. Think of the difference between a naturally saturated fat



like coconut oil that's solid at room temperature or an unnaturally saturated (by hydrogenation) solid fat like Crisco, and a bowl of shelled walnuts, rich in polyunsaturated lipids. The first two will remain "fresh" practically forever, because hydrogen-saturated bonds in each molecule of fat are too stable to allow oxygen to attack them. But in a month or so the walnuts will have gone stale. Why? Because each molecule that has unsaturated bonds, i.e., lacking two hydrogen atoms, is susceptible to attack by oxygen, viz, oxidation, viz, peroxidation, viz, rancidity.

### How to Keep From Going Stale

I use plenty of linseed oil and fish oils but I also protect the lipid membranes my body will make from them by giving myself ample supplemental vitamins E and C—nature's premium anti-oxidizers. Also, I take a recommended dietary allowance (RDA) of the trace mineral selenium, since it's the cornerstone of a major enzyme that neutralizes peroxides in our cells. Our body makes peroxides all the time, so nature thoughtfully has us make glutathione peroxidase, an anti-peroxide enzyme. Superoxide dismutase is another free-radical-quenching enzyme. Vitamins A, C and E; trace minerals Zinc, Copper and Manganese; and vitamin B15 (dimethylglycine) cooperate to protect tissues from oxidation. "Freshness" at the cellular level is a heck of a lot more crucial than the kind the TV commercials promote for our armpits.

### Stress Promotes Rancidity

As a matter of fact, our body cells and their lipid membranes use these natural means routinely to fend off rancidity. Sometimes, though, the coping mechanisms fail, for instance, when the nutrients needed to set them in motion are in short supply, or if oxidative assaults overwhelm the defenses.

A report from scientists in Soviet Armenia says *stress* can be a big factor in promoting "intensification of lipid peroxidation" in membranes (E.M. Mikaelyan, et al. *Biologicheskii zhurnal Armenii* 38, No. 5, 393-99, 1985.) In rats, acute stress brought on increasingly intense peroxide attack on tissues. *The worst effects were seen in the heart.* Stress, besides activating antioxidant enzymes, also propelled vitamin E into the fray. The researchers found that in the process of "regulating lipid peroxidation by suppressing free radicals," *vitamin E reserves declined in all the tissues studied—heart, liver and brain.* Enough vitamin E was lost to "alter the structure and function of the biomembranes and bring about a certain disharmony in the cellular metabolism." The scientists conclude supplemental antioxidants such as vitamin E may be needed to ward off "the pathological consequences of stress."

### Aging Brain Needs More Vitamin E

Aging can bring on its own special brands of stress. As we get older, *the brain may become a particular target of oxidative attack.* It's mostly lipid (about 60%), much of it poly-unsaturated omega-3 and omega-6 fatty acids. A 1986 study (M. Meydani et al., *Lipids* 21:786-79) suggests that the requirement for vitamin E in the central nervous system may increase with age—which fits right into the new research demonstrating that stress uses up vitamin E reserves! Free-radical-inflicted damage to cell membranes in the brain, the researchers say, may bring on age-related changes *such as senile dementia and depression.*

How do we go about keeping our old AND young brains in good shape? For starters, supply them amply with vitamin-E-rich foods, use supplemental vitamin E generously, use even more as you get older, and add an RDA of selenium. The scientists seem to think it works for rats. We have to begin somewhere! ■





## NEW EVIDENCE ON DIABETES

**A** dult-onset diabetes mellitus (Greek for "sweet urine") is an exploding problem worldwide. Unlike juvenile-onset diabetes, where the body stops making insulin and requires daily injections of the hormone, individuals with adult diabetes improve frequently with dietary measures alone. Often, they make enough insulin but the cells of their body don't seem to respond to it properly, i.e., don't take in sufficient glucose from the blood. As a result, too much glucose (blood sugar) remains in the circulation, the excess spilling out in the urine. Often in longterm diabetes, blood vessels become thickened and calcified, and damage to the eyes, nerves, and kidneys is common. It can become a life-threatening disease.

**H** eated controversy continues to swirl about the causes of adult diabetes. Wholistically inclined factions in medicine tend to attribute it to a denatured 20th century diet, universally overloaded with cheap, empty carbohydrates of the white sugar/white flour variety which, they say, repeatedly stresses the glucose-regulating apparatus of vulnerable individuals until it finally breaks down. Conservative medical forces, on the other hand, generally deny any connection between the 120 lbs. of sugar a year consumed by the average U.S. citizen (compared with no more than 15 lbs. a year up until 1815) and the rising incidence of the disease. A study from Australia casts a new light on the subject. (A.W. Thorburn et al., *Amer. J. Clinical nutrition*, 46, 282-285, Aug. 1987.) A group of healthy, nondiabetic Australian Caucasians and a group of equally healthy

Australian Aborigines were tested with two different foods on separate days. On one morning it was 50 grams (about 1.8 oz.) of baked potato, the other morning 50 grams of baked "bush potato" (*Ipomoea costata*). Long before Aboriginal people began to leave their natural environment to cluster in towns and cities, bush potato had been one of their staple foods. It's in the same family as sweet potatoes, very similar in taste and texture.

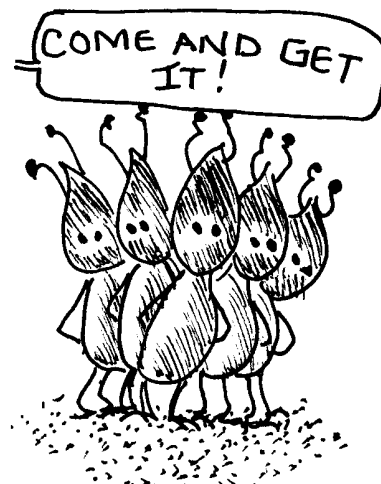
## Aborigines and Bush Potato

**B** aked bush potato is digested 33% more slowly than baked potato. It also releases its carbohydrates a great deal slower than potato does, meaning that a person's blood sugar tends to rise much less after a meal of bush potato than after one of potato. Blood sugar maintained evenly at normal levels is a healthier sign than sharp blood sugar rises and steep declines. As expected, the Caucasian subjects had a slightly higher rise both in glucose and insulin after the potato intake than after the bush potato. The Aborigines, however, responded to the potato intake with huge surges of glucose and insulin (double and triple those of the Caucasians) and much, much greater than their response to the bush potato.

**T** he research team, from medical schools and health services in New South Wales and Australia, point out that *urbanized Aborigines have ten times more adult diabetes than do Caucasians living in Australia*. Earlier studies demonstrated highly elevated glucose and insulin responses not only in Australian Aborigines after being tested with "fast-release carbohydrates such as white bread," but also in "other diabetes-susceptible populations such as Micronesians and Pima Indians." They speculate that a native diet of foods that released carbohydrates slowly may have protected Aborigines (and by inference native people in other countries) from developing diabetes. The ailment was unknown or rare in earlier traditional cultures. By the same token, diabetes has become a plague among Canadian Eskimos and North American Indians, once they abandoned their native diets for processed western foods. The researchers say Aborigines may have evolved with an endocrine system "better suited to metabolizing the slow-release carbohydrates in their traditional diet and may be unable to cope with fast-release carbohydrates in western diets."

## Let's Protect Ourselves

**P** otato happens to be a "fast-release carbohydrate," but at least it is a nutritious whole food. Eaten at a meal together with cooked vegetables, salad, and fish, for example, it no longer behaves like a "fast-release carbohydrate" and blood sugar stays on an even keel. The same can NOT be said for the stuff routinely consumed between meals by most people in the "civilized" world: soft drinks, sugared cereals, cookies, pastries and cakes, candy bars, and so on. While Native American Indians, Australian Aborigines, and Micronesians of the Pacific Islands are perhaps more genetically susceptible to quick blood-sugar surges from "fast-release carbohydrates," it strikes me that no racial group can be truly impervious to the bombardment of "fast-release carbohydrates" that punctuates our working and recreational lives today. Diabetes is by no means confined to non-Caucasians. Only a few hundred years ago, adult-onset diabetes was rare. Individuals of all races and cultures ate mostly "slow-release carbohydrates" because foods made of white flour and sugar were luxuries reserved for festive celebrations and for the rich. To me, the connection is formidable. ■



## ANTS & WORLD PEACE

**W** e've suffered for years in our house from irregular and what I always thought of as senseless invasions by ants, to which I responded with muted frenzy. Despair also comes to mind. Chemical warfare violated all my better instincts, but after five years of visitations during which my kitchen counters and wastebaskets quivered with life, I was ready for murderous, environmentally unsound tactics.



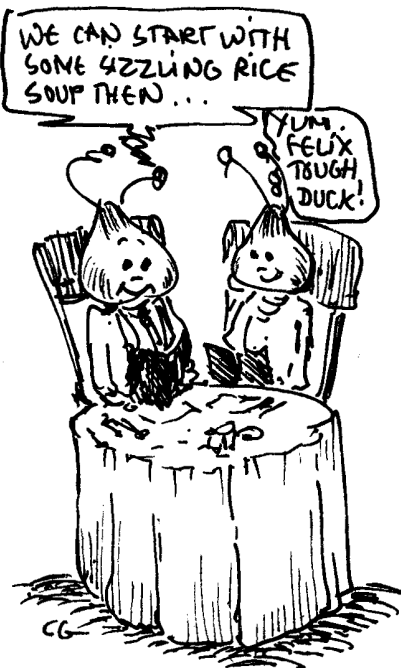
### Ant-Lemmings

The last straw was The Great Death March. This time, the ant trail led from our back porch, under the back door, and into the freezer compartment of our side-by-side freezer-refrigerator. Having reached the frozen wastelands of their goal(?), one by one the ants quietly curled up and died of the cold. None could retreat to sound the alarm, so day and night the trek continued. What must have been millions of little corpses resembling nothing so much as spent coffee grounds piled up mindlessly on the bottom freezer shelf. Every few days, shuddering, I'd shovel out a mound only to have it quickly fill up with the faithful of the Cryogenics über Alles movement. The only good thing that happened was I lost some weight: my habitual pilgrimages to the fridge every half hour for inspiration and a writer's unblocking nosh stopped because I got sick every time I looked at my once life-giving appliance.

### Resorting to Violence

After six weeks, during which I figured every ant within ten miles of our house had been drawn inexorably to The Point of No Return, the ant trail petered out and finally quit. I however, had become a raging animal where ants were concerned. Gandhi and Schweitzer be hanged! The next ant that waved its little feelers appraisingly in my kitchen was going to be the last. Our neighborhood nursery is a treasurehouse of euphemistically labeled garden sprays, each designed to destroy every living thing within a cubic acre. I had scorned them in the past, but my vision was clouded by desperation. The nice man there gave me a sure ant stopper. Its only side effect was it caused two-headed monsters to be born to women who inhaled it while pregnant, but since I'm past that age I said fine, I'll take it. There was a slight catch. One short burst would stop

the ants, IF DIRECTED SQUARELY AT THE POINT OF ENTRY. The stuff was too lethal to spray over any area larger than a dime—not the way I remember blithely shpritzing Flit all over my brother and the house, when we were young and carefree. Okay, so now each time an ant appeared, heralding the soon-to-follow invasion, I had to pinpoint the actual hole (usually just the size of an ant's head) in the baseboard or moulding behind which the troops were mounting relentlessly. For one solid year, I spent a good part of my time lying on the floor waiting to spot where the next ant was going to emerge. I don't want to talk about it any more. I have my dignity.



### Summitry

I think the problem is solved for all time. Each spring and summer when we plant our annuals, we do a nightly patrol with flashlight in one hand and trowel in the other. Simply put, we bash snails. In six dedicated years, we've done in thousands. They keep coming, but in fewer numbers and our garden gets prettier each year. Without poisons, we get more earthworms and better soil, and—this is the key—each squashed snail becomes a three-day banquet for the ants. This summer, a few weeks after we had ended the snail patrols, the first raid of the year took place. In the midst of my usual helpless fury, I suddenly recalled the ants had invaded the same time last year. A Flash of Creative Insight struck. (Trumpets, please.) Quietly and somewhat

sheepishly because I didn't want anyone to challenge my experiment, I took some tiny bits of leftover fish from dinner and placed them along the trail outside where the ants were massing for the assault. The first week, the neighborhood cats started scarfing up the fish, so I began putting the scraps under a 3-legged planter where the cats couldn't get at them. The ants continued trickling into the kitchen at first, but after three days they all went back outside. The had become devotees of the new al fresco cuisine. That was three months ago. They haven't been back in the house since. We feed our little brothers crumbs of leftover meat, fish or cheese every day or two. They live their lives, we live ours. Call me St. Frances, I don't mind. ■

This issue is dedicated to the memory of Dr. Carlton Fredericks, who died July 31 suddenly of a heart attack at his home in New York at the age of 78. He shined a steady light for all of us in nutrition. His pioneering concepts of nutrition as preventive medicine brought on heavy guns from the medical establishment, but he never buckled under. He had guts, integrity, and he lived to see many of his 'radical' ideas incorporated into standard medical practice.



Illustrations are by Clay Geerdes and other artists as noted.

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