

# Letter by Dixon et al Regarding Article, “Watching Television and Risk of Mortality From Pulmonary Embolism Among Japanese Men and Women: The JACC Study (Japan Collaborative Cohort)”

*To the Editor:*

We read with great interest the recent article by Shirakawa et al.<sup>1</sup> In their prospective observational cohort study, they found that television time increased the risk of mortality from pulmonary embolism in those watching  $\geq 2.5$  hours per day. It is important to note that the risk doubled in those watching television for  $\geq 5$  hours per day. As the authors point out, these findings are consistent with those observed in the Nurse's Health Study, which found that sitting  $\geq 41$  hours per week increased the risk of incident pulmonary embolism compared with those who sat for  $< 10$  hours.<sup>2</sup> These data further support a strong association with increased risk of venous thromboembolism and increased sitting time.

In addition to the observed increased risk of mortality from pulmonary embolism in this study, prolonged sitting time has also been associated with increased risk of cardiovascular disease mortality and total mortality.<sup>3</sup> Moreover, it has been observed that regular exercise does not appear to mitigate this increased risk if these individuals sit for extending periods of time in between short bouts of exercise.<sup>4</sup> Sitting-reducing strategies, such as reallocating sitting time to standing or stepping, have been associated with improved cardiometabolic biomarkers, such as glucose, body mass index, and triglycerides.<sup>5</sup> Randomized trials are warranted to further explore the potential impact of such interventions.

Although social histories usually include occupation, marital status, use of tobacco and alcohol, exercise, and dietary habits, it is unclear which components are most relevant to clinical decision making. Furthermore, this becomes imperative given the limited face-to-face time many clinicians have with patients in the outpatient clinic setting. It is reasonable, therefore, that we identify those aspects of the social history most associated with an increased risk of morbidity and mortality to effectively use the time we have with our patients to address issues with the potential to have the greatest impact on health. As such, we advocate asking patients about their structured exercise frequency and duration as well as their sitting time and inactivity. It seems to us that asking patients about their sitting time may be well worth our time.

## DISCLOSURES

None.

## AFFILIATIONS

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**REFERENCES**

1. Shirakawa T, Iso H, Yamagishi K, Yatsuya H, Tanabe N, Ikehara S, Ukawa S, Tamakoshi A. Watching television and risk of mortality from pulmonary embolism among Japanese men and women: The JACC Study (Japan Collaborative Cohort). *Circulation*. 2016;134:355–357. doi: 10.1161/CIRCULATIONAHA.116.023671.
2. Kabrhel C, Varraso R, Goldhaber SZ, Rimm E, Camargo CA Jr. Physical inactivity and idiopathic pulmonary embolism in women: prospective study. *BMJ*. 2011;343:d3867.
3. Patel AV, Bernstein L, Deka A, Feigelson HS, Campbell PT, Gapstur SM, Colditz GA, Thun MJ. Leisure time spent sitting in relation to total mortality in a prospective cohort of US adults. *Am J Epidemiol*. 2010;172:419–429. doi: 10.1093/aje/kwq155.
4. Biswas A, Oh PI, Faulkner GE, Bajaj RR, Silver MA, Mitchell MS, Alter DA. Sedentary time and its association with risk for disease incidence, mortality, and hospitalization in adults: a systematic review and meta-analysis. *Ann Intern Med*. 2015;162:123–132. doi: 10.7326/M14-1651.
5. Healy GN, Winkler EA, Owen N, Anuradha S, Dunstan DW. Replacing sitting time with standing or stepping: associations with cardio-metabolic risk biomarkers. *Eur Heart J*. 2015;36:2643–2649. doi: 10.1093/eurheartj/ehv308.