Diet & Dietary Supplements: What works & what is worthless from A to Z?!

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Hobbies: Telling you that less is More!

Disclosure Statement

- I am a consultant for Abbott Labs Inc., NBTY, Embria, Farr Labs, FTC, & Guthy-Renker, Inc & may receive royalties for product invention from Guthy-Renker and on the speakers bureau for Abbott Labs, Inc. I will not be discussing drugs that are unlabeled or used for investigational purposes.

Overview of the Talk

- Pre-Game Locker Room Speech
- A-Z=Lifestyle/Pill=Game time
- Post-Game Summary

Dietary Supplements=Big Business (Where is the Objectivity?)

Annual Sales of nutritional supplements in the U.S. (CDC/NIH)?

A) 1 Billion

B) 3 Billion

C) 5 Billion

(Nahin RL, et al for the National Health Statistics Report 2009;18, July 30, 1-14)

Moyad Rule

- "Approximately 2-3 weeks before any surgical or radiation procedure please stop the use of **most OTC dietary supplements…"**
- LESS IS MORE! (FDA/Canada & 2010 Maybe)
- Most natural products are not better for you…

Moyad MA. Promoting Wellness for Prostate Cancer Patients, 2006.

PRE-GAME-Probability Diet

BOTTOM LINE=Heart Healthy=Bladder Healthy=Bone Healthy=Brain Healthy=Breast Healthy=Colon Healthy=Eye Healthy=Joint Healthy=Kidney Healthy=Prostate Healthy=Skin Healthy=Sexual Health=ALL HEALTHY!!!

(Vioxx vs. Vitamin E vs. Fish Oil…?)

Moyad MA. Promoting wellness for prostate cancer patients. JW Edwards Publishing, 2006.

Moyad MA, Carroll PR. Urol Clin N Am 2004;31:289-300.

BUCKLE UP!-Last sec. Tips…

- Nutrients can be added back to diet-unlike Rx (selenium, folic acid)="Over-Anti-Oxidation Of Our Population!"

  LESS IS MORE…

  LESS IS MORE…

  LESS IS MORE…

  LESS IS MORE…

Moyad MA, Carroll PR. Urol Clin N Am 2004;31:289-300. & Moyad MA. AUA Update 37 & 38, 2008.

B=Belly Fat

Just Released!
-EPIC Study!
-9 countries

-360,000!!!
-Most Accurate
-10 years
-15,000 deaths

-BMI=25-26 men

-BMI=24-25 women

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

General and Abdominal Adiposity and Risk of Death in Europe

T. Pischon, M.D., M.P.H., H. Boeing, Ph.D., M.S.P.H., K. Hoffmann, Ph.D.,* M. Bergmann, Ph.D., M.B. Schulze, Dr.P.H., K. Overvad, M.D., Ph.D., Y.T. van der Schouw, Ph.D., E. Spencer, Ph.D., K.G.M. Moons, Ph.D., A. Tjønneland, M.D., Ph.D., Dr.Med.Sci., J. Halkjaer, Ph.D., M.K. Jensen, Ph.D., J. Stegger, M.D., F. Clavel-Chapelon, Ph.D., M.-C. Boutron-Ruault, Ph.D., V. Chajes, Ph.D., J. Linseisen, Ph.D., R. Kaaks, Ph.D., A. Trichopoulou, M.D., Ph.D., D. Trichopoulos, M.D., Ph.D., C. Bamia, Ph.D., S. Sieri, Ph.D., D. Palli, M.D., R. Tumino, M.D., P. Vineis, M.D., M.P.H., S. Panico, M.D., M.Sc., P.H.M. Peeters, M.D., Ph.D., A.M. May, Ph.D., H.B. Bueno-de-Mesquita, M.D., Ph.D., M.P.H., F.J.B. van Duijnhoven, Ph.D., G. Hallmans, M.D., L. Weinehall, M.D., Ph.D., J. Manjer, M.D., Ph.D., B. Hedblad, M.D., Ph.D., E. Lund, M.D., Ph.D., A. Agudo, Ph.D., L. Arriola, Ph.D., A. Barricarte, Ph.D., C. Navarro, M.D., Ph.D., C. Martinez, M.D., J.R. Quirós, M.D., T. Key, D.Phil., S. Bingham, Ph.D., K.T. Khaw, M.B., B.Chir., P. Boffetta, M.D., M.P.H., M. Jenab, Ph.D., P. Ferrari, Ph.D., and E. Riboli, M.D., M.P.H., Sc.M.

ABSTRACT

BACKGROUND

Previous studies have relied predominantly on the body-mass index (BMI, the weight in kilograms divided by the square of the height in meters) to assess the association of adiposity with the risk of death, but few have examined whether the distribution of body fat contributes to the prediction of death.

METHODS

We examined the association of BMI, waist circumference, and waist-to-hip ratio with the risk of death among 359,387 participants from nine countries in the European Prospective Investigation into Cancer and Nutrition (EPIC). We used a Cox regression analysis, with age as the time variable, and stratified the models according to study center and age at recruitment, with further adjustment for educational level, smoking status, alcohol consumption, physical activity, and height.

RESULTS

During a mean follow-up of 9.7 years, 14,723 participants died. The lowest risks of death related to BMI were observed at a BMI of 25.3 for men and 24.3 for women. After adjustment for BMI, waist circumference and waist-to-hip ratio were strongly associated with the risk of death. Relative risks among men and women in the highest quintile of waist circumference were 2.05 (95% confidence interval [CI], 1.80 to 2.33) and 1.78 (95% CI, 1.56 to 2.04), respectively, and in the highest quintile of waist-to-hip ratio, the relative risks were 1.68 (95% CI, 1.53 to 1.84) and 1.51 (95% CI, 1.37 to 1.66), respectively. BMI remained significantly associated with the risk of death in models that included waist circumference or waist-to-hip ratio ($P<0.001$).

CONCLUSIONS

These data suggest that both general adiposity and abdominal adiposity are associated with the risk of death and support the use of waist circumference or waist-to-hip ratio in addition to BMI in assessing the risk of death.

The authors' affiliations are listed in the Appendix. Address reprint requests to Dr. Tobias Pischon at the Department of Epidemiology, German Institute of Human Nutrition, Potsdam-Rehbruecke, Arthur-Scheunert-Allee 114-116, 14558 Nuthetal, Germany, or at pischon@dife.de.

*Deceased.

N Engl J Med 2008;359:2105-20.

-BMI & WC= General + Abdominal Obesity

-CVD
-Cancer
-Overall Mortality

(Pischon T, et al. N Engl J Med 359:2105-2120, 2008).

B=BELLY FAT
(WC=Waist Circumference=Belly)

WC (U.S.)	WC (METRIC)	What this means?
Men-<35 inches	<89 cm	"Normal"
Men-35-39 inches	89-100 cm	"Overweight"
Men-≥40 inches	≥101 cm	"Obese"
Women-<32.5	<83 cm	"Normal"
Women-32.5-36	83-93 cm	"Overweight"
Women-≥37	≥94 cm	"Obese"

Moyad MA. Promoting Wellness, 2009 & No BS Health Advice, 2009.

B=BELLY FAT/FAT (Moyad MA. ABCs Nutr, 2004)

(HEART HEALTHY=ALL HEALTHY)

FAT TYPE	PRIMARY SOURCE	COMMENT
Monounsaturated (Oleic acid…)	Cooking oils + nuts..	GOOD
Polyunsaturated (Omega-3s)	Soy, Flax, Fish…	GOOD
Saturated (hydrogenated)	Dairy/non-game-meat…	BAD? Not Exactly!
Trans (partially hydrogenated)	Marg/shorten/deep fried/fast-food…	BAD

B=BELLY FAT (surgery)
(Saturated Fat=Higher Calories!)

TYPE OF MILK	SATURATED FAT (8 oz)	TOTAL CALORIES
Skim Milk	0 grams	80 Calories
1% Milk	1.5 grams	100 Calories
2% Milk	3 grams	120 Calories
Whole Milk	5 grams	150 Calories
Reindeer Milk	Does it matter?!	580 Calories

Moyad MA. No BS Health Advice, 2009. & Strom SS, et al. Int J Cancer 2008;122:2581-2585.

B=BELLY FAT
(Just In-2 year Harvard Trial)

SPEICAL DIET (1400 Calories) (n=811)	RESULTS (2-years)
Fad Diet I	-9 lbs=4 kg, -2 inches=5 cm
Fad Diet II	SAME
Fad Diet III	SAME
Fad Diet IV	SAME

N Engl J Med, On-Line, March, 2009.

B=Belly Fat
Calerie/CR Study (acts like LHRH)

- n=48, 6-months, 37-39 yrs, BMI=27-28, 175-180 lbs

- Control=2 lbs
- CR (25%)=17-18 lbs
- CR (12.5%) + Exercise (12.5%)=17-18 lbs
- Severe CR (890 cal/day until 15% loss)=24-25 lbs
- Insulin reduced, core temp reduced, thyroid, DNA damage…

Heilbronn LK et al. JAMA 295(13):1539-1548, 2006.

B=BELLY FAT/FAT= The Magic Pill?

- Rimonabant (Acomplia®)=No Chance!
- "ALLI" ($2/day)=Not exciting!
- Meridia (Sibutramine)=Maybe!
- Green Tea=Why?
- FISH OIL & EXERCISE=Why not?
- Fiber (30gram/d)=Why not?

Moyad MA. No BS Health Advicce, 2009.

C=Calcium (Tang BMP, et al. Lancet 2007;370:657-666_

1200-1500 mg/d for men (11-18%)!

CALCIUM CARBONATE (40% elem)	Caltrate, Oscal…	-W/Meals -Colon? -PSA? (PCPT…)
CALCIUM CITRATE (21% elem)	Citracal…	-W/or w/out meal -Best for stone patients…
CALCIUM PHOSPHATE (39% elem)	Posture-D…	-W/or w/out meal

Moyad MA. Promoting Wellness for Prostate Cancer Patients, 2009. & Panju AH, et al BJU Int 2009;103:753-7.

Would You Take This Pill If It was Free & Had No Side Effects?

Physical health	Mental Health
• Premature death=30-50%	-Depression
• Heart disease=40-50%	
• Stroke=30-50%	
• Type II diabetes=30-40%	
• BREAST CANCER=20-30%	
• Colon cancer…=30-50%	
• Osteoporosis=40-50%	
• Kidney stones, E.D., & FATAL P.C.!!!	

(Manson J, Amend P. The 30-minute fitness solution, 2006.)

E=Exercise/Fatigue…
(Weight Lifting & Cancer Study)

2 sets
8-12 repetitions
3 times per week

- Calf raise
- Leg extension
- Leg curl
- Chest press
- Latissimus pull-down
- Overhead press
- Triceps extension
- Biceps curl
- Modified curl-up

Segal RJ, et al. *J Clin Oncol.* 2003; 21:1653-1659.

Just Released!

-Randomized Trial of Weight-Lifting In LHRH & Radiation.

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The latest version is at http://jco.ascopubs.org/cgi/doi/10.1200/JCO.2007.15.4963

JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REPORT

Randomized Controlled Trial of Resistance or Aerobic Exercise in Men Receiving Radiation Therapy for Prostate Cancer

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Authors' disclosures of potential conflicts of interest and author contributions are found at the end of this article.

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0732-183X/08/2799-1/$20.00

DOI: 10.1200/JCO.2007.15.4963

ABSTRACT

Purpose
Radiotherapy for prostate cancer (PCa) may cause unfavorable changes in fatigue, quality of life (QOL), and physical fitness. We report results from the Prostate Cancer Radiotherapy and Exercise Versus Normal Treatment study examining the effects of 24 weeks of resistance or aerobic training versus usual care on fatigue, QOL, physical fitness, body composition, prostate-specific antigen, testosterone, hemoglobin, and lipid levels in men with PCa receiving radiotherapy.

Patients and Methods
Between 2003 and 2006, we conducted a randomized controlled trial in Ottawa, Canada, where 121 PCa patients initiating radiotherapy with or without androgen deprivation therapy were randomly assigned to usual care (n = 41), resistance (n = 40), or aerobic exercise (n = 40) for 24 weeks. Our primary end point was fatigue assessed by the Functional Assessment of Cancer Therapy–Fatigue scale.

Results
The follow-up assessment rate for our primary end point of fatigue was 92.6%. Median adherence to prescribed exercise was 85.5%. Mixed-model repeated measures analyses indicated both resistance ($P = .010$) and aerobic exercise ($P = .004$) mitigated fatigue over the short term. Resistance exercise also produced longer-term improvements ($P = .002$). Compared with usual care, resistance training improved QOL ($P = .015$), aerobic fitness ($P = .041$), upper- ($P < .001$) and lower-body ($P < .001$) strength, and triglycerides ($P = .036$), while preventing an increase in body fat ($P = .049$). Aerobic training also improved fitness ($P = .052$). One serious adverse event occurred in the group that performed aerobic exercise.

Conclusion
In the short term, both resistance and aerobic exercise mitigated fatigue in men with PCa receiving radiotherapy. Resistance exercise generated longer-term improvements and additional benefits for QOL, strength, triglycerides, and body fat.

J Clin Oncol 27. © 2008 by American Society of Clinical Oncology

INTRODUCTION

Prostate cancer (PCa) is the most common malignancy in men in North America and the second most common cause of cancer death in men older than 70 years.[1,2] Radiotherapy is an important modality for curative treatment in early-stage disease, and improves disease-free and overall survival in locally advanced or higher-risk disease.[3-6] The most common complaint of patients receiving radiotherapy is fatigue (60% to 80%), which tends to be cumulative and persistent even after treatment is completed.[7-12] Increased fatigue is associated with psychological distress, as well as reduced quality of life (QOL) and functional capacity. Interventions to reduce fatigue would be an important element of supportive care.

Previously, we showed that a 12-week program of resistance exercise training reduced fatigue and improved QOL and fitness in men with PCa receiving androgen deprivation therapy (ADT).[13] Here we report results from the Prostate Cancer Radiotherapy and Exercise Versus Normal Treatment study examining the effects of 24 weeks of resistance or aerobic training versus usual care on fatigue, cancer-specific QOL, physical fitness, body composition, and prostate-specific antigen (PSA), testosterone, and serum lipid levels in men with PCa receiving radiotherapy.

We hypothesized that both resistance and aerobic training would be superior to usual care for patient-rated fatigue and disease-specific QOL; resistance training would improve strength and body fat percentage, whereas aerobic training

-Univ of PA Lymphedema Study N Engl J Med (n=141, 2x/wk, 1-year)

Segal RJ, et al. J Clin Oncol 2009;27:344-351. & Schmitz KH, et al. N Engl J Med 2009;361:664-673.

E=Exercise/Wt Lifting (Bone Loss & LHRH?)

Increase:
-GH
-DHEA
-WBC…

- Australia Study (10 men, age=70)
- 20 wk high-intensity resistance exercise (5 months)
- 5 men on acute & 5 on chronic ADT

- Increased Muscle Strength, No change in Fat Mass
- No bone loss at any site + No Hgb change!

Bottom Line=Rx-Exaggerated? Moyad Experience.

Galvao DA, et al. (Spry N, Newton R…). Pros Cancer Prostat Dis, 2006.

E=Exercise
Aerobic vs. Weight Lifting

HEALTH AREA	AEROBIC	WT. LIFTING
Bone Health		Yes!!!
Burn Fat/Metab	Yes!!!	Yes!!!
Strength		Yes!!!
Glucose/Insulin	Yes!!!	Yes!!!
Lipids + hs-CRP	Yes!!!	
HR/BP at rest	Yes!!!	
Mental Health	Yes!!!	Yes!!!
Overall Survival	Yes!!!	Yes!!!

Braith RW, Stewart KJ. Circulation 113:2642-2650, 2006.

AMERICAN GINSENG

Rx for Fatigue?!-Maybe! N=282!

(Barton DL, et al. Mayo Clinic. Abstact 9001, page 493s, ASCO, 2007, Brief Fatigue Inventory)

8 wk data

ENDPT	Placebo	750 mg/d	1000 mg/d	2000 mg/d
BFI-sub	---	---	---	Best
BFI	---	---	---	Best
Scale	---	---	Best	Best
Physical	---	---	Best	Best
% Perceived	---	---	Best	Best (25-27%)
% Satisfied	---	---	Best	Best (34%)

F=FATIGUE (Summary)

- Lifestyle Option=Weight-Lifting
- American Ginseng-1000-2000 mg/day-New possibility?
- Rx=Provigil (modafanil=100-200 mg/d)

Barton DL et al: ASCO/AUA-2007

Moyad MA et al: Sem Prev Alt Med-2007

F=FIBER
(internal
Anti-Aging)

20-30 Grams
Per day for:
-Acid Reflux
-BP
-Cholesterol
-Constipation
-Diverticulitis
-Glucose
-Hem..
-PSA
-Prebiotic!!
-Weight Loss…

SOLUBLE (VISCOUS) FIBER SHOULD BE INCREASED!

WHAT ABOUT INSOLUBLE FIBER? (All-Bran, Flax…)

Moyad MA, et al. No BS Health Advice, 2009. & Anderson JW, et al. Nutr Rev 2009; 67:188-205.

Flaxseed-Presurgical Rand Trial (30 grams--6 wks pre-surg, n=161)

	Placebo	Flaxseed	Low-Fat	Flax+LF
TC (mg/dl)	+9	-26	-46	-37
LDL	-14	-17	-29	-21
Weight	+0.3 kg	-1.3 kg	-1.7	-1.1
Pathology	---	Sign Ki-67	----	Sign Ki-67

Demark-Wahnefried W, et al. Cancer Epidemiol Biomarkers Prev 2008;17:3577-3587.

George SL, et al. Abstract 1510, pg 63S, ASCO, 2007

F=Flaxseed
(2-3 Tablespoons pre/post surgery)

GOOD NEWS	BAD NEWS
FIBER	FIBER (golden?)
OMEGA-3	PILLS/OIL
PLANT ESTROGENS	CHIA SEEDS ARE HERE!!
HEART HEALTHY	
CHEAP/Powdered/grounded	

Ki-67. Sesame seed?

Demark-Wahnefried W, et al. Cancer Epidemiol Biomarkers Prev 2008;17:3577-3587. & Moyad MA

F=Fruits & Veggies (Pills)? MORE is not MORE

- WHEL=Women's Healthy Eating & Living
- Treated for early-stage breast cancer
- 7.3 years (n= >3000)
- Veggies, fruit, fiber & low-fat

Bottom Line=NOTHING!

Pierce JP, et al. JAMA 298(3):289-298, 2007.

Remember the Obesity Epidemic?

BEVERAGE	CALORIES (8 oz)
Acai Juice	150-200
Cranberry/Grape Juice	140-160
Pomegranate Juice	140-160
Tomato/Carrot	50-60
Light Beer	70-80
Beer/Wine/Hard Liquor	100-150 (Low-carb diet)

Moyad MA. Dr. Moyad's Diet Book. 2008.

Calories=Antioxidants!

H=HOT FLASHES (Treatments?)

HOT FLASH TREATMENTS	COMMENTS
Lifestyle Changes/Diary Flax, Sesame, Mag, Acup	Mild to Moderate Hot Flashes
Estrogens (Topical?)	Clots, DVT, Stroke, CVD
Progesterone	HDL drop, wt gain, CVD
SSRI, SNRI	CVD, Bone Loss…
OTHER	Gabapentin…(side effects)

Moyad MA. Promoting Wellness. 2009.

A=ACUPUNCTURE

-N/V=Yes!
-Pain=Yes!
-Xerostomia=Yes!
-Hot Flashes=?
-Low Back Pain=?

(Johnstone PAS, et al. Cancer 2002;94:1151-56., Moyad MA. Sem Prev Alt Med 2006.)

F=FOLIC ACID & Polyp Prevention Study Group (1mg/d)

SIDE EFFECT	FOLIC ACID (n=516)	PLACEBO (n=505)	RESULT
Died	10 (2%)	19 (4%)	Non-sign (p=0.09)
Colon Cancer	3 (0.5%)	4 (1%)	No impact
Other Cancers	54 (10.5%) (24=p ca)	32 (6.3%) (9=p ca)	P=0.02!!! (BPH)

Cole BF, et al: JAMA 297:2351-2359, 2007.

M=Multivitamin-SU.VI.MAX-French Study

- N=13,017 (5141 men, age=45-60)
- 120 mg vit C + 30 mg vit E + 6 mg beta-carot + 100 mcg selenium, + 20 mg zinc vs. placebo
- 7.5 years
- Men=31% reduction in cancer & 37% all-cause mortality! PCa=REDUCED 48%, but…!!!!

Hercberg S, et al. Arch Intern Med 164:2335-2342, Nov. 22, 2004 & 2005.

MULTIVITAMINS (& Zinc) (LESS IS MORE!)

- 295,344 (NIH-AARP study) or WHI
- 10,241 cases
- Double the risk of fatal p. cancer or no impact

Bottom Line =Men Take Women's Multi OR KIDS MULTI! (Max 1 pill a day). Zinc=15-20 mg/d---that is all (Zicam anyone?).

Lawson KA, et al. J Natl Cancer Inst 99:754-764, 2007.

Ornish Trial?

- N=87 (Pca, PSA=4-10, Gleason<7)
- Combo lifestyle change + supplements???
- 1yr=Mean PSA decrease 3%
- Increase=7% w/control

Bottom Line=??? Catch_____???.

Ornish D, et al. J Urol 174:1065-1070, 2005. & Ornish D, et al. AUA Annual Meeting 169:page 74 (abstract #286), 2003.

Ornish (1-yr)

(Ornish D, et al. J Urol 174:1065-1070, 2005)

-Vegan Diet (no animal products)
-**10% or less calories from fat**
-Soy products (1 serving tofu + 58g soy protein beverage)
-Fish Oil supplement (3g daily)
-Vitamin E supplement (400 IU/day)
-Selenium supplement (200 mcg/day)
-Vitamin C supplement (2000 mg/day)
-**Moderate exercise (walking-30 min/d/6 days-wk)**
-Stress reduction/mgmt (yoga, meditation..60-min/d)
-Support Group Meeting (1-hour wk)

Ornish Plan-I

(Ornish D, et al. J Urol 174:1065-1070, 2005)

PARAMETER	LIFESTYLE(44)	CONTROL(49)
TC (mg/dL)*	-32	-2
LDL*	-30	-1
HDL*	-5	+1
TG	+5	+1
Testost (ng/dl)	+29	+48
Weight (lbs)*	-10	No change
PSA*	-0.25	+0.38

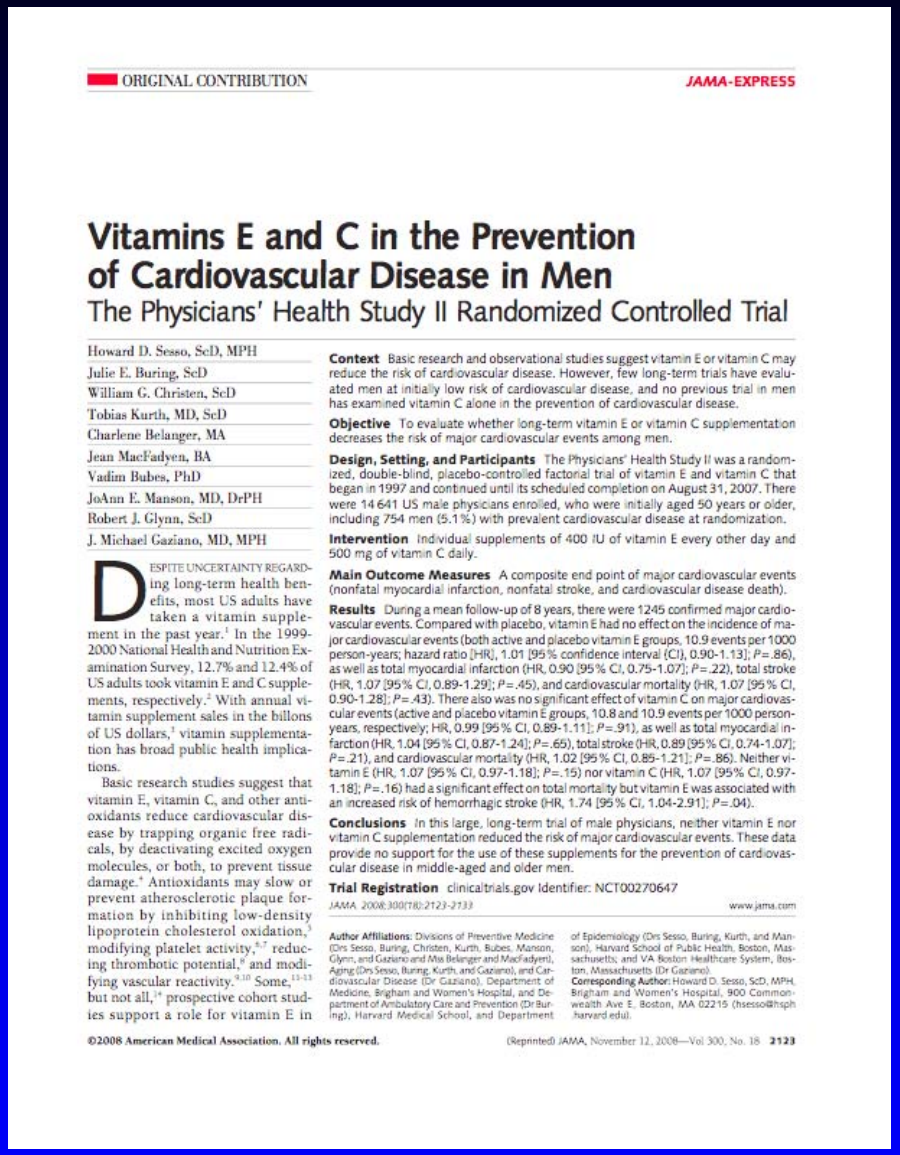
Quality of life? N=44 & 49, Age=66, Gleason=6 or less

PHYSICAN'S HEALTH STUDY II- (just released)

Heart Unhealthy= Prostate Unhealthy

…

N=14,641



ORIGINAL CONTRIBUTION

JAMA-EXPRESS

Vitamins E and C in the Prevention of Cardiovascular Disease in Men

The Physicians' Health Study II Randomized Controlled Trial

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Context Basic research and observational studies suggest vitamin E or vitamin C may reduce the risk of cardiovascular disease. However, few long-term trials have evaluated men at initially low risk of cardiovascular disease, and no previous trial in men has examined vitamin C alone in the prevention of cardiovascular disease.

Objective To evaluate whether long-term vitamin E or vitamin C supplementation decreases the risk of major cardiovascular events among men.

Design, Setting, and Participants The Physicians' Health Study II was a randomized, double-blind, placebo-controlled factorial trial of vitamin E and vitamin C that began in 1997 and continued until its scheduled completion on August 31, 2007. There were 14 641 US male physicians enrolled, who were initially aged 50 years or older, including 754 men (5.1%) with prevalent cardiovascular disease at randomization.

Intervention Individual supplements of 400 IU of vitamin E every other day and 500 mg of vitamin C daily.

Main Outcome Measures A composite end point of major cardiovascular events (nonfatal myocardial infarction, nonfatal stroke, and cardiovascular disease death).

Results During a mean follow-up of 8 years, there were 1245 confirmed major cardiovascular events. Compared with placebo, vitamin E had no effect on the incidence of major cardiovascular events (both active and placebo vitamin E groups, 10.9 events per 1000 person-years; hazard ratio [HR], 1.01 [95% confidence interval {CI}, 0.90-1.13]; $P=.86$), as well as total myocardial infarction (HR, 0.90 [95% CI, 0.75-1.07]; $P=.22$), total stroke (HR, 1.07 [95% CI, 0.89-1.29]; $P=.45$), and cardiovascular mortality (HR, 1.07 [95% CI, 0.90-1.28]; $P=.43$). There also was no significant effect of vitamin C on major cardiovascular events (active and placebo vitamin E groups, 10.8 and 10.9 events per 1000 person-years, respectively; HR, 0.99 [95% CI, 0.89-1.11]; $P=.91$), as well as total myocardial infarction (HR, 1.04 [95% CI, 0.87-1.24]; $P=.65$), total stroke (HR, 0.89 [95% CI, 0.74-1.07]; $P=.21$), and cardiovascular mortality (HR, 1.02 [95% CI, 0.85-1.21]; $P=.86$). Neither vitamin E (HR, 1.07 [95% CI, 0.97-1.18]; $P=.15$) nor vitamin C (HR, 1.07 [95% CI, 0.97-1.18]; $P=.16$) had a significant effect on total mortality but vitamin E was associated with an increased risk of hemorrhagic stroke (HR, 1.74 [95% CI, 1.04-2.91]; $P=.04$).

Conclusions In this large, long-term trial of male physicians, neither vitamin E nor vitamin C supplementation reduced the risk of major cardiovascular events. These data provide no support for the use of these supplements for the prevention of cardiovascular disease in middle-aged and older men.

Trial Registration clinicaltrials.gov Identifier: NCT00270647

JAMA. 2008;300(18):2123-2133 www.jama.com

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-NO IMPACT ON CVD, P. Cancer

-VIT E & HEM STROKE!

Gaziano JM, et al. PHS II. JAMA 2009;301:52-62.

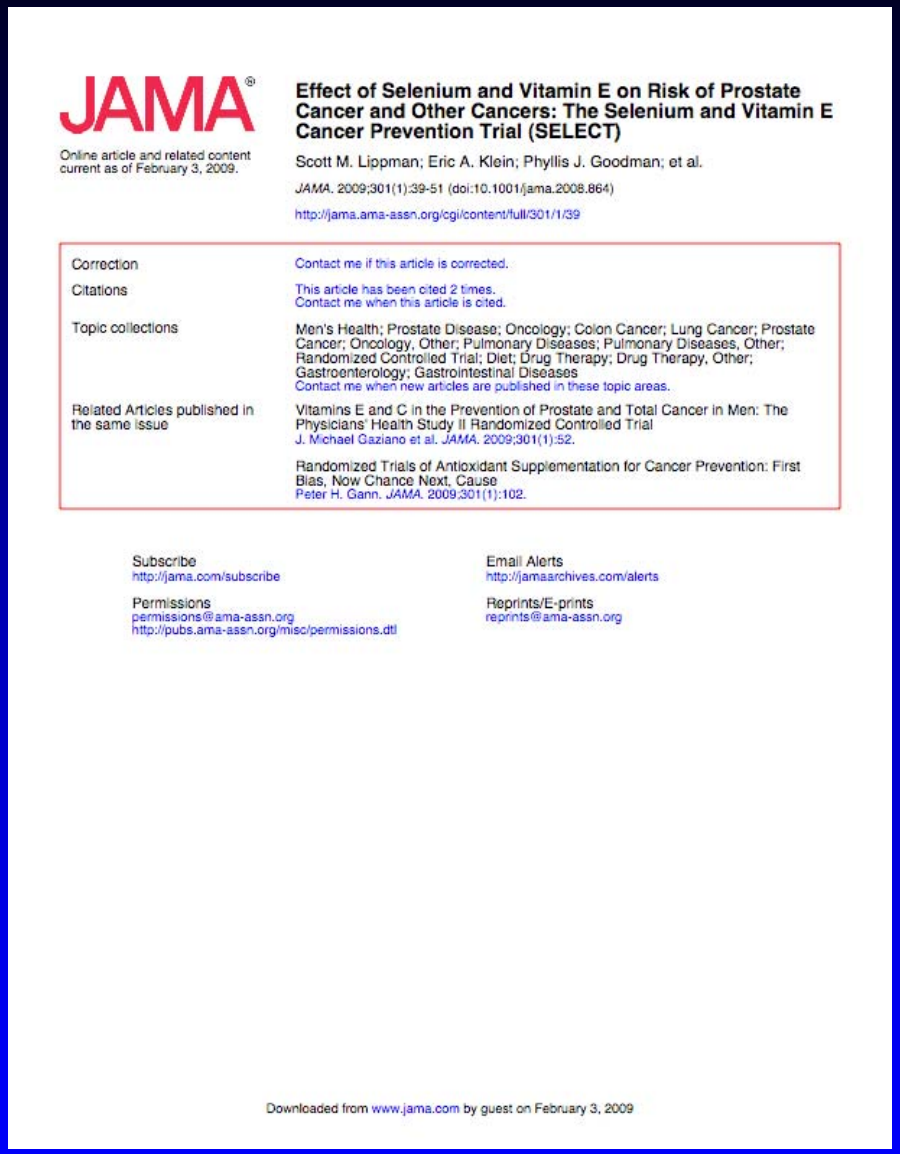
SELECT
(just released)
-35,000 men

-300 sites

-150 million
Dollars

-Phase 2 to 3

(Sel=70-100 mcg)
(Vit E=15-30 IU)



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Online article and related content current as of February 3, 2009.

Effect of Selenium and Vitamin E on Risk of Prostate Cancer and Other Cancers: The Selenium and Vitamin E Cancer Prevention Trial (SELECT)

Scott M. Lippman; Eric A. Klein; Phyllis J. Goodman; et al.

JAMA. 2009;301(1):39-51 (doi:10.1001/jama.2008.864)

http://jama.ama-assn.org/cgi/content/full/301/1/39

Correction	Contact me if this article is corrected.
Citations	This article has been cited 2 times. Contact me when this article is cited.
Topic collections	Men's Health; Prostate Disease; Oncology; Colon Cancer; Lung Cancer; Prostate Cancer; Oncology, Other; Pulmonary Diseases; Pulmonary Diseases, Other; Randomized Controlled Trial; Diet; Drug Therapy; Drug Therapy, Other; Gastroenterology; Gastrointestinal Diseases Contact me when new articles are published in these topic areas.
Related Articles published in the same issue	Vitamins E and C in the Prevention of Prostate and Total Cancer in Men: The Physicians' Health Study II Randomized Controlled Trial J. Michael Gaziano et al. *JAMA*. 2009;301(1):52. Randomized Trials of Antioxidant Supplementation for Cancer Prevention: First Bias, Now Chance Next, Cause Peter H. Gann. *JAMA*. 2009;301(1):102.

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-400 IU
Vitamin E
Increased risk of
Prostate
Cancer (bleeding)

-200 mcg
Selenium
increased
Risk of
type II diabetes

-QUERCETIN?

1 Death From Prostate Cancer…& _____ deaths from heart disease

Lippman SM, et al. SELECT. JAMA 2009;301:39-51.

SELECT TRIAL- More is Not Better!

- Nutritional Prevention of Cancer (NPC) Trial of Selenium in 1996 the median Baseline Selenium Level=114 ng/ml (Clark LC, et al. Br J Urol 1998;81:730-734.)

- Median baseline selenium level in 2003 of SELECT=135 ng/ml &

  (Final Level at 5.5 years=251 ng/ml)
- Sel=70-100 mcg & Vit E=15-30 IU

Lippman SM, et al. SELECT. JAMA 2009;301:39-51

Natural Vitamin E* Is Obviously Better For You??????????

Prostate	No impact
Lung	No impact
Oral	No impact
Colon	No impact
Breast	No impact
Melanoma	No impact
Heart failure	Increased risk
Heart failure hospitalization	Increased risk

*7,030 patients randomized to vitamin E 400 IU/day or placebo.

(Radiation & Vitamin E)

HOPE-TOO=Heart Outcomes Prevention Evaluation Study Extension

Lonn E, et al. *JAMA*. 2005;293:1338-1347.

Zinc & Cancer

- Zinc & BPH + immune-supp (1970s)
- HPFS (N=47,974 US men-14 yr follow-up)
- 2901 New cancers (434 advanced)
- >100 mg/d=RR=2.29
- 10 or more yrs=RR=2.37

Bottom Line=Stop high-dose zinc now!!!

Leitzmann MF, et al. JNCI 95:1004-1007, 2003.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

- 90-95% REDUCTION!

- 70% Chance of living to the age of 85 without mental or physical disability.

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?
2) Low CHOLESTEROL (LDL<100, hs-CRP)

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?
2) Low CHOLESTEROL (LDL<100, hs-CRP)?
3) Normal BLOOD PRESSURE (not pre-hypertension)

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?
2) Low CHOLESTEROL (LDL<100, hs-CRP)?
3) Normal BLOOD PRESSURE (not pre-hyperten)
4) Normal GLUCOSE

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?
2) Low CHOLESTEROL (LDL<100, hs-CRP)?
3) Normal BLOOD PRESSURE (not pre-hyperten)
4) Normal GLUCOSE
5) Normal WC/WHR/No Belly Fat

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?
2) Low CHOLESTEROL (LDL<100, hs-CRP)?
3) Normal BLOOD PRESSURE (not pre-hyperten)
4) Normal GLUCOSE
5) Normal WC/WHR/No Belly Fat
6) Normal MENTAL HEALTH/STRESS

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

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1) Do you SMOKE?
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4) Normal GLUCOSE
5) Normal WC/WHR/No Belly Fat
6) Normal MENTAL HEALTH/STRESS
7) FRUITS & VEGGIES>1 serving/day

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

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2) Low CHOLESTEROL (LDL<100, hs-CRP)?
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4) Normal GLUCOSE
5) Normal WC/WHR/No Belly Fat
6) Normal MENTAL HEALTH/STRESS
7) FRUITS & VEGGIES>1 serving/day
8) MODERATE ALCOHOL

INTERHEART STUDY INVESTIGATORS. Lancet 364:937-952, Sept 11, 2004/2006 Update.

FOREST OVER THE TREE-52 COUNTRIES STUDY!!!

1) Do you SMOKE?=10-15%
2) Low CHOLESTEROL (LDL<100, hs-CRP)?=10%
3) Normal BLOOD PRESSURE (not pre-hyperten)=10%
4) Normal GLUCOSE=10%
5) Normal WC/WHR/No Belly Fat=10-15%
6) Normal MENTAL HEALTH/STRESS=10%
7) FRUITS & VEGGIES>1 serving/day=5%
8) MODERATE ALCOHOL=10%
9) EXERCISE AVERAGE OF 30 MIN/DAY=10%
10) ???=2%