

Supplemental Table 1. Antibiotic use at age 20-39 and risk of colorectal adenoma by size, histology and multiplicity, NHS 2004-2010

	Antibiotic use at age 20-39				P _{trend}
	None	1-14 d	15 d-2 mo	2 mo+	
Large					
No. of cases (n=305)	32	176	72	25	
Age-adjusted* OR (95% CI)	1(referent)	1.34(0.91-1.97)	1.52(0.98-2.33)	1.46(0.85-2.51)	0.22
Multivariable† OR (95% CI)	1(referent)	1.32(0.89-1.95)	1.57(1.02-2.43)	1.56(0.90-2.71)	0.10
Small					
No. of cases (n=884)	104	477	223	80	
Age-adjusted* OR (95% CI)	1(referent)	1.12(0.90-1.40)	1.43(1.12-1.83)	1.40(1.03-1.91)	0.001
Multivariable† OR (95% CI)	1(referent)	1.12(0.89-1.40)	1.43(1.11-1.83)	1.37(1.00-1.88)	0.003
Villous					
No. of cases (n=177)	22	105	34	16	
Age-adjusted* OR (95% CI)	1(referent)	1.27(0.78-2.05)	1.17(0.66-2.09)	1.57(0.80-3.10)	0.43
Multivariable† OR (95% CI)	1(referent)	1.23(0.76-1.99)	1.15(0.65-2.03)	1.51(0.75-3.05)	0.48
Tubular					
No. of cases (n=836)	101	440	222	73	
Age-adjusted* OR (95% CI)	1(referent)	1.05(0.84-1.32)	1.45(1.13-1.86)	1.30(0.95-1.78)	0.001
Multivariable† OR (95% CI)	1(referent)	1.05(0.83-1.32)	1.44(1.12-1.86)	1.31(0.95-1.80)	0.002
≥3 Adenomas					
No. of cases (n=144)	15	85	33	11	
Age-adjusted* OR (95% CI)	1(referent)	1.51(0.87-2.63)	1.69(0.90-3.18)	1.64(0.75-3.61)	0.33
Multivariable† OR (95% CI)	1(referent)	1.57(0.88-2.80)	1.82(0.95-3.49)	1.82(0.81-4.11)	0.22
1-2 Adenoma(s)					
No. of cases (n=1051)	126	568	263	94	
Age-adjusted* OR (95% CI)	1(referent)	1.08(0.88-1.33)	1.37(1.09-1.72)	1.33(1.00-1.77)	0.002
Multivariable† OR (95% CI)	1(referent)	1.07(0.87-1.32)	1.37(1.09-1.72)	1.31(0.98-1.75)	0.003

*Adjusted for age, time period of colonoscopy, number of reported endoscopies, time since most recent endoscopy and reason for current colonoscopy.

†Additionally adjusted for family history of colorectal cancer, history of diabetes, menopausal status and postmenopausal hormone use, body mass index, height, regular use of aspirin, current use of multivitamin, alcohol intake, smoking, total calorie, folate, calcium intake, red and processed meat intake, and Alternate Healthy Eating Index (AHEI) 2010.

Supplemental Table 2. Antibiotic use at age 40-59 and risk of colorectal adenoma by size, histology and multiplicity, NHS 2004-2010

	Antibiotic use at age 40-59				P _{trend}
	None	1-14 d	15 d-2 mo	2 mo+	
Large					
No. of cases (n=305)	18	168	89	30	
Age-adjusted* OR (95% CI)	1(referent)	1.32(0.81-2.15)	1.42(0.85-2.38)	1.46(0.81-2.64)	0.34
Multivariable† OR (95% CI)	1(referent)	1.32(0.79-2.18)	1.46(0.86-2.47)	1.48(0.80-2.72)	0.29
Small					
No. of cases (n=884)	47	469	263	105	
Age-adjusted* OR (95% CI)	1(referent)	1.39(1.02-1.88)	1.58(1.15-2.18)	1.89(1.32-2.70)	<0.001
Multivariable† OR (95% CI)	1(referent)	1.35(0.99-1.83)	1.53(1.11-2.10)	1.81(1.26-2.60)	0.001
Villous					
No. of cases (n=177)	12	97	47	21	
Age-adjusted* OR (95% CI)	1(referent)	1.20(0.65-2.20)	1.22(0.64-2.34)	1.70(0.82-3.50)	0.17
Multivariable† OR (95% CI)	1(referent)	1.15(0.62-2.12)	1.15(0.60-2.21)	1.59(0.76-3.33)	0.24
Tubular					
No. of cases (n=836)	45	442	257	92	
Age-adjusted* OR (95% CI)	1(referent)	1.36(0.99-1.86)	1.60(1.15-2.21)	1.71(1.18-2.47)	0.003
Multivariable† OR (95% CI)	1(referent)	1.36(0.99-1.87)	1.60(1.15-2.23)	1.68(1.16-2.45)	0.01
≥3 Adenomas					
No. of cases (n=144)	7	85	38	14	
Age-adjusted* OR (95% CI)	1(referent)	1.79(0.82-3.92)	1.71(0.75-3.90)	1.96(0.77-4.98)	0.57
Multivariable† OR (95% CI)	1(referent)	1.67(0.76-3.66)	1.66(0.73-3.77)	1.76(0.69-4.55)	0.64
1-2 Adenoma(s)					
No. of cases (n=1051)	59	552	319	121	
Age-adjusted* OR (95% CI)	1(referent)	1.29(0.98-1.71)	1.51(1.13-2.01)	1.71(1.24-2.37)	<0.001
Multivariable† OR (95% CI)	1(referent)	1.28(0.97-1.69)	1.49(1.11-1.99)	1.69(1.21-2.34)	<0.001

*Adjusted for age, time period of colonoscopy, number of reported endoscopies, time since most recent endoscopy and reason for current colonoscopy.

†Additionally adjusted for family history of colorectal cancer, history of diabetes, menopausal status and postmenopausal hormone use, body mass index, height, regular use of aspirin, current use of multivitamin, alcohol intake, smoking, total calorie, folate, calcium intake, red and processed meat intake, and Alternate Healthy Eating Index (AHEI) 2010.

Supplemental Table 3. Joint analysis of antibiotic use at age 20-39 and 40-59 and risk of colorectal adenoma*, NHS 2004-2010

Age 20-39	Age 40-59		
	None	1-14 d	15 d+
None	34 1(referent)	88 1.29(0.86-1.95)	20 1.26(0.70-2.28)
1-14 d	28 1.06(0.63-1.78)	489 1.37(0.95-1.97)	151 1.47(1.00-2.18)
15 d+	4 1.01(0.34-2.94)	72 1.56(1.02-2.40)	327 1.73(1.19-2.51)

Supplemental Table 4. Reason for antibiotic use and risk of colorectal adenoma, NHS 2008-2010

	No. of cases/non-cases	OR (95% CI)
Respiratory infection	52/1724	1(referent)
UTI	30/629	1.50(0.94-2.39)
Acne/Rosacea	1/55	0.50(0.07-3.80)
Chronic Bronchitis	2/96	0.71(0.17-3.04)
Dental	27/842	1.10(0.67-1.81)
Other Reason	22/795	0.87(0.51-1.48)

*Adjusted for the same set of covariates as in Table 2.