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PHYSICAL WORK DEMANDS AND PHYSICAL FITNESS IN LOW SOCIAL CLASSES

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Objectives Social class and physical work demands are strongly correlated and by implication much more prevalent among manual workers, that is, lower social classes. To challenge physical work demands as a risk factor for ischaemic heart disease (IHD) mortality, we analysed the interplay of physical work demands, physical fitness and mortality exclusively among the lower social classes.

Methods 30-year follow-up in the Copenhagen Male Study of 5249 gainfully employed men aged 40–59 years. 274 men with cardiovascular disease were excluded from the follow-up. Physical fitness (maximal oxygen consumption, VO_2 Max) was estimated using the Åstrand cycling test, and participants divided into low (VO_2 Max 15–26 ml/kg/min) or high (VO_2 Max 39–78 ml/kg/min) physical fitness. Physical work demands were determined by two self-reported questions.

Results Overall, 583 men (11.9%) died due to IHD and 2648 (54.0%) from all cause mortality (ACM). Among the higher social classes (I–III), only 3.5% had high physical work demands versus 30% among classes IV and V. Among 2707 belonging to social classes IV and V, multiple-adjusted Cox proportional hazard ratios (HR) with 95% CI showed a substantial increased risk of IHD mortality from high physical work demands among men with low physical fitness (HR:2.90, 95% CI: 1.21 to 6.96), but not among men with high physical fitness (HR:0.60, 95% CI: 0.24 to 1.47), referencing men with low physical work demands. Similar, but weaker associations were found for ACM.

Conclusions These findings among low social class men support that high physical work demands increases the risk of IHD mortality among those with low physical fitness.