Body: Introduction Usual gait speed is a predictor of adverse outcomes in community dwelling older adults (Studenski 2011). We have recently described the "slow gait speed" phenotype (usual walking speed <0.80m/s) in COPD, characterised by significantly reduced exercise capacity, increased breathlessness and poor health status compared to those with preserved walking speed. Physical inactivity is an independent risk factor for mortality (Waschki 2011). We hypothesised that the "slow gait speed" phenotype is associated with significantly reduced physical activity (PA) levels, measured objectively using a validated activity monitor. Aims and objectives To determine if COPD patients with a slow usual four metre gait speed (4MGS) have reduced PA levels compared with those with preserved gait speed. Methods In 125 COPD patients, spirometry, incremental shuttle walk (ISW), 4MGS, MRC Dyspnoea score (MRC), St George’s Respiratory Questionnaire (SGRQ) and PA using an accelerometer (SWA: Sensewear®) were measured. Indices of PA included average daily step count, time spent and active energy expenditure in moderate intensity. Patients were stratified according to 4MGS (slow: <0.8m/s; preserved: >0.80m/s). Between groups comparisons were made using Mann Whitney tests. Results Daily SWA wear time was >23 hours. Data is presented as median (25th, 75th percentiles). Slow gait speed patients (n=29) had significantly reduced ISW (115m (80, 165) vs. 290m (220, 380) p<0.001) and higher SGRQ (63.03 (53.71, 71.69) compared with those with preserved 4MGS (46.07 (36.05, 56.53) p<0.001). Indices of PA were significantly reduced in those with slow 4MGS. Conclusion The "slow gait speed" phenotype is associated with significantly reduced PA in COPD.