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**GUIDE TO  
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## *In the Know*

### Connecting Patient / Family Library Patrons To Information, Ideas and Resources

February 2005

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](mailto:FamilyLibrary@mc.duke.edu)

**Resource Center Coordinator:** [Harriet Whitehead, PhD](#)

**Cancer Patient Education Program Director:** [Kerry Harwood, RN, MSN](#)

**Lifestyle Update**



In July, August and September of 2003, we did a sequence of newsletters on Nutrition and Cancer, Nutritional and Herbal Supplements, and Physical Exercise for Cancer Recovery (go to <http://www.cancer.duke.edu/pated/pfrcnews> and click on previous issues). These could be summed up as "lifestyle" approaches to cancer concerns. We tried to answer questions regarding the role of diet, the role of alternative substances and the role of exercise in either preventing, treating, or recovering from cancer.

In this newsletter, we will attempt an update of some of the topics covered in these previous issues, especially the topic of nutrition. There is a lot of breaking news on the nutrition front and not all of it is what we want to hear.

### Nutrition and Cancer



**First the bad news:** In 2003, we followed the enthusiastic recommendation of the American Institute for Cancer Research (AICR) that a person eat 5-9 servings of fruits and vegetables per day to lower cancer risk (think of a serving as 1/2 cup). I had great fun going on Google Images and decorating the pages of that

newsletter with mangoes and broccoli spears and brussel sprouts. Alas! New studies have come out making it look as if the fruits-and-veggies diet is about to join the low-fat-high-fiber diet in cancer-fad limbo.

Here are the details. This November *The Journal of the National Cancer Institute* published the result of a massive long-range survey coming out of the Dept. of Epidemiology, Harvard School of Public Health. The conclusions: "Increased fruit and vegetable consumption was associated with a modest although not statistically significant reduction in the development of major chronic disease. The benefits appeared to be primarily for cardiovascular disease and not for cancer." [J Natl Cancer Inst. 2004 Nov 3; 96 (21): 1564-5.]

Then more recently, in January 2005, the *Journal of the American Medical Association* (JAMA) brought out their report on the virtues of diet in preventing *breast* cancer. Their study showed no particular relationship between a high fruit and vegetable diet and decreased breast cancer risk.

Well, heck.

Naturally, the American Institute for Cancer Research has been perturbed by these findings, but so far is sticking by its recommendations. The AICR website, <http://www.aicr.org/index.lasso>, offers both an official position statement by their senior science advisor, entitled, "AICR Statement on New JAMA Studies," as well as a longer defense of their cancer risk guidelines, entitled, "Cancer Guidelines Really Do Help." (Use their search function to find these).

Their nine recommended cancer guidelines are

1. Be no more than 11 lbs. heavier than you were at age 18 (Oh, right!)
2. Exercise daily
3. **Eat at least 5 servings of fruits and vegetables daily**
4. Get enough complex carbohydrates from whole grain
5. Limit alcohol
6. Avoid red meat
7. Avoid salt
8. Avoid fat
9. Avoid, most especially, tobacco

They cite the fact that in a 13-year study following 29,564 women between the ages of 59-65, it was found that those who were least compliant with the guidelines (following one or none) had a 35% greater incidence of cancer than the ones who were most compliant (following "most" of the guidelines). This sounds very powerful, but how much of this difference can be credited to the fruits and veggies? Parsing their text carefully, we find that the answer is "Not very much." Here's the essential phrase:

"The median number of recommendations met by the women was four. None of the women adhered to all nine recommendations. The highest compliance was for limiting alcohol and the lowest compliance was for eating vegetables and fruits."

Hmm. There is still plenty of room for debate, however, because all studies of diet are flawed. Think about it. How do we really know how much of what people in your study actually ate? Especially when you're asking them to remember! In fact, one of the most useful publications on the AICR website, complete with riotous cartoons, is the interactive one entitled, "Solving the Diet-Cancer Mystery." Here they explain, in plain language, how these famous studies work and why none is perfect. Take the issue of taking people's word for what they have eaten in the past. Some studies do this. Here's the AICR cartoon commentary on that practice.



"Well, if I recall correctly, on April 17, 1991, at 6:37 p.m. Eastern Time, I ate 6 ounces of grilled salmon steak, farm raised, 2/3 cup of rice, 1/2 cup steamed broccoli, 1 cup of mixed salad greens with 2 tablespoons of French dressing, a 12 ounce glass of unsweetened iced tea and 3 scoops of Tin Roof ice cream for dessert."

What I think I hear AICR saying here is that yes, their own favored studies may be flawed in some respects, but the new contradicting studies could be flawed in other respects. So take your pick. I myself am sticking with vegetables, at least until I've run through the delicious veggie recipes listed on the AICR website. That could take a while. Maybe more studies will have come out by then.

Meanwhile, is there any news regarding the other "guidelines?" And is there any new buzz going around cancer-land on new at-home ways to reduce our cancer risk? In fact, yes.

**Now the better news:** Once we leave the area of fruits and vegetables, we find a small collection of positive possibilities to pursue.

**1. Lighten up on certain meats.** As the JAMA reports in that same January 12th issue, the dietary link between colorectal cancer and certain meats still seems to be holding strong. The meats in question are red meat (primarily beef) and all processed meats (ham, bacon, sausage, bologna). Just cut out those few guilty pleasures and one can, they argue, significantly reduce one's risk of getting colon cancer.

According to a separate study, breast cancer too, maintains an association with

red meat, as well as with high-fat dairy products. (Is the cow really our friend?) But this is true only in the sample of *premenopausal* women. For postmenopausal women, no such relationship was found. [Journal of the National Cancer Institute, v 95, no. 14, pp. 1079-1085, July 16, 2003)



**2. Alter fatty acid ratios.** So far this is "buzz" rather than well-studied fact, but the buzz is that if one changes the ratio of Omega-3 fatty acids (found primarily in deep ocean fish) to Omega-6 fatty acids (found primarily in animal fats and vegetable oils, *excluding canola and olive*), so that 3 predominates over 6, this has a notable anti-cancer effect. This change has been demonstrated IN MICE ONLY to actually retard breast, lung, colon, and prostate tumor development. Bear in mind that lab mice have been cured of cancer a thousand times over; indeed it is one illness that mice probably need never worry about again, while human beings, trying the same treatments, have failed to quite clear the bar. But look at it this way - how hard is it to take a fish oil supplement every day or eat a salmon or tuna dinner twice a week while switching exclusively to canola or olive oil for cooking and dressing salad?



It might help and does not hurt, so no harm in trying. Omega-3 is also considered "heart smart" making it one of the few substances that carries benefit for both heart disease and cancer.

But what about the mercury that one hears is present in most fish and shellfish? The risk is primarily for developing fetuses and need not interfere with a high Omega-3 diet for most (non-pregnant) adults. For a useful discussion, go to <http://www.epa.gov/ost/fishadvice/advice.html>

As an additional note, Consumer Lab, which tests supplemental and alternative

products for their safety and purity, tested 41 Omega-3 supplements commonly found on the market and found *none* to have mercury or other pollutants. Only three of the 41 were rejected because of spoilage or because of lower than stated levels of the Omega-3 substances. These were

- *Health From the Sun The Total EFA*, a softgel, contained only 51% of the claimed EPA and only 59% of its DHA despite a statement on its label that it was manufactured following Good Manufacturing Practices (GMPs).
- *Garden of Life® (Formulated by Dr. Jordan S. Rubin) Olde World Icelandic Cod Liver Oil™ (Lemon Mint Flavor)*, a liquid product, was spoiled — as indicated by an elevated amount of both peroxide (indicating recent spoilage) and anisidine (indicating longer-term spoilage).
- *EHP Products Salmon Oil*, a soft-gel supplement, contained only 53% of its claimed EPA.

The Consumer Lab website is <http://consumerlab.com>, but a subscription is required to view the whole list of any tested product.

**3. Consider boosting Vitamin D.** Once again this is buzz, and so far not even adequately tested on mice, but Vitamin D is beginning to look like the mystery link in a number of rather paradoxical findings regarding sun exposure. As you may or may not know, Vitamin D is produced in the body when ultraviolet B light hits a precursor molecule in the skin. Since a certain amount of Vitamin D is essential for bone health, populations prehistorically settled in the northern climates where the rays of the sun are weak and winter long, have evolved the fairest skins of the world's populations. Their skins are uniquely open to whatever sunlight is available to stimulate the production of Vitamin D. Conversely, populations ancestrally settled in the tropics, used to getting more sun than they really needed, have evolved a natural "sun-block," melanin, which darkens the skin while protecting against the skin damaging, and carcinogenic effects of the sun.

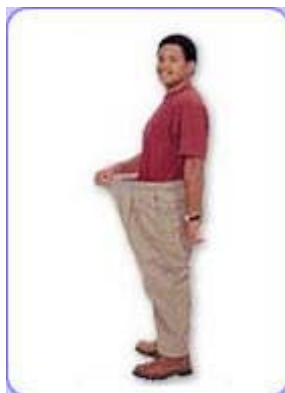
Now for our first intriguing paradox. It was observed, years ago, that prostate cancer mortality is higher in the darkest skinned populations in the world, Africans and African-diaspora populations; and in the fairest skinned populations, Scandinavians. What could be going on here? The speculation is that neither of these populations are benefiting sufficiently from the kind of sun exposure that triggers the body's production of Vitamin D. Very dark skinned folk have too much melanin blocking those rays, especially when they do not live in the tropics. And the Scandinavians live at a latitude where the rays of the sun are less intense. It might be added that most very fair-skinned people in developed countries now slather on sun-block when they go out because they have learned to fear skin cancer. Sun-block would, of course, reduce even further the benefit they might be getting from the rays of the sun. If Vitamin D deficiency (slight, but significant) really is the thing these two populations have in common, then Vitamin D has some action against prostate cancer. Some clinical trials are underway. [See *Journal of the National Cancer Institute*, 96:10, May 19, 2004]



Another paradoxical study links extensive sun exposure to one's ability to weather early-stage melanoma without a recurrence. Melanoma is a cancer that is caused by extensive sun exposure. The cause and the surprisingly useful 'treatment' are the same, in other words. (This isn't so uncommon in the world of cancer). There is sketchier evidence linking inadequate sun exposure to non-Hodgkin's lymphoma as well. [Journal of the National Cancer Institute, 97:3, Feb 2005] Once again, Vitamin D is suspected to be the tumor retarding agent.

How to get more D? The prostate cancer researchers interviewed for the article cited above tell us that "a mere 15 minutes of sun exposure, three times a week" will boost Vitamin D levels. I suspect this is advice for the fair-skinned not the dark-skinned population. If you wish to supplement nutritionally, Vitamin D is present in cod-liver oil and oily fish (salmon, mackerel, and sardines) - so if you've decided to increase your Omega-3, you may be taking the right stuff already. Otherwise there are supplements at any health food store as well as vitamin fortified orange juice and milk.

**4. Lose weight.** I won't belabor this, since you're hearing it from every direction already, and I would also concur with oncologists who advise you NOT to diet while receiving cancer treatment. Keeping up your strength during treatment takes priority. But if you are interested primarily in prevention (of first time or recurrent cancer), a weight loss program is an important weapon in your arsenal. The fat already on your body should be thought of as a pharmacologically active substance. It produces hormones and growth factors that pervade the body and can become the favorite food of a budding cancer. The four cancers most likely to be influenced by extra fat cells are breast, prostate, colorectal, and kidney.



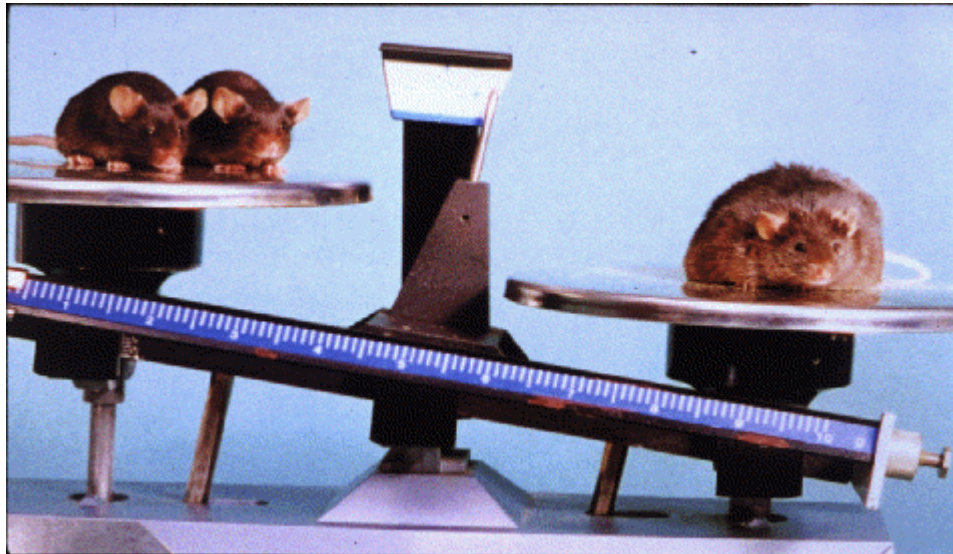
Less fat on your body should not be confused with a low-fat diet. The fat content of your salad dressing or cheese sandwich is not what is posing a cancer risk; it is the fat already on your frame. Any diet that helps you reduce that bulk is the diet you should pursue. Another paradox: the Atkin's Diet, famous for allowing people to indulge in what are thought of as very cancer-dangerous foods (all the meats, processed and otherwise, dripping in their fats with butter added!) has helped some very diet-weary people break through their body's usual diet resistance and achieve dramatic (if sometimes temporary)

weight loss. When this happens, it becomes, despite its weird recommendations, a risk reducing diet - both for cancer and for cardiovascular disease. But the

Atkin's Diet has unwelcome side-effects, such as gout and bad breath, and cannot and probably should not, be maintained long-term. (Besides all that steak is expensive!) The trick is to segue to a more balanced diet after a while, while preserving one's lighter figure. We recommend expert supervision of any ambitious diet plan.

A useful web discussion of the low-carb diets can be found at <http://www.healthyeatingclub.com/info/articles/body-shape/lowcarbevidence.htm>

**5. Learn more about caloric restriction.** There's a huge discussion waiting in the wings on the relationship between eating and aging, and aging and cancer. I hope to be able to cover it in a future newsletter because its too complex for the current one. But the buzz so far is this: Aging is the single biggest risk factor for cancer. The only process shown to slow aging in mammals (MICE!) is restricting caloric intake to the minimum needed to prevent malnutrition. For MICE, this is about half of what they would normally eat if left alone. They do get a bit thin. But their life-spans are dramatically lengthened. Accordingly, the age at which cancer begins to appear in these very trim mice is dramatically delayed.



What is the take home message from the thin mice?

Eat a bit of *nothing* every day.

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