study population twice, so these studies are arguably contributing more weight to the overall effect size than appropriate.

Despite the concerns raised, we acknowledge that the meta-analysis presented by Cong *et al* (2014) has drawn attention to the potential role of sedentary behaviour in colon and rectal cancer aetiology. Clearly further studies, using well-designed and tested measures of sedentary behaviour, are required in this field.

REFERENCES

Ainsworth BE, Richardson MT, Jacobs Jr DR, Leon AS, Sternfield B (1999) Accuracy of recall of occupational physical activity by questionnaire. J Clin Epidemiol 52: 219–227.

Campbell PT, Patel AV, Newton CC, Jacobs EJ, Gapstur SM (2013) Associations of recreational physical activity and leisure time spent sitting with colorectal cancer survival. J Clin Oncol 31: 876–885.

Colbert LH, Hartman TJ, Malila N, Limburg PJ, Pietinen P, Virtamo J, Taylor PR, Albanes D (2001) Physical activity in relation to cancer of the colon and rectum in a cohort of male smokers. Cancer Epidemiol Biomarkers Prev 10: 265–268.

Cong YJ, Gan Y, Sun HL, Deng J, Cao SY, Xu X, Lu ZX (2014) Association of sedentary behaviour with colon and rectal cancer: a meta-analysis of observational studies. Br J Cancer 110: 817–826.

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Fraser G, Pearce N (1993) Occupational physical activity and risk of cancer of the colon and rectum in New Zealand males. *Cancer Causes Control* 4: 45–50.

Garabrant DH, Peters JM, Mack TM, Bernstein L (1984) Job activity and colon cancer risk. Am J Epidemiol 119: 1005–1014.

Howard RA, Freedman DM, Park Y, Hollenbeck A, Schatzkin A, Leitzmann MF (2008) Physical activity, sedentary behaviour, and the risk of colon and rectal cancer in the NIH-AARP Diet and Health Study. *Cancer Causes Control* 19: 939–953.

LaPorte RE, Montoye HJ, Caspersen CJ (1985) Assessment of physical activity in epidemiologic research: problems and prospects. *Public Health Rep* **100**: 131 146

Moradi T, Gridley G, Bjork J, Dosemeci M, Ji BT, Berkel HJ, Lemeshow S (2008)
Occupational physical activity and risk for cancer of the colon and rectum in
Sweden among men and women by anatomic subsite. *Eur J Cancer Prev* 17:
201 208

Thune I, Lund E (1996) Physical activity and risk of colorectal cancer in men and women. *Br J Cancer* 73: 1134–1140.

Weiderpass E, Vainio H, Kauppinen T, Vasama-Neuvonen K, Partanen T, Pukkala E (2003) Occupational exposures and gastrointestinal cancers among Finnish women. J Occup Environ Med 45: 305–315.

Yates T, Wilmot EG, Davies MJ, Gorely T, Edwardson C, Biddle S, Khunti K (2011) Sedentary behaviour: what's in a definition? *Am J Prev Med* **40**: e33–e34.



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Reply: Comment on 'Association of sedentary behaviour with colon and rectal cancer: a metaanalysis of observational studies'

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We would like to thank Dr. Lynch and Boyle (2014) for their valuable comments and suggestions on our meta-analysis 'Association of sedentary behaviour with colon and rectal cancer: a meta-analysis of observational studies' (Cong et al, 2014). This meta-analysis made a timely and novel contribution to the literature about associations of sedentary behaviour on colon and rectal cancer risk. Although some imperfection may exist, they did not materially influence our result. Now, we are replying to the main comments mentioned by Lynch and Boyle.

Indeed, sedentary behaviour is distinctly different from occupational sedentariness and the lack of moderate- to vigorous-intensity physical activity. But in the included original studies, these exposures are difficult to be strictly differentiated. In our initial manuscript, we only focused on self-reported sedentary behaviours. On the basis of the suggestion of one of the reviewers, in order to avoid missing more relevant studies, we took into account the sedentary behaviour that is measured by job title-based response in the revised manuscript. Now, we did a subgroup analysis by types of assessment of sedentary behaviour, and the result showed that there was no substantial difference in the two types of measure of sedentary behaviour. For colon cancer, the pooled OR of sedentary behaviour measured by job title-based response was 1.39 (95% CI, 1.20–1.60, $I^2 = 63.7\%$), whereas the pooled OR of self-reported sedentary behaviour was 1.27 (95% CI, 1.18–1.36, $I^2 = 26.7\%$).

The difference between them was insignificant (P for interaction = 0.289). For rectal cancer, the pooled OR of sedentary behaviour measured by job title-based response was 1.11 (95% CI, 1.03–1.20, I^2 = 4.2%), whereas the pooled OR of self-reported sedentary behaviour was 1.01 (95% CI, 0.92–1.11, I^2 = 19.7%). The difference between them was insignificant too (P for interaction = 0.156).

There are three studies that we included twice because the authors reported the risk estimates for two different measures of sedentary behaviour. Indeed, this may be contributing more (although not much more) weight to the overall effect size, but including only one of the two measures of sedentary behaviour is also inappropriate.

In summary, we appreciate most of Lynch and Boyle's comments and suggestions. Our meta-analysis indeed has some flaws, but these defects do not alter our main results and conclusions.

REFERENCES

Cong YJ, Gan Y, Sun HL, Deng J, Cao SY, Xu X, Lu ZX (2014) Association of sedentary behaviour with colon and rectal cancer: a meta-analysis of observational studies. *Br J Cancer* **110**: 817–826.

Lynch BM, Boyle T (2014) Distinguishing sedentary from inactive: implications for meta-analyses. Br J Cancer 111: 2202–2203.

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Coexistence of KRAS mutation with mutant but not wild-type EGFR predicts response to tyrosine-kinase inhibitors in human lung cancer

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Sir,

EGFR and KRAS mutations occur mutually exclusively in NSCLC, suggesting functional redundancy (Kosaka et al, 2004; Pao et al, 2005;

Shigematsu et al, 2005; Tam et al, 2006). However, they predict contrasting response rates to tyrosine-kinase inhibitors (TKIs) – while EGFR mutation predicts longer progression-free survival rate (Lynch et al, 2004;

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