



E & N News to Use *for cancer patients, survivors and caregivers*

EXERCISE & NUTRITION during/after* **CANCER**

CURRENT PEER-REVIEWED MEDICAL LITERATURE and EXPERT COMMENTARY
from **RELIABLE SOURCES** and **DR. BLEYER**

*Studies on cancer prevention are included if they have special relevance to cancer survivors

June 2009

The 12 months of 2008 *E&N News* are now available as a **year summary** for downloading, either for exercise or nutrition (with each including reports on the combination of exercise and nutrition) at www.defeatcancer.info. Both versions include executive summaries and are indexed and bookmarked.

E&N News is now listed as **one of 7 resources recommended by MD Anderson Cancer Center** in the *Complementary Therapies, General* category and endorsed by the Cancer Patient Education Network of the National Cancer Institute. The MD Anderson Cancer *Complementary/Integrative Medicine Educational Resources* resource (www.mdanderson.org/departments/CIMER) is rated #1.

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▶ **Exercise and Nutrition**

Healthy lifestyle behaviors slow decline in long-term cancer survivors

[A randomized controlled trial of older cancer survivors \(65 to 91 years of age\) from 21 US states, Canada, and the United Kingdom demonstrates the benefit of an intensive telephone-based lifestyle intervention program on outcomes of function, behaviors, weight, and quality of life](#)

Medscape Medical News – May 19, 2009

News Author: Roxanne Nelson

Source: JAMA. 2009;301:1883-1891.

May 19, 2009 — Older long-term survivors of colorectal, breast, and prostate cancer might be able to stave off functional decline by changing dietary and physical-activity behaviors. After participating in a home-based tailored program of telephone counseling and mailed materials, cancer survivors experienced modest weight loss and clinically meaningful improvements in physical function and other health-related quality-of-life domains, researchers report in the May 13 issue of the Journal of the American Medical Association.

The mean baseline Short-Form (SF)-36 physical function score was 75.7, but at the 12-month follow-up, the researchers noted that mean function scores declined less rapidly in the intervention group (−2.15; 95% confidence interval [CI], −0.36 to −3.93) than in the control group (−4.84; 95% CI, −3.04 to −6.63; P = .03).

There was a statistically significant difference in basic lower-extremity function between the 2 groups. Function changed negligibly in the intervention group, whereas a decline in function was observed among the controls. The 5-year survival rates for early-stage colorectal, breast, and prostate cancer are increasing, and currently exceed 90%, but cancer survivors remain at greater risk for second malignancies, chronic diseases, and accelerated functional decline. Even though lifestyle interventions might reduce the risk for disease and functional decline, the authors note, many older cancer survivors report poor lifestyle behaviors, and few meet the recommendations in health-promotion guidelines. Their dietary and physical-activity behaviors are frequently suboptimal, even though most patients are nonsmokers.

Older Adults Not Targeted

There is great interest in exercise- and diet-related approaches among cancer survivors, but the majority of these interventions for cancer patients have targeted younger individuals, those undergoing treatment, and those with recent diagnoses, the authors write. However, older adults are an important group because cancer and its treatment are associated with accelerated functional decline, and maintaining mobility and functional independence in at-risk older individuals has been established by the Centers for Medicare & Medicaid as the sole priority in aging research. "Older adults are just as motivated as younger adults," said lead author Miriam C. Morey, PhD, associate professor of medicine at Duke University School of Medicine in Durham, North Carolina. "I believe any nonacute-care visit is an appropriate time to approach cancer survivors about practicing healthier lifestyles."

But reaching out to long-term survivors can be challenging, explained Dr. Morey, because many long-term cancer survivors are no longer under the care of their oncologists.

"The primary-care setting might be a more ideal setting [to approach patients] — one in which primary-care providers serve as the referral source for potential participants who stand to benefit from this type of intervention," she told Medscape Oncology. "We need to find ways to improve provision of lifestyle changes in standard primary care or, alternatively, to develop methods of facilitating self-enrollment, perhaps over the Internet, for programs providing ongoing lifestyle-modification programs."

Thus far, it has been unclear whether long-term cancer survivors could modify their lifestyle behaviors sufficiently to improve functional status. Dr. Morey and colleagues evaluated whether a telephone counseling and mailed print-material-based diet and exercise intervention would be effective in reducing functional decline in older overweight cancer survivors.

Improvement Seen in All Measures

Reach Out to Enhance Wellness (RENEW) is a randomized controlled trial that evaluated the efficacy of a home-based diet and exercise intervention aimed at reorienting the functional trajectory of older long-term survivors of breast, prostate, and colorectal cancer. Included in this cohort were 641 overweight (body mass index, =25 and < 40 kg/cm²) individuals who were diagnosed with cancer at least 5 years previously, who were 65 years or older at

enrollment, and who had no evidence of progressive disease or secondary cancers. Trial recruitment took place from July 1, 2005 to May 17, 2007.

The intervention consisted of a personally tailored workbook and a series of quarterly newsletters, combined with 15 telephone counseling sessions and 8 automated prompts over the course of 12 months. The control group received no intervention during the same period.

In addition to changes in physical function as measured by the SF-36, the researchers observed significant differences between the intervention and control groups for all targeted behaviors except endurance-exercise frequency. Duration of strength-training exercise increased in the intervention group and remained stable in the control group (mean, 18.7 vs 2.7 minutes per week, respectively), and the duration of endurance exercise also increased for the intervention group (mean 36.3 vs. 23.4 minutes per week). The average intake of fruits and vegetables increased by 1.24 daily servings in the intervention group and by 0.13 daily servings in the control group. Individuals in the intervention group decreased their daily consumption of saturated fat by 3.06 g, compared with 1.07 g in the control group. An average weight loss of 4.5 pounds was also reported by participants in the intervention group, which is more than double the 2.03-pound weight loss in the control group.

The researchers reported that overall health-related quality of life decreased on every subscale among participants in the control group during the study period, whereas decreases in subscale scores were of lower magnitude and were sustained for overall health and mental health in the intervention group.

"Future studies should not only assess the effect on health and well-being, but also should address cost-related outcomes, especially given that the economic burden associated with functional decline and loss of independence is exceedingly high," they conclude.

Dr. Morey explained that as they work on the next step of their research, their first priority is to try to reduce the costs of the counseling program. "We plan to test a similar intervention that is initially based on mailed materials, with telephone counseling for those who need additional support," she said. "This will reduce costs and enhance generalizability."

Summary

- Included were 641 adults 65 years or older with a body mass index between 25 and 40 kg/m² with breast, prostate, or colon cancer at least 5 years ago without progressive disease or second cancers.
- Excluded were adults in institutions and those with hearing or speaking impairment or contraindications to exercise.
- 319 were randomly assigned to the intervention for 12 months and 322 to delayed intervention starting after 12 months.
- The Reach Out to Enhance Wellness intervention consisted of a personally tailored program with use of a workbook and a series of quarterly newsletters, supported by telephone counseling and automated prompts (15 sessions and 8 prompts during 12 months), with a total cost of \$1000 per person.
- Participants received information on how well they were meeting lifestyle behavior goals, and the workbook provided target goals for strength training (15 minutes per day), endurance exercise (30 minutes per day), and consumption of 7 servings for women and 9 servings for men of fruits and vegetables daily.
- They received a pedometer, exercise bands, and instructions for exercise.
- Counseling was conducted by a health educator weekly in the first 3 weeks, every other week for 1 month, and then monthly based on readiness to change.
- Primary outcome was physical function as measured by the physical subscale of the SF-36 questionnaire.
- Basic and advanced lower limb function was assessed with subscales of the Late Life Function and Disability Index.
- Secondary outcomes were physical activity levels, dietary intake, body mass index, and individual health behaviors.
- Mean age was 73 years, 89% were white, 46% were men, 62% had some college education, 6% were current smokers, 45% had breast cancer, and 41% had prostate cancer.
- Mean duration since cancer diagnosis was 8.6 years, and mean body mass index at baseline was 29.1 kg/m².
- The 3 most prevalent comorbidities were arthritis, hypertension, and circulatory problems.
- 85% completed the 12-month assessment of the SF-36.
- On a scale of 0 to 100, baseline physical function score was 75.7, and basic lower extremity score was 78.2.
- SF-36 physical function scores decreased by 2.15 in the intervention group vs 4.84 (P = .03) in the control group, indicating a smaller decline in physical function with the intervention.
- In the intervention group, there was limited change in lower extremity function (mean, 0.34), whereas there was a decrease of 1.89 points in the control group.

- There was no significant difference in advanced lower limb function between the groups.
- The intervention group showed significantly greater adherence to targeted behaviors of strength training exercise, increased vegetable and fruit intake (increase by 1.24 vs 0.13 servings daily), with 28% achieving recommended strength-training goals vs 11% in the control group.
- The authors concluded that the intervention improved lifestyle behaviors and outcomes of physical function, weight loss, and basic lower limb function during 12 months in long-term cancer survivors.
- Overall health-related quality of life decreased on every subscale in both groups, but decreases were smaller in the intervention group.
- Weight loss was significantly greater in the intervention group (2.06 kg vs 0.92 kg).
- There was no significant difference in frequency of endurance exercise.

Dr. Bleyer:

- ☑ This is a very important study since it shows that the benefits of **E&N** in middle-aged adults with cancer can also be successfully applied to older adults
- ☑ Elderly patients are rarely studied for quality-of-life issues, yet because they have fewer years of life left, the quality of their remaining years could not be more important
- ☑ A relatively simple telephone and behavioral intervention significantly helps the most elderly patients achieve more exercise, greater weight loss, and a better quality of life, and all within less than a year

Diet and exercise intervention helps older, overweight cancer survivors reduce functional decline

[More on prior report]

[More on the preceding report: A home-based diet and exercise program reduced the rate of functional decline among older, overweight long-term survivors of colorectal, breast and prostate cancer](#)

"In 2008, the Centers for Medicare & Medicaid Services declared mobility maintenance and functional independence among at-risk older individuals as the sole priority in aging research. Older cancer survivors represent an important target because cancer and its treatment are associated with accelerated functional decline," the authors write. The practice of healthy lifestyle behaviors may reduce risk for disease and functional decline. However, many older cancer survivors report poor lifestyle behaviors, and few meet recommended health promotion guidelines. "Lifestyle interventions may provide benefit, but it is unknown whether long-term cancer survivors can modify their lifestyle behaviors sufficiently to improve functional status."

Miriam C. Morey, Ph.D., of Duke University, Durham, N.C., and colleagues conducted a randomized, controlled trial that tested a home-based diet and exercise intervention and its effect on functional decline among **641 older (age 65-91 years)**, overweight (BMI 25 or greater and less than 40) long-term (5 years or greater) survivors of breast, prostate, and colorectal cancer. The participants were randomly assigned to an intervention group (n = 319) or delayed intervention (control) group (n = 322) in Canada, the United Kingdom, and the United States. The 12-month intervention consisted of a home-based program of telephone counseling and mailed materials promoting exercise, improved diet quality, and modest weight loss. Change in functional status was assessed using the physical function subscale of the Medical Outcomes Study Short-Form 36 (SF-36) questionnaire (score range, 0-100; a high score indicates better functioning). Other outcomes included changes in function on the basic and advanced lower-extremity function (i.e., use of legs) subscales of the Late Life Function and Disability Index (score range, 0-100), physical activity, body mass index and overall health-related quality of life.

The average physical function score at the beginning of the study was 75.7, which is comparable with the median (midpoint) score for men and women age 65 years or older. For the SF-36 physical function subscale, the average function scores declined less rapidly in the intervention group (average score change of -2.15) than in the control group (average score change of -4.84). There was a statistically significant difference between study groups in basic lower-extremity function as function changed negligibly in the intervention group, whereas the control group showed a decrease in function.

There were significant differences between the intervention and control groups for all targeted behaviors except endurance exercise frequency. Duration of strength training exercise and endurance exercise minutes increased in the intervention group and remained stable in the control group. The average intake

of fruits and vegetables increased by 1.24 daily servings in the intervention group and by 0.13 daily servings in the control group. The average consumption of saturated fat decreased by 3.06 grams per day in the intervention group and by only 1.07 grams per day in the control group. Participants in the intervention group reported an average weight loss of 4.5 pounds, which was more than twice that reported by the control group (2.03 pounds).

Overall health-related quality of life decreased in every subscale in the control group throughout the 12-month period. In the intervention group, decreases in subscale scores were of lower magnitude and were sustained for overall health and mental health.

"In conclusion, this study provides data on a **long overlooked, yet important faction in older long-term cancer survivors**. Long-term survivors of colorectal, breast, and prostate cancer participating in a diet and exercise intervention reduced the rate of self-reported physical function decline in comparison with a group receiving no intervention," the researchers write. "Future studies should not only assess the effect on health and well-being, but also should address cost-related outcomes, especially given that the economic burden associated with functional decline and loss of independence is exceedingly high."

Dr. Bleyer:

- ☑ This version of the preceding report emphasizes the maintenance of overall physical and mental health in the exercise group versus deterioration in the control group overall and in all subcategories of quality of life that were assessed

Green tea may help reduce levels of some compounds associated with prostate cancer progression

[Green tea may reduce the levels of compounds linked to prostate cancer progression](#)

Following a BBC News story, Shari Roan pointed out in the Los Angeles Times (6/22) Booster Shots blog that "men with prostate cancer might want to include green tea with their meals," because **Louisiana State University** researchers have found that it may actually "reduce the levels of some compounds linked to prostate cancer progression." Through their study of 26 prostate patients, who were given "a concentrated extract of tea polyphenols for an average of 34 days," the team was able to see "a significant reduction in the levels of several growth factors that promote cancer as well as reductions in prostate specific antigen." In fact, "some men had reductions in growth factors of up to 30 percent." But, according to the paper detailed Cancer Prevention Research, "the response varied among the men for reasons that researchers don't yet understand."

Dr. Bleyer:

- ☑ **DEFEATcancer** is skeptical that a single dietary substance can have a major effect in controlling cancer progression; more likely, broad change in nutrition is necessary to affect risk of recurrence and progression
- ☑ Nonetheless, discovering individual food substances that have a modest effect can ultimately lead to fundamental concepts of nutritional-related cancer progression that, when combined with exercise, will be much more effective
- ☑ Meanwhile, **DEFEATcancer** recommends a plant-based drink and food diet, and for prostate cancer patients, a generous inclusion of green tea

Certain bariatric procedures may reduce women's cancer risk, research suggests [Prevention]

[The evidence that weight reduction substantively reduces cancer risk, by as much as 50%, is mounting, at least in females](#)

The AP (6/24, Cheng) reports, "Women who have their stomachs stapled not only lose weight, they also may reduce their cancer risk," according to a Swedish study appearing online in The Lancet Oncology. This finding may generate much interest, considering that the scientific community has "long thought obese people have a higher cancer risk, possibly because fat cells produce hormones that might lead to the disease." Researchers have been unable "to prove," however, "that losing weight in other ways, including dieting, reduces that risk."

Other studies, however, have been able to show that bariatric procedures can reduce the risk of heart disease-induced mortality and reverse diabetes, as well as improving health-related quality of life, according to Reuters (6/24, Steenhuisen). Aiming to see if that finding would hold true for cancer, the

Sahlgrenska University Hospital team reviewed data collected on 2,010 obese patients who underwent surgery and 2,037 obese patients who tried to lose weight through diet and exercise.

They found that those who opted for a weight-loss procedure "lost about 44 pounds, while those who didn't gained about three pounds," HealthDay (6/23, Reinberg) added. More intriguingly, "over almost 11 years of follow-up, the researchers found that **women who had weight-loss surgery lowered their risk of cancer by 42 percent compared with women who did not have the surgery.**" In fact, the "type of surgery influenced subsequent cancer risk in women," MedPage Today (6/23, Bankhead) reported.

"Banding reduced cancer risk in women by 46 percent and vertical banded gastroplasty by 56 percent," but "gastric bypass did not reduce cancer risk in women." What's more, "**obesity surgery did not affect cancer risk in men**, a finding consistent with previous reports."

This, said an expert who was not involved in the study, "may be because many tumors are linked to sex hormones, and such cancers are more common in women than in men," WebMD (6/23, DeNoon) added. But, Mitchell Roslin, MDF, of Lenox Hill Hospital, maintained that the "findings hold out hope to men as well. That's because of a mysterious finding: Protection against cancer risk was not directly linked to the amount of weight women lost or to the smaller amount of food they ate." He concluded, "If we could understand which mechanism mediates the protection after gastric surgery, it might be possible to influence this in a favorable way with drugs or nonsurgical interventions." BBC News (6/23) also covered the story.

Dr. Bleyer:

- ☑ The evidence that weight reduction substantively reduces cancer risk, by as much as 50%, is mounting, at least in females
- ☑ The males may not benefit from the cancer risk reduction provided by bariatric surgery may not be a new finding but it will require further substantiation before it is an accepted fact
- ☑ The finding that the type of bariatric surgery may influence the magnitude of cancer risk reduction may be explained by the effectiveness of the procedure in reducing obesity and on factors such as insulin and insulin growth factors and related cytokines associated with cancer development and recurrence

Study indicates obesity may increase risk of developing endometrial cancer [Prevention]

[Women who were obese and postmenopausal by the age of 45 had a 22 times greater risk of developing endometrial cancer than women of normal weight](#)

HealthDay (6/22, Gordon) reported, "Obesity is already linked to heart disease, diabetes and high blood pressure, but new research finds those extra pounds can also significantly increase a woman's risk of developing endometrial cancer," according to a study appearing in the July issue of *Obstetrics & Gynecology*. For the study, investigators "reviewed data from the CDC's Cancer and Steroid Hormone Study," finding "421 women between the ages of 20 and 54 who had been diagnosed with endometrial cancer." Meanwhile, the control group consisted of "3,159 women" who were "randomly selected...from the same areas of the country." The study showed that "women who were younger than 45 when they had their last period and had a BMI above 35 had a **21.7 times greater risk of developing endometrial cancer** than a woman of normal weight." The investigators also found, however, that "in women older than 45 at their last menstrual period, those with BMIs above 35 had 3.7 times greater odds of developing endometrial cancer than their normal-weight peers."

Dr. Bleyer:

- ☑ Very few, if any, factors or combination of factors have been found to increase cancer risk by more than 20-fold (greater than 2000% increase)
 - ☑ This magnitude of increased risk substantiates that obesity is an overwhelming predisposing factor for cancer of the uterus
 - ☑ For the cancer patient/survivor, this report may seem to have little significance; not so **DEFEATcancer** would respond since other studies, particularly in patients with breast, colon and prostate cancer, have shown that weight control not only improve quality of survival but also quantity of survival
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Risk for pancreatic cancer increased by early-adulthood obesity and dietary fat of animal origin
[Prevention]

[Two new studies provide further clues as to how the risk for pancreatic cancer is increased, and may offer new insights into pancreatic tumorigenesis, say experts](#)

Medscape Medical News - June 26, 2009

By Zosia Chustecka

Obesity is already known to be a risk factor for pancreatic cancer, but 1 of the new studies, published in the June 24 issue of the Journal of the American Medical Association, offers the novel finding that putting on excess weight in the teenage years is particularly risky.

The researchers, headed by Donghui Li, PhD, from the **University of Texas MD Anderson Cancer Center** in Houston, conducted a case-control study of 841 patients and 754 matched controls, and investigated the association between pancreatic cancer risk and excess body weight across an individual's life span.

They found a significant association between pancreatic cancer risk and being overweight between the ages of 14 and 39 years, and being obese from 20 to 49 years. "Notably, the **strongest association between obesity and pancreatic cancer was seen in those who were overweight or obese from the ages of 30 to 39 years,**" they report.

"The increased risk of pancreatic cancer with weight gain leveled off for gains after the ages of 40 to 49 years," they add.

"The stronger association of the disease with weight gain in earlier adulthood, as opposed to later adulthood, might be explained by the longer duration of exposure to cumulative excessive body fat in the earlier gainers," Dr. Li and colleagues suggest.

The other new finding from this study is that patients with pancreatic cancer who were overweight or obese at diagnosis had worse survival than those who were not.

This was independent of tumor stage and resection status, the researchers note. Because pancreatic cancer is such a rapidly fatal malignancy, this cannot be explained by comorbidities associated with obesity, such as cardiovascular disease, they add.

However, an accompanying editorial points out that pancreatic cancer can cause significant weight loss, often prior to diagnosis, and the authors did not examine whether prognosis was affected by a patient's weight loss prior to diagnosis.

Provide Biologic Insights?

The editorialists, Robert McWilliams, MD, and Gloria Peterson, MD, from the Department of Oncology at the Mayo Clinic in Rochester, Minnesota, say the new study shows that "increased weight may accelerate outcomes throughout the disease process, from the risk of developing cancer to its ultimate outcome."

[These findings] may provide biologic insights into why pancreatic cancer portends such a poor outcome. These findings "may provide biologic insights into why pancreatic cancer portends such a poor outcome," they note, and further work may provide "much needed clues for targeting potential preventive and therapeutic strategies for this extremely aggressive and resistant type of cancer."

There are probably several mechanisms involved, the editorialists comment.

The most common mechanism may be that of insulin resistance, suggest the authors. "In obesity, the adipose tissue acts as an endocrine organ in regulating the release of free fatty acids, cytokines, and hormones, which leads to the development of insulin resistance and compensatory chronic hyperinsulinemia," Dr. Li and colleagues write. The higher insulin level, as well as higher levels of insulin-like growth-factor 1, could promote cellular proliferation and inhibit apoptosis, thereby contributing to tumorigenesis, they suggest, whereas the inflammatory responses to adipocytokines may enhance angiogenesis and cell adhesion, leading to rapid progression and metastases.

This hypothesis "has some plausibility," say the editorialists, but there may also be other mechanisms involved. These include changes in immune functioning or in circulating estrogen levels in individuals who are obese or overweight.

Red Meat and Dairy Culprits?

The second new study offering clues into pancreatic cancer was published online in the Journal of the National Cancer Institute. This study found that consumption of dietary fat of animal origin was associated with an increased risk for pancreatic cancer.

The study was conducted by researchers from the **National Cancer Institute** in Bethesda, Maryland, and used data collected from the **National Institutes of Health** American Association of Retired Persons Diet and Health Study.

"We observed positive associations between pancreatic cancer and intake of total, saturated, and monounsaturated fat overall, particularly from **red meat and dairy food sources**," the authors write.

There was no consistent association with polyunsaturated fat from plant food sources, they add.

Previous studies of diet and pancreatic cancer have produced mixed results, according to an accompanying editorial authored by Brian Wolpin, MD, MPH, from the **Dana-Farber Cancer Institute** in Boston, and Meir Stampfer, MD, DrPH, from the **Harvard School of Public Health** in Boston, Massachusetts. Some studies have shown significant associations, whereas others have found no associations between pancreatic cancer risk and the consumption of total meat, red meat, processed meat, total fat, saturated fat, or monounsaturated fat, they note.

[This study is] a welcome addition to our understanding of a disease that is in great need of new insights. Against this background, the latest study is well performed, provides high-quality data, and is "a welcome addition to our understanding of a disease that is in great need of new insights," they comment.

"However, the available epidemiologic and laboratory evidence is insufficient to confirm the importance of animal fats, per se, or even that meat is the important factor, as opposed to other dietary or lifestyle preferences associated with meat consumption," the editorialists write.

"Nonetheless, sufficient evidence already suggests health benefits from limiting meat and saturated-fat intake, and the current study provides additional support for those recommendations," they add.

This sentiment was echoed by the **Mayo Clinic's** Dr. McWilliams, one of the editorialists who commented on the obesity findings in JAMA. "This adds further to the evidence that a healthy diet, lifestyle, and weight decrease the risk for a number of diseases, including pancreatic cancer," he told Medscape Oncology.

However, when asked whether there was any link between this study on dietary fat and the other one on obesity — both of which found an increase in the risk for pancreatic cancer — Dr. McWilliams said there may not necessarily be a link. He noted that the diet study did not address either age of onset or survival.

"Although it makes sense that a diet high in saturated fat would be linked to obesity, I defer to my nutritional epidemiology colleagues on how strong that association really is," he said.

Sources:

JAMA. 2009; 301:2553-2562 and 2592-2593. Abstracts

J Natl Cancer Inst. 2009;101:972-973 and 1001-1011.

Dr. Bleyer:

- ☑ Despite the weaknesses of these two studies [further described in the next report], the methodology is sufficiently meritorious and the results are consistent with other investigations to substantiate the relationship of pancreatic cancer with body mass, and the association of red meat and dairy products with increased cancer incidence
 - ☑ For the cancer patient/survivor, **DEFEATcancer** extrapolates from these prevention studies that the combination of weight control and exercise is essential to survival prolongation, since both exercise and nutrition have been shown to reduce insulin- and cytokine-mediated cancer promotion
 - ☑ And for quality of life, as stated by **DEFEATcancer** innumerable times, the combination is of obvious benefit
-

Carrying excess weight during teen, young adult years may increase pancreatic cancer risk, research suggests [Prevention]

[Lack of weight control during adolescence and young adulthood increases the risk of one of the most virulent malignant diseases, cancer of the pancreas](#)

The New York Times (6/24, Rabin) reports, "Obesity is known to increase the risk of developing pancreatic cancer," but new research appearing in the Journal of the American Medical Association indicates that the "risk is greatest among people who were already overweight during their teenage years or obese during their 20s and 30s." In fact, the **excess weight doubled or more than doubled the risk**. While it is true that past "studies have tied obesity to increased risk of pancreatic cancer," Laura Yao pointed out in the Wall Street Journal (6/23) Health Blog that the new "findings suggest that weight control early in life is especially important." Moreover, investigators at the University of Texas MD Anderson Cancer Center "said the results held independently of a patient's diabetes status -- meaning that even though early obesity is associated with diabetes, and diabetes is associated with pancreatic cancer, the relationship between early obesity and pancreatic cancer stands on its own, too." Such observations are based on data about "841 people with pancreatic cancer and 754 healthy people," according to HealthDay (6/23, Reinberg). The increased risk was noted among "people who were overweight between ages 14 and 39 or who were obese between ages 20 and 49," and the "association was stronger in men than in women." For instance, overweight 30-somethings had a "60 percent increased risk of pancreatic cancer, and obesity was associated with a two- to threefold higher risk of pancreatic cancer." Yet, "those who were overweight or obese and also smoked had an even greater risk." The team "speculated that insulin dysregulation associated with excess weight could be a mechanistic factor underlying the relationship," MedPage Today (6/23, Gever) reported. "They noted, though, that the case-control approach has inherent weaknesses, and said a further limitation was that participants were drawn from a single institution. The study also relied on participants' self-reports of past weight." Still, the authors of an accompanying editorial "agreed that the implications of the study are important," writing, "The additional evidence of knowing that **obesity could contribute to earlier onset of disease and worsened survival** adds further to the call for interventions at the public health level to stem the increasing rates of obesity at all ages in the US population." Reuters (6/24, Brown), WebMD (6/23, Hitti), and AFP (6/24) also covered the story.

Dr. Bleyer:

- ☑ The major contribution of the reported study is the finding that lack of weight control during early adulthood is key to the weight-cancer association
- ☑ The correlary is that the earlier in life that persons become overweight, the earlier the onset of obesity-associated cancers, including cancer of the pancreas
- ☑ Being particularly interested in cancer during early adulthood, I regard this report and commentary by experts with special interest since it helps explain why many cancers have a worse survival when diagnosed in young adults compared to middle- and older-aged adults

► **Exercise**

A pilot study comparing objective physical activity to the physical component of the Eastern Cooperative Oncology Group (ECOG) performance status scale

[A standard method of reporting performance status in cancer patients overestimates physical activity](#)

J Clin Oncol 27, 2009 (suppl; abstr e20501)

J. Walsh, J. Hussey, D. O'Donnell; Trinity College Dublin, Dublin, Ireland; St. James's Hospital, Dublin, Ireland

Background: The ECOG performance status (PS) scale is widely used in oncology for clinical decision-making, being a good predictor of survival, prognosis, and treatment response. It has never been formally compared to objective measures of physical activity (PA). Accelerometers are now established as detailed

valid measures of PA. The aim of this study was to compare the ECOG PS scale to objectively measured PA.

Methods: Accelerometer data (RT3) as well as self-report (International Physical Activity Questionnaire (IPAQ)) was collected for at least 3 days immediately before cancer outpatient assessment on 15 patients (6 males, 9 females) with a mean age of 65 years (range 47-51), all with solid tumours. RT3 and self-report data were compared to the ECOG PS score assigned by the treating physician. Time 'up and about' is all activity, however minimal, detected by the RT3, except lying flat. Institutional ethics committee approval was gained.

Results: Most subjects were assigned an ECOG score of 1. In all subjects, the score assigned over-estimated PA levels. Spearman's rank correlation coefficient showed poor correlation between percentage waking time 'up and about' and the ECOG PS score assigned ($p = -0.1$), and between the IPAQ and ECOG scores ($p = 0.1$).

Conclusions: Although ECOG PS is recognized as a good predictor of clinical outcome, a poor correlation was found between ECOG PS assigned, objective PA, and self-report. Subjects were far more sedentary than estimated using physician-assigned ECOG PS. A large study to investigate these relationships further is ongoing.

Dr. Bleyer:

- ☑ This study from Ireland shows that the U.S. method to estimate physical activity/capability known as the Eastern Cooperative Group Performance Scale (ECOG PS) is too gross a method to assess physical activity
- ☑ We've been using the ECOG PS for years, only to find out it really doesn't indicate how much a patients is "up and about"

The effect of tai chi chuan on bone remodeling and cytokines among breast cancer survivors: A feasibility trial

[In a randomized trial, breast cancer patients who did tai chi for an hour three times a week for three months had evidence for better bone health](#)

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Background: Weight-bearing exercise may slow the rate of bone loss associated with breast cancer treatment. The purpose of this study is to determine the effect of tai chi chuan (TCC) on bone health, as measured by the changes in the levels of bone resorption and bone formation. This study also aimed to investigate whether changes in bone health were correlated with growth and inflammation markers that serve as regulators of bone cell function.

Methods: Female patients (N=16) who completed treatment for breast cancer within the past 30 months were randomly assigned to either the TCC group or the psycho-educational support group without exercise (ST) for 60 minutes, three times a week for a period of 12 weeks. Serum levels of bone resorption (N-telopeptides of type I collagen; NTx) and bone formation (bone specific alkaline phosphatase; BAP) were determined by ELISA at baseline and post-intervention. Using validated methods, a bone remodeling index (BRI) was calculated from levels of NTx and BAP. In addition, pre- and post-intervention levels of insulin-like growth factor binding protein 1 (IGFBP-1) and interleukin-2 (IL-2), markers associated with excessive bone resorption, were measured. Lastly, levels of interleukin-6 (IL-6), believed to enhance bone formation, were measured at both pre- and post-intervention.

Results: ANCOVA analyses demonstrated that survivors in the TCC group experienced a greater increase in bone remodeling than those in the ST group (Δ BRITCC=1.6 vs Δ BRIST=0.2; $p=0.04$). All correlations were determined by Pearson's correlation coefficients. IGFBP-1 was negatively correlated with increasing bone remodeling levels ($r=-0.43$, $p=0.14$). IL-2 was also negatively correlated with increasing bone remodeling levels ($r=-0.35$, $p=0.24$). IL-6 was positively correlated with increasing bone remodeling levels ($r=0.69$, $p=0.01$).

Conclusions: This pilot study suggests that TCC has positive effects on bone remodeling through changes in growth and inflammation factors that regulate bone cell function. A larger, more definitive trial examining the influence of TCC on bone remodeling is warranted.

Dr. Bleyer:

- ☑ Statistically significant results were obtained in this study for both bone remodeling index and a correlation of an important inflammatory marker (IL-6) and the bone remodeling level
- ☑ It's remarkable that the investigators were able to achieve this degree of success in just 16 patients with only three months of 3-hours-per-week moderate exercise

▶ **Nutrition**

Walnuts may prevent breast cancer [Prevention, Laboratory Study, submitted by Gary Bonacker]

[Mice injected with breast cancer cells had a 3+ week delay \(equivalent to months to years in humans\) in the growth of their cancer when fed \(the human equivalent of 2 ounces daily\) walnuts](#)

NewsRx.com - April 30, 2009

Walnut consumption may provide the body with essential omega-3 fatty acids, antioxidants and phytosterols that reduce the risk of breast cancer, according to a study presented at the American Association for Cancer Research 100th Annual Meeting 2009.

Elaine Hardman, Ph.D., associate professor of medicine at Marshall University School of Medicine, said that while her study was done with laboratory animals rather than humans, people should heed the recommendation to eat more walnuts.

"Walnuts are better than cookies, french fries or potato chips when you need a snack," said Hardman.

"We know that a healthy diet overall prevents all manner of chronic diseases."

Hardman and colleagues studied mice that were fed a diet that they estimated was the human equivalent of two ounces of walnuts per day. A separate group of mice were fed a control diet.

Standard testing showed that walnut consumption significantly decreased breast tumor incidence, the number of glands with a tumor and tumor size.

"These laboratory mice typically have 100 percent tumor incidence at five months; walnut consumption delayed those tumors by at least three weeks," said Hardman.

Molecular analysis showed that increased consumption of omega-3 fatty acids contributed to the decline in tumor incidence, but other parts of the walnut contributed as well.

"With dietary interventions you see multiple mechanisms when working with the whole food," said Hardman. "It is clear that walnuts contribute to a healthy diet that can reduce breast cancer."

Dr. Bleyer:

- ☑ This report would ordinarily not be covered by *E&N News* since it a laboratory study of a single food substance; since it was brought our attention by Gary Bonacker, who has been eating walnuts since childhood, it is reported here with the following caveats:
- ☑ It is unlikely that any single food or medicine containing a food product will have, by itself, a major effect in preventing cancer or cancer recurrence
- ☑ Extrapolating from mice to humans is fraught with risk, since many prior observations in mice and other rodents have not been successfully translated into human application
- ☑ An approach **DEFEATcancer** prefers is to study major changes in diet, such as one that is plant-based (including walnuts) and especially one that combines a broad change in nutrition with exercise (E&N)

Ginger for chemotherapy-related nausea in cancer patients

[A randomized, double-blind, placebo-controlled clinical trial in 644 cancer patients shows that ginger can reduced chemotherapy-related nausea from a 3-4 \(of four\) grade to a 1-2 grade](#)

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Background: Despite the widespread use of antiemetics, post-chemotherapy nausea and vomiting continue to be reported by up to 70% of patients receiving chemotherapy. Ginger (*Zingiber Officinale*), an ancient spice, is used by practitioners worldwide to treat nausea and vomiting. We conducted a multi-site, phase II/III randomized, placebo-controlled, double-blind clinical trial to assess the efficacy of ginger for chemotherapy-related nausea in cancer patients at the University of Rochester-affiliated Community Clinical Oncology Program (CCOP) member sites.

Methods: Cancer patients who experienced nausea following any chemotherapy cycle and were scheduled to receive at least three additional cycles were eligible. Patients were randomized into four arms: 1) placebo, 2) 0.5g ginger, 3) 1.0g ginger, or 4) 1.5g ginger. All patients received 5-HT3 receptor antagonist antiemetics on Day 1 of all cycles and took three 250mg capsules of ginger or placebo twice daily for six days starting three days before the first day of the next two cycles. Patients reported the severity of nausea during the morning, afternoon, evening, and night on a 7-point semantic rating scale ('1' = 'Not at all Nauseated' and '7' = "Extremely Nauseated") for Days 1-4 of each cycle. The goal was to determine if ginger was more effective than placebo in controlling chemotherapy-related nausea in participants given a 5-HT3 receptor antagonist antiemetic.

Results: A total of 644 patients were accrued (90% female, mean age = 53). Breast (66%), alimentary (6.5%), and lung (6.1%) cancers were the most common cancer types. Analysis of covariance (ANCOVA) examined change in nausea in the four study arms on Day 1 of cycles 2 and 3. All doses of ginger significantly reduced nausea ($p=0.003$). The largest reduction in nausea occurred with 0.5g and 1.0g of ginger. Also, time of day had a significant effect on nausea ($p<0.001$) with a linear decrease over 24 hours for patients using ginger.

Conclusions: Ginger supplementation at daily dose of 0.5g-1.0g significantly aids in reduction of nausea during the first day of chemotherapy.

Dr. Bleyer:

- ☑ Ginger has been used for years to treat gastrointestinal upset; it's wonderful to have objective evidence for its benefit and that it works well in cancer patients receiving moderately emetic chemotherapy
 - ☑ Better yet, the substance(s) in ginger that is(are) the active agent(s) in reducing nausea should be identified and studied for more effective administration
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