

2017

DIET, NUTRITION, PHYSICAL ACTIVITY AND COLORECTAL CANCER

		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing	Physical activity ^{1,2}	Processed meat ³ Alcoholic drinks ⁴ Body fatness ⁵ Adult attained height ⁶
	Probable	Wholegrains Foods containing dietary fibre ⁷ Dairy products ⁸ Calcium supplements ⁹	Red meat ¹⁰
LIMITED EVIDENCE	Limited – suggestive	Foods containing vitamin C ¹¹ Fish Vitamin D ¹² Multivitamin supplements ¹³	Low intakes of non-starchy vegetables ¹⁴ Low intakes of fruits ¹⁴ Foods containing haem iron ¹⁵
	Limited – no conclusion	Cereals (grains) and their products; potatoes; animal fat; poultry; shellfish and other seafood; fatty acid composition; cholesterol; dietary n-3 fatty acid from fish; legumes; garlic; non-dairy sources of calcium; foods containing added sugars; sugar (sucrose); coffee; tea; caffeine; carbohydrate; total fat; starch; glycaemic load; glycaemic index; folate; vitamin A; vitamin B6; vitamin E; selenium; low fat; methionine; beta-carotene; alpha-carotene; lycopene; retinol; energy intake; meal frequency; dietary pattern	
STRONG EVIDENCE	Substantial effect on risk unlikely		

- 1 Physical activity of all types: occupational, household, transport and recreational.
- 2 The Panel judges that the evidence for colon cancer is convincing. No conclusion was drawn for rectal cancer.
- 3 The term ‘processed meat’ refers to meats preserved by smoking, curing, or salting, or addition of chemical preservatives.
- 4 Based on evidence for alcohol intakes above approximately 30 grams per day (about two drinks a day).
- 5 Body fatness marked by body mass index (BMI), waist circumference or waist-hip ratio.
- 6 Adult attained height is unlikely to directly influence the risk of cancer. It is a marker for genetic, environmental, hormonal and nutritional growth factors affecting growth during the period from preconception to completion of linear growth.
- 7 Includes both foods naturally containing the constituent and foods that have the constituent added.
Dietary fibre is contained in plant foods.
- 8 Includes evidence from total dairy, milk, cheese and dietary calcium intakes.
- 9 The evidence is derived from supplements at a dose of 200 – 1,000 mg per day.
- 10 The term ‘red meat’ refers to beef, pork, lamb, and goat from domesticated animals.
- 11 The Panel judges that the evidence for colon cancer is limited. No conclusion was drawn for rectal cancer.
- 12 Includes evidence from foods containing vitamin D, serum vitamin D, and supplemental vitamin D.
- 13 Definitions and categorisation of multivitamin supplements are not standardised.
- 14 Increased risk observed at low intakes (below 100 grams per day).
- 15 Foods include red and processed meat, fish and poultry.

Summary of CUP 2016 cancer site dose-response meta-analyses – wholegrains

Analysis	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colon cancer	Per 90 g/day	0.82 (0.73–0.92)	0%	4	3,875
Rectal cancer	Per 90 g/day	0.82 (0.57–1.16)	84%	3	1,548

Summary of CUP 2016 meta-analysis and published pooled analysis wholegrains

Analysis	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal SLR 2016	Per 90 g/day	0.83 (0.78–0.89)	18%	6	8,320
Pooling Project [19]	Highest vs. lowest	0.92 (0.84–1.00)		13	8,081

Summary of CUP 2016 cancer site dose-response meta-analyses – foods containing dietary fibre

Analysis	Sex	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 10 g/day	0.89 (0.82–0.96)	25%	6	-
	W	Per 10 g/day	0.91 (0.87–0.96)	0%	11	-
Colon	M/W	Per 10 g/day	0.91 (0.84–1.00)	69%	21	12,601
Rectal	M/W	Per 10 g/day	0.93 (0.85–1.01)	31%	21	5,809

Summary of CUP 2016 meta-analysis and published pooled analyses – dietary fibre

Analysis	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Per 10 g/day	0.93 (0.87–1.00)	72%	21	16,562
Pooling Project [19]	Cereal fibre, highest vs. lowest	0.94 (0.86–1.03)		13	
	Vegetable fibre, highest vs. lowest	1.00 (0.93–1.08)			
	Fruit fibre, highest vs. lowest	0.96 (0.89–1.04)			
UK Dietary Cohort Consortium [25]	Dietary fibre (intake density assessed by food diaries), highest vs. lowest	0.66 (0.45–0.96)		7	579
	Dietary fibre (intake density assessed by FFQ), highest vs. lowest	0.88 (0.57–1.36)			

Summary of CUP 2016 cancer site dose-response meta-analysis – fruit and non-starchy vegetables

Analysis	Sex	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 100 g/ day	0.98 (0.96–0.99)	0%	4	-
	W	Per 100 g/ day	0.99 (0.97–1.01)	42%	7	-
Colon cancer	M/W	Per 100 g/ day	0.99 (0.97–1.00)	0%	12	>6,045
Rectal cancer	M/W	Per 100 g/ day	0.99 (0.97–1.01)	0%	10	>2,746

Non-linear dose-response estimates of non-starchy vegetable intake and colorectal cancer

g/day	RR (95% CI)
22	1.16 (1.11–1.21)
100	1.08 (1.06–1.10)
200	1.00
300	0.96 (0.95–0.97)
400	0.95 (0.95–0.96)
500	0.96 (0.96–0.96)

Summary of CUP 2016 cancer site dose-response meta-analyses – non-starchy vegetables

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 100 g/ day	0.96 (0.93–0.99)	33%	5	-
	W	Per 100 g/ day	0.99 (0.96–1.01)	0%	7	-
Colon cancer	M/W	Per 100 g/ day	0.97 (0.95–0.99)	0%	12	> 6,308
Rectal cancer	M/W	Per 100 g/ day	0.99 (0.96–1.02)	0%	8	> 2,435

Non-linear dose-response estimates of fruit intake and colorectal cancer

g/day	RR (95% CI)
2	1.21 (1.15–1.26)
100	1.07 (1.05–1.09)
200	1.00
300	0.99 (0.98–0.99)
400	0.99 (0.98–0.99)
500	0.99 (0.98–1.00)

Summary of CUP 2016 cancer site dose-response meta-analyses – fruit

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 100 g/ day	0.96 (0.93–0.99)	39%	6	-
	W	Per 100 g/ day	0.96 (0.91–1.01)	61%	6	-
Colon cancer	M/W	Per 100 g/ day	0.98 (0.96–1.01)	39%	12	>6,317
Rectal cancer	M/W	Per 100 g/ day	0.98 (0.93–1.03)	55%	9	>2,444

Summary of CUP 2016 highest vs. lowest meta-analysis and published pooled analysis – foods containing vitamin C

Study	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
CUP colon cancer	Per 40 mg/day	0.94 (0.89–0.99)	50%	6	4,391
Pooling Project of Prospective Studies of Diet and Cancer [51] - colon cancer	Highest vs. lowest	1.06 (0.95–1.18)	-	14	5,454

Summary of CUP 2016 cancer site dose-response meta-analysis – red and processed meat

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 100 g/day	1.10 (1.02–1.18)	0%	4	-
	W	Per 100 g/day	1.13 (1.00–1.29)	47%	8	-
Colon cancer	M/W	Per 100 g/day	1.19 (1.10–1.30)	63%	10	10,010
Rectal cancer	M/W	Per 100 g/day	1.17 (0.99–1.39)	48%	6	3,455

Summary of CUP 2016 cancer site dose-response meta-analyses – red meat

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 100 g/day	1.28 (0.49–3.34)	64%	2	-
	W	Per 100 g/day	1.02 (0.78–1.33)	11%	4	-
Colon cancer	M/W	Per 100 g/day	1.22 (1.06–1.39)	12%	11	4,081
Rectal cancer	M/W	Per 100 g/day	1.13 (0.96–1.34)	0%	8	1,772

Summary of CUP 2016 meta-analysis and published pooled analyses – red meat

Analysis	Outcome	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Colorectal cancer	Per 100 g/day	1.12 (1.00–1.25)	24%	8	6,662
Genetics and Epidemiology of Colorectal Cancer Consortium (GECCO) and Colon Cancer Family Registry (CCFR) [69]	Colorectal cancer	Per 1 serving/day	1.05 (0.94–1.18)	-	7 nested case-control studies	3,488
GECCO and CCFR [70]	Colorectal cancer	Highest vs. lowest	1.06 (0.90–1.24)*	-	5 nested case-control studies	2,564
UK Dietary Cohort Consortium [60]**	Colorectal cancer	Per 50 g/day	1.01 (0.84–1.22)	-	7	579

* Relationship was not modified by NAT2 enzyme activity (based on polymorphism at rs1495741).

** The average intake of red meat was low, 38.2 g/day in men and 28.7 g/day in women controls and there were a high number of vegetarians in the cases.

Summary of CUP 2016 cancer site dose-response meta-analyses – processed meat

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 50 g/day	1.11 (0.86–1.43)	34%	2	-
	W	Per 50 g/day	1.18 (0.99–1.41)	19%	5	-
Colon cancer	M/W	Per 50 g/day	1.23 (1.11–1.35)	26%	12	8,599
Rectal cancer	M/W	Per 50 g/day	1.08 (1.00–1.18)	0%	10	3,029

Summary of CUP 2016 and published pooled analyses – processed meat

Analysis	Comparison	RR (95% CI)	I ² /P- trend	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Per 50 g/day	1.16 (1.08–1.26)	20%	10	10,738
Genetics and Epidemiology of Colorectal Cancer Consortium (GECCO) and Colon Cancer Family Registry (CCFR) [69]	Per 1 serving/ day	1.48 (1.30–1.70)	-	7	3,488
UK Dietary Cohort Consortium [60]	Per 50g/day	0.88 (0.68–1.15)	0.36	7	579

Non-linear dose-response estimates of foods containing haem iron and colorectal cancer

Haem iron (mg/day)	RR (95% CI)
0	1.00
0.6	1.09 (1.05–1.13)
1.01	1.15 (1.09–1.21)
1.4	1.18 (1.11–1.25)
2.19	1.21 (1.12–1.30)

Summary of CUP 2016 cancer site dose-response meta-analyses – haem iron

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 1 mg/day	1.02 (0.92–1.13)	0%	3	-
	W	Per 1 mg/day	1.04 (0.96–1.12)	0%	4	-
Colon cancer	M/W	Per 1 mg/day	1.07 (0.99–1.17)	37%	8	6,780
Rectal cancer	M/W	Per 1 mg/day	1.09 (0.98–1.21)	0%	6	2,293

Summary of CUP 2016 cancer site dose-response meta-analyses – fish

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 100 g/ day	0.83 (0.71–0.98)	11%	6	-
	W	Per 100 g/ day	0.96 (0.82–1.12)	0%	7	-
Colon cancer	M/W	Per 100 g/ day	0.91 (0.80–1.03)	0%	11	10,512
Rectal cancer	M/W	Per 100 g/ day	0.84 (0.69–1.02)	15%	10	3,944

Summary of CUP 2016 meta-analysis and published pooled analysis – fish

Analysis	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Per 100 g/day	0.89 (0.80–0.99)	0%	11	10,356
UK Dietary Cohort Consortium [60]	White fish per 50 g/day	0.92 (0.70–1.21)	-	7	579
	Oily fish per 50 g/day	0.89 (0.70–1.13)	-		

Non-linear dose-response estimates of dairy products and colorectal cancer

Dairy products (g/day)	RR (95% CI)
23.3	1.00
100	0.95 (0.94–0.96)
200	0.90 (0.88–0.92)
300	0.86 (0.84–0.88)
400	0.82 (0.80–0.85)
500	0.79 (0.77–0.82)

Summary of CUP 2016 cancer site dose-response meta-analyses – dairy products

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 400 g/day	0.84 (0.80–0.89)	0%	5	-
	W	Per 400 g/day	0.86 (0.78–0.96)	56%	6	-
Colon cancer	M/W	Per 400 g/day	0.87 (0.81–0.94)	24%	6	3,991
Rectal cancer	M/W	Per 400 g/day	0.93 (0.82–1.06)	49%	5	2,152

Summary of CUP 2016 cancer site dose-response meta-analysis – milk

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 200 g/ day	0.92 (0.87–0.98)	0%	3	-
	W	Per 200 g/ day	0.96 (0.89–1.03)	0%	4	-
Colon cancer	M/W	Per 200 g/ day	0.93 (0.91–0.96)	30%	9	8,149
Rectal cancer	M/W	Per 200 g/ day	0.94 (0.91–0.97)	0%	7	3,599

Summary of CUP 2016 meta-analysis and published pooled analysis – milk

Study	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Per 200 g/day	0.94 (0.92–0.96)	0%	9	10,738
The Pooling Project [94]	Per 200 g/day	0.95 (0.92–0.97)		10	4,992
CUP additional analysis: meta-analysis of The Pooling Project studies [94] combined with non-overlapping studies from the CUP	Per 200 g/day	0.94 (0.93–96)	0%	18	13,373

Non-linear dose-response estimates of cheese and colorectal cancer

Cheese (g/day)	RR (95% CI)
0	1.00
10	1.02 (0.98–1.07)
20	1.04 (0.96–1.12)
30	1.04 (0.94–1.14)
40	1.02 (0.91–1.14)
50	0.99 (0.88–1.11)
60	0.96 (0.84–1.09)
70	0.92 (0.80–1.06)
80	0.89 (0.75–1.04)
90	0.86 (0.71–1.03)

Summary of CUP 2016 cancer site dose-response meta-analysis – cheese

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 50 g/day	0.87 (0.72–1.06)	n/a	1	-
	W	Per 50 g/day	0.87 (0.61–1.23)	27%	2	-
Colon cancer	M/W	Per 50 g/day	0.91 (0.80–1.03)	19%	6	3,958
Rectal cancer	M/W	Per 50 g/day	0.95 (0.90–1.00)	0%	4	2,101

Summary of CUP 2016 meta-analysis and published pooled analysis – cheese

Study	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. cases
CUP Colorectal SLR 2016	Per 50 g/day	0.94 (0.87–1.02)	10%	7	6,462
The Pooling Project [94]	≥ 25 vs. < 5 g/ day	1.10 (0.98–1.24)	n/a, p = 0.37	10	7,157

Summary of CUP 2010 cancer site dose-response meta-analyses – dietary calcium

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 200 mg/day	0.93 (0.88–0.99)	52%	3	-
	W	Per 200 mg/day	0.93 (0.91–0.95)	0%	9	-
Colon cancer	M/W	Per 200 mg/day	0.93 (0.89–0.97)	10%	10	2,738
Rectal cancer	M/W	Per 200 mg/day	0.94 (0.86–1.02)	35%	8	1,173

Summary of CUP 2016 meta-analysis and published pooled analysis – dietary calcium

Study	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. cases
CUP Colorectal SLR 2010	Per 200 mg/ day	0.94 (0.93–0.96)	0%	10	11,519
The Pooling Project [94]	Highest vs. Lowest	0.86 (0.78–0.95)	n/a, p = 0.02	10	4,992

Summary of CUP 2016 cancer site dose-response meta-analyses – plasma or serum vitamin D

Analysis	Sex	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 30 nmol/l	1.05 (0.88–1.26)	60%	3	-
	W	Per 30 nmol/l	0.83 (0.53–1.30)	84%	2	-
Colon cancer	M/W	Per 30 nmol/l	0.90 (0.81–1.01)	63%	9	2,037
Rectal cancer	M/W	Per 30 nmol/l	0.83 (0.69–1.00)	43%	7	1,579

Summary of RCT – multivitamin supplement

Study Name & Intervention	Supplementation	Outcome	RR (95% CI)	P-Value	No. Cases	
					Intervention	Control
Physicians Health Study [123]	Vitamin E (400 IU synthetic tocopherol), vitamin C (500 mg synthetic ascorbic acid) and beta-carotene (50 mg Lurotin)	Incidence	0.89 (0.68-1.17)	0.39	99	111

Non-linear dose-response estimates of alcohol (as ethanol) intake and colorectal cancer

Alcohol (g/day)	RR (95% CI)
0	1.00
10	1.02 (0.98–1.07)
20	1.07 (1.00–1.16)
30	1.15 (1.06–1.26)
40	1.25 (1.14–1.36)
50	1.41 (1.31–1.52)
60	1.60 (1.51–1.69)

Summary of CUP 2016 cancer site dose-response meta-analysis – alcohol as ethanol

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 10 g/day	1.08 (1.06–1.09)	0%	14	-
	W	Per 10 g/day	1.04 (1.00–1.07)	44%	10	-
Colon cancer	M/W	Per 10 g/day	1.07 (1.05–1.09)	34%	14	12,051
	M	Per 10 g/day	1.08 (1.06–1.10)	37%	12	-
	W	Per 10 g/day	1.05 (1.02–1.09)	0%	10	-
Rectal cancer	M/W	Per 10 g/day	1.08 (1.07–1.10)	0%	11	7,763
	M	Per 10 g/day	1.09 (1.06–1.12)	25%	10	-
	W	Per 10 g/day	1.09 (1.04–1.15)	0%	8	-

Summary of CUP 2016 type of drink dose-response meta-analyses – alcohol as ethanol

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Wine (colorectal or colon cancer)	M/W	Per 10 g/day	1.04 (1.01–1.08)	0%	6	-
Beer (colorectal cancer)	M/W	Per 10 g/day	1.08 (1.05–1.11)	0%	5	-
Spirits (colorectal cancer)	M/W	Per 10 g/day	1.08 (1.02–1.14)	0%	4	-

Summary of CUP 2016 meta-analysis and published pooled analyses – alcohol as ethanol

Study	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Per 10 g/day	1.07 (1.05–1.08)	28%	16	15,896
UK Dietary Cohort Consortium [139]	≥ 45 vs. 0 g/day, men	1.24 (0.69–2.22)		7	579
	≥45 vs. 0 g/day, women	1.52 (0.56–4.10)			
Japanese Pooling Project 2008 [143]	Per 15 g/day, men	1.11 (1.09–1.14)		5	1,724
	Per 15 g/day, women	1.13 (1.06–1.20)			1,078

Summary of CUP 2016 meta-analyses – alcoholic drinks

Analysis	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	Per 1 drink/day	1.06 (1.00–1.11)	60%	8	36,942
Colon cancer	Per 1 drink/day	1.11 (0.90–1.36)	98%	8	5,207
Rectal cancer	Per 1 drink/day	1.08 (1.00–1.17)	62%	5	963

Summary of CUP 2016 cancer site highest versus lowest meta-analysis – physical activity

Analysis	Sex	Comparison	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M/W	Highest vs. lowest	0.81 (0.69–0.95)	48%	6	5,607
Rectal cancer	M/W	Highest vs. lowest	1.04 (0.92–1.18)	9%	9	2,326

Summary of CUP 2016 meta-analysis and published meta-analyses – recreational physical activity

Study	Cancer Site	Sex	Highest vs Lowest RR (95% CI)	I ² / P-Value	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Colon cancer	M/W	0.84 (0.78–0.91)	33%	20	10,258
Boyle, 2012 [166]	Proximal colon cancer	M/W	0.73 (0.66–0.81)	31%, 0.06	12 cohort and 9 case-control studies	
	Distal colon cancer		0.74 (0.68–0.80)	0%, 0.47		
Yang, 2010 [165]	Colon cancer	M	0.74 (0.61–0.90)	0.14	28	
		W	0.99 (0.95–1.02)	0.41		
Harris, 2009 [164]	Colon cancer	M	0.80 (0.67–0.96)	54.1%, 0.01	15	7,873
		W	0.86 (0.76–0.98)	0%, 0.88		

Non-linear estimates of BMI and colorectal cancer

BMI (kg/m²)	RR (95% CI)
18.75	0.98 (0.98–0.99)
20.29	1.00
23.75	1.05 (1.03–1.06)
25.25	1.08 (1.06–1.10)
27.50	1.15 (1.13–1.18)
31.20	1.34 (1.29–1.38)

Summary of CUP 2016 cancer site dose-response meta-analyses – BMI

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 5 kg/m ²	1.08 (1.04–1.11)	83%	20	
	W	Per 5 kg/m ²	1.05 (1.02–1.08)	83%	24	
Colon cancer	M/W	Per 5 kg/m ²	1.07 (1.05–1.09)	72%	41	72,605
Proximal colon cancer	M/W	Per 5 kg/m ²	1.05 (1.03–1.08)	44%	20	8,437
Distal colon cancer	M/W	Per 5 kg/m ²	1.08 (1.04–1.11)	52%	20	14,985
Rectal cancer	M/W	Per 5 kg/m ²	1.02 (1.01–1.04)	59%	35	67,732

Summary of CUP 2016 cancer site dose-response meta-analysis – waist circumference

Analysis	Sex	Increment	RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 10 cm	1.02 (1.00–1.04)	47%	4	
	W	Per 10 cm	1.03 (1.02–1.04)	0%	5	
Colon cancer	M/W	Per 10 cm	1.04 (1.02–1.06)	63%	10	3,613
Rectal cancer	M/W	Per 10 cm	1.02 (1.00–1.03)	0%	6	1,579

Summary of CUP 2016 cancer site dose-response meta-analysis – adult attained height

Analysis	Sex		RR (95% CI)	I ²	No. Studies	No. Cases
Colorectal cancer	M	Per 5 cm	1.04 (1.03–1.05)	0%	8	
	W	Per 5 cm	1.06 (1.02–1.09)	92%	9	
Colon cancer	M/W	Per 5 cm	1.05 (1.04–1.07)	90%	14	85,589
Rectal cancer	M/W	Per 5 cm	1.03 (1.01–1.06)	60%	13	25,005

Summary of CUP 2016 meta-analysis and published pooled analysis – adult attained height

Analysis	Increment/ Contrast	RR (95% CI)	I ²	No. Studies	No. Cases
CUP Colorectal Cancer SLR 2016	Per 5 cm	1.05 (1.02–1.07)	90%	13	65,880
Emerging risk factors collaboration [220]	Per 6.5 cm	1.07 (1.03–1.11)	12%	121	4,855 deaths