

## Cancer

<b>SR/MA</b> <b>Citation:</b> Friedenreich CMS, C.R.; Cheung, W.Y.; Hayes, S.C. Physical activity and mortality in cancer survivors: A systematic review and meta-analysis. JNCI Cancer Spectrum 2019. <a href="https://doi.org/10.1093/jncics/pkz080">https://doi.org/10.1093/jncics/pkz080</a>	
<b>Purpose:</b> To evaluate the association between pre-diagnosis and postdiagnosis PA and survival for all cancer and by specific cancer sites	<b>Abstract:</b> <b>Background:</b> Recommendations for improved survival after cancer through physical activity (PA) exist, although the evidence is still emerging. Our primary objective was to conduct a systematic review and meta-analysis of the association between pre- and post-diagnosis PA and survival (cancer-specific, all-cause and cardiovascular disease mortality) for all-cancers and by tumour site. Secondary objectives were to examine the associations within population subgroups, by PA domain, and to determine the optimal dose of PA related to survival. <b>Methods:</b> PubMed, EMBASE and SportsDiscus databases were searched to November 1, 2018. DerSimonian-Laird random-effects models were used to estimate the summary hazards ratios (HRs) and 95% confidence intervals for primary and secondary analyses, and to conduct dose-response analyses. <b>Results:</b> Evidence from 136 studies showed improved survival outcomes with highest versus lowest levels of pre- or post-diagnosis total/recreational PA for all-cancers combined (cancer-specific mortality: HR = 0.82, 95% CI = 0.79-0.86; and HR = 0.63, 95% CI = 0.53-0.75 respectively) as well as for 11 specific cancer sites. For breast and colorectal cancers, greater reductions were observed for post-diagnosis PA (HRs=0.58-0.63) compared with pre-diagnosis PA (HRs=0.80-0.86), for cancer-specific and all-cause mortality. Survival benefits through PA were observed in most subgroups (within sex, body mass index, menopausal status, colorectal subtypes and PA domain) examined. Inverse dose-response relationships between PA and breast cancer-specific and all-cause mortality were observed, with steep reductions in hazards to 10-15 MET-hours/week. <b>Conclusion:</b> Higher pre- and post-diagnosis levels of PA were associated with improved survival outcomes for at least 11 cancer types, providing support for global promotion of PA guidelines following cancer.
<b>Timeframe:</b> Nov 1, 2018	
<b>Total # studies included:</b> 136	
<b>Other details (e.g. definitions used, exclusions etc)</b> Data from available observational epidemiologic studies and RCTs	
<b>Outcomes addressed:</b> Cancer- and all-cause mortality	