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# Absolute and relative intensity of physical activity in patients with resectable non-small cell lung cancer following surgery

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## Abstract

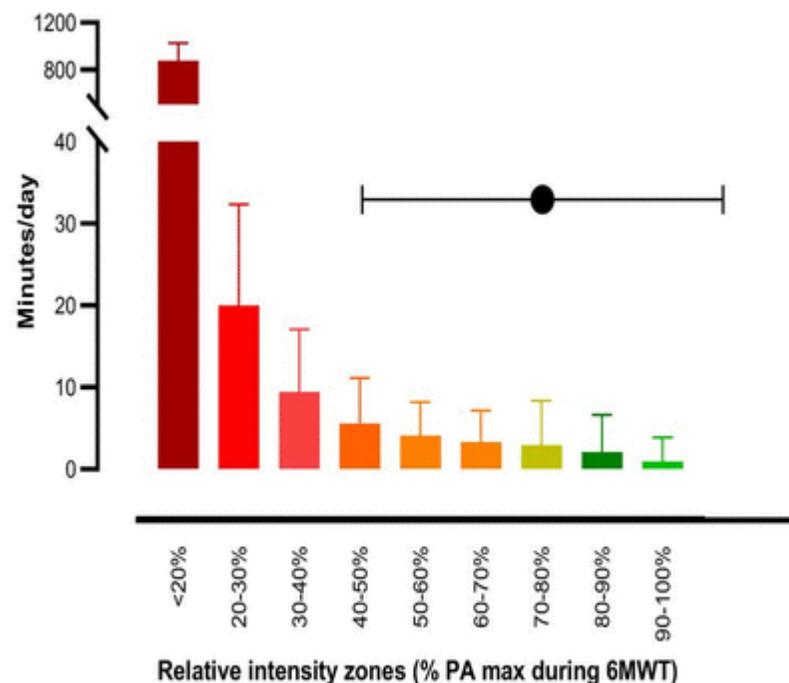
**Background:** Patients with resectable non-small cell lung cancer (NSCLC) show low physical activity (PA) levels post-surgery. Moderate to vigorous intense PA (MVPA) is typically defined using absolute cut points, but its relation to maximal PA intensity (maxPA) measured during an instrumented field test is unknown.

**Aim:** To evaluate free-living PA intensity distribution of patients with resectable NSCLC post-surgery and quantify time spent in different intensity zones relative to maxPA assessed during a field test.

**Methods:** Patients with NSCLC in an ongoing RCT, 1-12 months post-surgery, underwent maxPA assessment by accelerometry (ActiGraph GTX3) during the best of two six-minute walk tests (6MWT). Free-living PA was measured for 7 consecutive days by accelerometry. Vector magnitude units (VMU) were retrieved, time in MVPA ( $\geq 1951$ VMU) and intensity zones relative to maxPA were compared by paired T-test.

**Results:** In 39 patients (23 males,  $67 \pm 10$  yrs) daily relative PA intensity distribution is shown in Fig1. Patients spent  $18 \pm 24$ min/day in MVPA and  $19 \pm 24$ min/day at  $\geq 50\%$  maxPA ( $p=0.6$ ). The absolute cutoff was  $61 \pm 27$ (range: 31-179)% of maxPA (Fig1).

**Conclusion:** Post-surgery, patients with resectable NSCLC engage in limited MVPA. Absolute cut points correspond to  $\sim 60\%$  of maxPA during a field test, with large variability. This hints the need for a more personalized approach to PA intensity interpretation.



**Figure 1.** The bars represent the distribution of the time (mean±SD) patients spent in different relative physical activity (PA) intensity zones. The black dot represents the percentage (mean±SD) of the cutoff point for moderate to vigorous intense PA (MVPA) (1951VMU) relative to a person's maximal PA measured during a 6MWT.

## Footnotes

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