

## 2.19 Physical Activity, Exercise Capacity and Sedentary Behaviour in People with Alpha-1 Antitrypsin Deficiency: A Scoping Review

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**Background:** Alpha-1 antitrypsin deficiency (AATD) is a genetic risk factor for COPD. Physical activity (PA) is important for the prevention and treatment of chronic disease. Little is known about PA in people with AATD. We aimed to map the research undertaken to improve and/or measure PA, sedentary behaviour (SB) or exercise in people with AATD.

**Methods:** Searches were conducted in CINAHL, Medline, EMBASE and clinical trial databases. Databases were searched for keywords (physical activity, AATD, exercise, sedentary behaviour) as well as synonyms of these terms, which were connected using Boolean operators.

**Results:** The search returned 360 records. Of the 37 studies included, the majority assessed exercise capacity using the six-minute walk test (n=22), the incremental shuttle walk test (n=3) or cardiopulmonary exercise testing (n=3). Other measures of exercise capacity and self-reported measures of exercise capacity were noted. Only one study aimed to analyse the effects of an intervention on PA. One study reported objectively measured PA. No studies measured SB.

**Conclusions:** The assessment of PA and PA interventions are limited in AATD, and research into SB absent. Future research should measure PA and SB levels in people with AATD and explore interventions to enhance PA in this population.

Keywords: AATD; COPD; exercise capacity; lung disease; physical activity measurement; sedentary behaviour.

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