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Physical Activity and physical function in men undergoing hormone therapy for Prostate Cancer - The PAPC study

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Background: Lifestyle factors such as physical activity (PA) may help prevent and reduce adverse effects of androgen deprivation therapy (ADT) in men with prostate cancer. Most evidence on PA in this population comes from exercise-based interventions or self-reported measures that primarily capture structured exercise. While exercise can be beneficial, it is not always appealing or feasible for patients. Devices such as accelerometers provide detailed insights into overall PA and activity patterns, including sleep, sedentary time, light PA, and incidental movement. These behaviours may be more practical targets for intervention than structured exercise, yet remain understudied.

Purpose: To examine prospective associations between objectively measured PA, sedentary time, and sleep with physical function, health-related quality of life, and psychological outcomes in men undergoing ADT, and to describe changes in activity patterns during treatment.

Methods: This prospective observational study will recruit men with prostate cancer scheduled to start ADT at Oslo University Hospital, Norway. Eligible participants include those receiving primary ADT, ADT as adjuvant/neoadjuvant to radiotherapy, or combined ADT and androgen blockade. Assessments will occur at baseline, 6 and 12 months. PA, sedentary time, and sleep will be measured using a wrist-worn ActiGraph GT3X+ accelerometer for seven days. Physical function will be assessed by sit-to-stand, 6-minute walk, and grip strength tests; body composition by dual-energy X-ray absorptiometry. Psychological outcomes, lifestyle habits, and demographics will be collected via questionnaires; clinical data from medical records. We aim to enroll 214 participants over 1–2 years to detect associations between PA and changes in lower limb physical function (80% power, $p < 0.05$). Data collection starts January 2026.

Potential impact: This study will generate novel insights into the role of PA, sedentary behavior, and sleep in maintaining physical function and health during ADT, and may inform clinical guidelines and support tailored interventions to improve care during and after treatment.

Keywords

physical activity, accelerometry, physical function, prostate cancer

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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