

2014	DIET, NUTRITION, PHYSICAL ACTIVITY AND PROSTATE CANCER		
		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing		
	Probable		Body fatness (advanced prostate cancer)^{1,2} Adult attained height³
LIMITED EVIDENCE	Limited – suggestive		Dairy products Diets high in calcium Low plasma alpha-tocopherol concentrations Low plasma selenium concentrations
	Limited – no conclusion	Cereals (grains) and their products, dietary fibre, potatoes, non-starchy vegetables, fruits, pulses (legumes), processed meat, red meat, poultry, fish, eggs, total fat, saturated fatty acids, monounsaturated fatty acids, polyunsaturated fatty acids, plant oils, sugar (sucrose), sugary foods and drinks, coffee, tea, alcoholic drinks, carbohydrate, protein, vitamin A, retinol, alpha carotene, lycopene, folate, thiamin, riboflavin, niacin, vitamin C, vitamin D, vitamin E supplements, gamma-tocopherol, multivitamins, selenium supplements, iron, phosphorus, calcium supplements, zinc, physical activity, energy expenditure, vegetarian diets, Seventh-day Adventist diets, individual dietary patterns, body fatness (non-advanced prostate cancer), birth weight, energy intake	
STRONG EVIDENCE	Substantial effect on risk unlikely	Beta-carotene^{4,5}	

- 1 Body fatness is marked by body mass index (BMI), waist circumference and waist-hip ratio. The effect was observed in advanced prostate cancer only.
- 2 Advanced in this report includes advanced, high grade, and fatal prostate cancers (see section 5.2).
- 3 Adult attained height is unlikely to directly influence the risk of cancer. It is a marker for genetic, environmental, hormonal, and also nutritional factors affecting growth during the period from preconception to completion of linear growth.
- 4 Includes both foods naturally containing the constituent and foods which have the constituent added.
- 5 The evidence includes studies using supplements at doses of 20, 30, and 50 mg/day.

Summary of CUP stratified dose-response meta-analysis – dairy products

Cancer type	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Non-advanced	Per 400g/day	1.09 (1.00-1.18)	53%	8	16,749
CUP 2014 Advanced	Per 400g/day	0.97 (0.91-1.05)	0%	10	4,465
CUP 2014 Fatal	Per 400g/day	1.11 (0.92-1.33)	20%	5	898

Summary of CUP stratified dose-response meta-analysis – milk

Cancer type	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Non-advanced	Per 200g/day	1.06 (1.00-1.13)	0%	4	4,092
CUP 2014 Advanced	Per 200g/day	0.98 (0.89-1.09)	0%	4	1,072
CUP 2014 Fatal	Per 200g/day	1.04 (0.73-1.50)	68%	2	253

Summary of CUP dose-response meta-analysis – other dairy product exposures

Cancer type	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Whole milk	Per 200g/day	0.98 (0.95-1.01)	0%	8	19,664
CUP 2014 Low-fat milk	Per 200g/day	1.06 (1.01-1.11)	67%	6	19,430
CUP 2014 Cheese	Per 50g/day	1.09 (1.02-1.18)	0%	11	22,950
CUP 2014 Yoghurt	Per 100g/day	1.08 (0.93-1.24)	82%	6	18,282

Summary of CUP stratified dose-response meta-analysis – diets high in calcium

Cancer type	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Non- advancement	Per 400 mg/day	1.07 (1.03-1.12)	7%	8	9,048
CUP 2014 Advanced	Per 400 mg/day	1.02 (0.93-1.12)	55%	10	3,999

Summary of randomised controlled trials – beta-carotene supplements

Trial Name	No. Participants	Intervention	Length of intervention	Length of follow-up	RR (95% CI)
Beta-carotene and Retinol Efficacy Trial (CARET) [46] [47]	18,314 at high risk of developing lung cancer	30 mg beta-carotene and 25,000 IU retinyl palmitate	4 years (trial ended early)	5 years	1.01 (0.80-1.27)
Physicians' Health Study (PHS)[48]	22,071	50 mg beta-carotene taken on alternate days	13 years		1.00 (0.90-1.10)
Alpha-Tocopherol Beta-Carotene Cancer Prevention (ATBC) Study (male smokers) [49] [50]	29,133	20 mg of beta-carotene only or with 50 mg of alpha-tocopherol	5-8 years	6-8 years	1.26 (0.98-1.62) for the 1985-1993 follow-up period

Summary of CUP dose-response meta-analysis – other vitamin E exposures

Exposure	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Dietary vitamin E	Per 10 mg/day	1.01 (0.96-1.06)	20%	5	11,112
CUP 2014 Serum gamma- tocopherol	Per 1 mg/L	0.97 (0.91-1.04)	52%	7	2,742
CUP 2014 Vitamin E supplements	Per 100 IU/day	1.00 (0.99-1.01)	0%	7	21,862

Summary of CUP stratified dose-response meta-analysis – low plasma selenium concentration

Cancer type	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Non-advanced	Per 10 µg/L	0.99 (0.95-1.03)	0%	4	1,879
CUP 2014 Advanced	Per 10 µg/L	0.95 (0.89-1.00)	0%	5	1,500

Summary of CUP stratified dose-response meta-analysis – height

Cancer type	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP 2014 Non-advanced	Per 5 cm	1.03 (1.01-1.05)	19%	10	16,749
CUP 2014 Advanced	Per 5 cm	1.04 (1.02-1.06)	47%	19	4,465
CUP 2014 Fatal	Per 5 cm	1.04 (1.01-1.06)	36%	9	898

Summary of CUP meta-analysis and pooled analyses – height

Analysis	Increment	RR (95% CI)	I ²	No. Studies	No. Cases	Factors adjusted for
CUP Prostate Cancer SLR 2014	Per 5 cm	1.04 (1.03-1.05)	21%	34	79,387 incidence & mortality	
Emerging Risk Factor Collaboration [88]	Per 6.5 cm	1.07 (1.02-1.11)	9%	121	2,818 mortality	Age, sex, smoking, year of birth
Asia Pacific Cohort Studies Collaboration [87]	Per 6 cm	1.06 (0.95-1.18)	-	38	274 mortality	Age, study, year of birth