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from

The Duke Patient/Family Resource Center

The Duke Patient/Family Resource Center is

- A lending library offering books, audio and video tapes, magazines and free brochures dealing with cancer and certain blood disorders and with issues of coping, survivorship, caregiving, and grieving
- Open 8:30 to 5:00 every day the Morris Clinics are open
- Located in the White Zone, first floor, of the Morris Cancer Clinic, Room 15123.
- Our phone number is 919-684-6955. Our email address is FamilyLibrary@mc.duke.edu



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Contents:

[Those Confounding Studies:](#)

[Low-fat Diets Disappoint](#)



Dr. Sydney Spiesel, writes on Slate.com, "It's maddening. Over and over again we have ideas about how to treat a medical problem - ideas that are perfectly rational, that ought to work, and that even seem to work when we first try them out. And then, blam! We get slapped upside the head by science one more time."

He might've added that it's especially frustrating when the discredited treatment is something affordable that anyone can do to try to help their situation, like something involving diet, exercise or health food supplements. Just the sort of thing we try to keep our readers "in the know" concerning.

Three recent news-making studies illustrate Dr. Spiesel's point.

1. The low-fat diet study from the Women's Health Initiative (WHI). Apparent findings: low-fat diet doesn't help prevent cancer or heart disease.
2. The calcium and vitamin D supplements initiative from the Women's Health Initiative. Apparent findings: these supplements do not help prevent bone fractures later in life, even though they increase bone density slightly.
3. The glucosamine and chondroitin study from the National Center for Alternative and Complementary Medicine. Apparent findings: these substances have no effect on osteoarthritic joint pain.

While only the first study is relevant to cancer, every study strips from our hands a tool we may have been using to palliate or help prevent one or another of our age-related problems. Low-fat diet in

relation to cancer and heart disease. Calcium supplements in relation to osteoporosis. And glucosamine-chondroitin in relation to age-related joint pain (osteoarthritis). In each case too, the press has picked up the news and hyped it, e.g. "Guess what! Those cheeseburgers might not be hurting you after all, but dump all the tedious pills you've been taking for your bones and joints."



Well, not so fast there. Even the highly accredited, well-controlled, large sample studies such as the three just cited can have their weaknesses. We'll spend our time on the low-fat studies, since these are the ones most pertinent to cancer patients.

A Closer Look at the Women's Health Initiative Study. The Women's Health Initiative was opened in 1991 to track the most common causes of death, disability and poor quality of life in postmenopausal women -- cardiovascular disease, cancer, and osteoporosis. The Initiative made history when it released its findings showing that, contrary to medical wisdom up to that point, the use of hormone replacement therapies after menopause had few beneficial and, in fact, many detrimental effects on women's health. The vast estrogen industry took a major hit from this news. Now when the WHI speaks, people listen. But they need to listen very carefully.

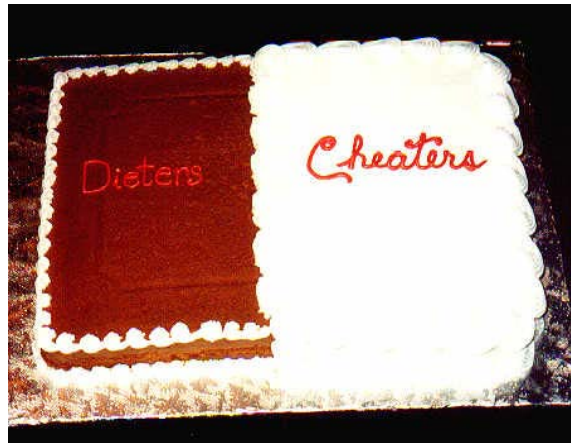
The low-fat diet study was launched a little over 8 years ago when many lesser studies had begun to suggest that the American high fat diet might be responsible for our elevated rates of heart disease and cancer. Certain common cancers, in particular, breast cancer and colorectal cancer, were thought to be tied into fat.

The study set up a test group of about 24,000 postmenopausal women who were coached to reduce the calories they received each day from fat down to no more than 20% of their total caloric intake. The control group, of comparable size, continued to eat as they had (though they were given health information). The two groups were tracked over 8 years.

At the end of this period, the study found no significant difference in rates of colorectal cancer, stroke, and heart disease between the

low-fat group and the control group. The low-fat group did show a small -- but not statistically significant -- reduction of risk for breast cancer.

The Weaknesses of the Study. Diet studies all share two outstanding weaknesses. (1) Diets are hard to follow and many people on the study will start backsliding, often without realizing it. (2) The study must take the word of the participants concerning what they ate or did not eat. Self-reports on eating are notoriously hard to assess.



True to form, the test group in the WHI study did not on average achieve the reduction of fat to only 20% of their caloric intake. The best they could do was 24% in the first year, rising to 29% by year eight. (Some dieters fell by the wayside, so in the end there were only 20,000 dieting subjects). If we add to this the fact that they may also have been under-reporting their fat consumption, the distance from the proposed 20% goal may have been even greater than apparent. Since the control group, eating normally, averaged 34% of total calories from fat, how big a difference was there between the two groups? Enough difference to make a difference? One wonders. Because no statistically significant differences were found in the health results.

A third weakness affects all studies that cover a long period of time. Science may change over that interval and the design of the study, which cannot change, will not be able to take this into account. Many medical commentators and the American Institute for Cancer Research have remarked that no one worries about just plain fat anymore. Rather the current thinking is that there are bad fats that increase health risks and good fats that reduce them. We should be measuring the consumption of those, not the consumption of fat in general.

No one wants to say that such a large, expensive, and - at the time - well designed piece of research wound up being a waste of time. But, well, what other conclusion can you draw?

Breast cancer and fat? It's possible to tweak one piece from the overall wreckage, though it is no more than a whisper of a faint suggestion. What about that tiny statistically insignificant difference in breast cancer risk in the dieters vs. the control group? While it could be due to chance, it could also be the echo of a finding that came out recently from a more tentative study. As reported at the 41st Meeting of the American Society for Clinical Oncology, and here in our May 2005 Newsletter, early breast cancer patients, seeking to prevent a recurrence of their cancer, did benefit from a low-fat diet, and the most dramatic benefit came to women whose cancer was estrogen-receptor negative. It is worth repeating here the findings of the smaller study which was entitled the Women's Intervention Nutrition Study (WINS) :

The [study](#) involved more than 2,400 post-menopausal women who had been treated for early-stage breast cancer. The women were divided into two groups. The first group was randomly chosen to follow a low fat diet, consuming about 33 grams of fat a day. The second group followed a normal diet, eating around 51 grams of fat a day. Although each group worked with a dietitian, only the low fat group had regular consultations.

Five years on, researchers found that the women in the low fat group reduced their risk of recurrence by 24%. But surprisingly, women in the low fat group whose tumors had been estrogen-negative, lowered their risk of recurrence by 42%. Estrogen-negative tumors are considered harder to treat since they can't respond to hormone-blocking drugs such as tamoxifen.

It must be pointed out that the WHI low-fat study did not include breast-cancer survivors, and thereby excluded women at heightened risk for one of the cancers under study. Moreover, only 25% of post-menopausal breast cancers are of estrogen-negative type, meaning that the beneficial effects of low-fat in the WHI group of 20,000 cancer-free women would have effected only a tiny minority of the sample. If nonetheless a tiny difference in breast cancer risk did emerge between the dieters and the control group, this may not have been a fluke, but rather the reflection of an actual drop in the appearance of estrogen-negative tumors for the sample as a whole. It's a thought.

It is doubtful that those who are as yet cancer-free will relinquish their cheeseburgers on the slim chance that an estrogen-negative breast cancer lies in their future. But the point remains: it has not been disproven by the WHI study that dietary fat (fat in general, not just "bad" fat) has a relationship to at least one form of breast cancer.

To add a personal footnote to the discussion of studies, I gave up my glucosamine-chondroitin supplements after reading that they did no good. In 10 days, I had three joints in bad trouble. Three days after I resumed the supplements, the joint pain cleared up. Moral of the story? Hidden in these large-scale studies, there can always be sub-groups of people that react differently from the majority.

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