BACKGROUND

- Hospital admissions for orthostatic hypotension (OH) have risen more than two-fold in the past ten years [1].
- OH can lead to orthostatic intolerance (OI), and both OH and OI are common causes of falls and injuries in older persons [2].
- Sarcopenia is also common in older persons and associated with adverse health outcomes [3].
- The 5-chair stand test (5-CST) is a measure of lower limb muscle strength and can be used as a marker of probable sarcopenia [4].
- A cut-off of 15s on the 5-CST has been proposed by the European Working Group on Sarcopenia [5].
- The interaction between sarcopenia and OH has only had limited investigation in the past [6,7].

AIM

- We sought to investigate whether those with a worse performance on the 5-CST would be at greater risk of OH in an older Irish population cohort study.

RESULTS

- Data from 3119 participants were available for analysis.
- Mean age was 63.8 years, 55% were female & 25% took longer than 15s on the 5-CST as shown in table 1.
- Mean baseline blood pressure was 141/76 mmHg.
- The prevalence of OH40 was 12.5% (n = 392) and 4.4% (n = 137) had OH at 40 seconds.
- Figures 1 & 2 show the mean change in SBP and DBP respectively, at 10 second time intervals after standing, grouped by those above and below 15s on the 5-CST i.e. the cut-off for probable sarcopenia.
- OH40 was not independently associated with 5-CST time after controlling for age (p>0.05), in a multivariable logistic regression model.
- In the final multivariable logistic regression model (table1), adjusting for age, sex, education, BMI and medications: worse performance on the chair stands test was an independent predictor of OI (odds ratio 1.06, p = 0.041).

CONCLUSION

- Longer time taken on the 5-CST, a marker of probable sarcopenia, was an independent predictor of OI in a large population study.
- The relationship between sarcopenia and orthostatic blood pressure response is not well elucidated and may be modulated by the skeletal muscle pump in the lower limbs.
- We plan to further investigate this area in a future clinical cohort – the FRAILMatics study.

ACKNOWLEDGEMENTS

The Irish Longitudinal Study on Ageing (TILDA) is supported by the Department of Health, Irish Life, and the Atlantic Philanthropies.

www.tilda.ie