

## 6.02 Steps Ahead: Optimising physical activity in adults with cystic fibrosis: A pilot randomised trial using wearable technology, goal setting and text message feedback.

Máire Curran<sup>1</sup>— Audrey C. Tierney<sup>1,2,7</sup>, Louise Collins<sup>1</sup>, Lauren Kennedy<sup>1</sup>, Ciara McDonnell<sup>1</sup>, Andrew J. Jurascheck<sup>1</sup>, Ali Sheikhi<sup>1</sup>, Cathal Walsh<sup>1</sup>, Brenda Button<sup>5,6</sup>, Brian Casserly<sup>1</sup>, Roisin Cahalan<sup>1</sup>

<sup>1</sup>University of Limerick, <sup>5</sup>The Alfred, Melbourne, <sup>6</sup>Monash University, Melbourne, <sup>7</sup>La Trobe University, Melbourne,

Regular participation in physical activity (PA) is encouraged for people with Cystic Fibrosis (CF). This study aimed to assess the effectiveness of an intervention using wearable technology, goal setting and text message feedback on PA and health outcomes in people with CF. This was a pilot randomised trial conducted at University Hospital Limerick. Participants were randomly assigned to the intervention (INT) or active comparator (AC). The 12-week intervention consisted of wearable technology (Fitbit Charge 2) which was remotely monitored, and participants set step count goals. Participants were sent a one-way text message once a week over 12 weeks to positively reinforce and encourage PA participation. The AC group received the wearable technology alone. Follow up was assessed at 24 weeks. Outcomes assessed were PA, aerobic capacity, lung function, sleep, quality of life and wellbeing.

**Table 1(6.12): Overall week-to-week step count percentage change for the intervention and active comparator groups**

	Intervention	Active Comparator	p value*
<b>Week to week % change: Weeks 1-12</b>	+27.8%	-1%	p=0.023*
<b>Week to week % change: Weeks 13-24</b>	-2.2%	+6.5%	p=0.559
<b>Week to week % change: Weeks 1-24</b>	+25.6%	+5.5%	p=0.007*

VO2 peak (ml/kg/min) significantly increased for the INT group only at 12 weeks ( $24.4 \pm 7.65$  to  $26.13 \pm 7.79$ ,  $p=0.003$ ) but not at 24 weeks ( $24.45 \pm 7.05$ ,  $p=0.776$ ). There was no significant effect on lung function, sleep, well-being, or quality of life for either group.

A personalised PA intervention using wearable technology, goal setting and text message feedback increased PA and aerobic capacity in people with CF.

**Conflict of Interest:** None to declare