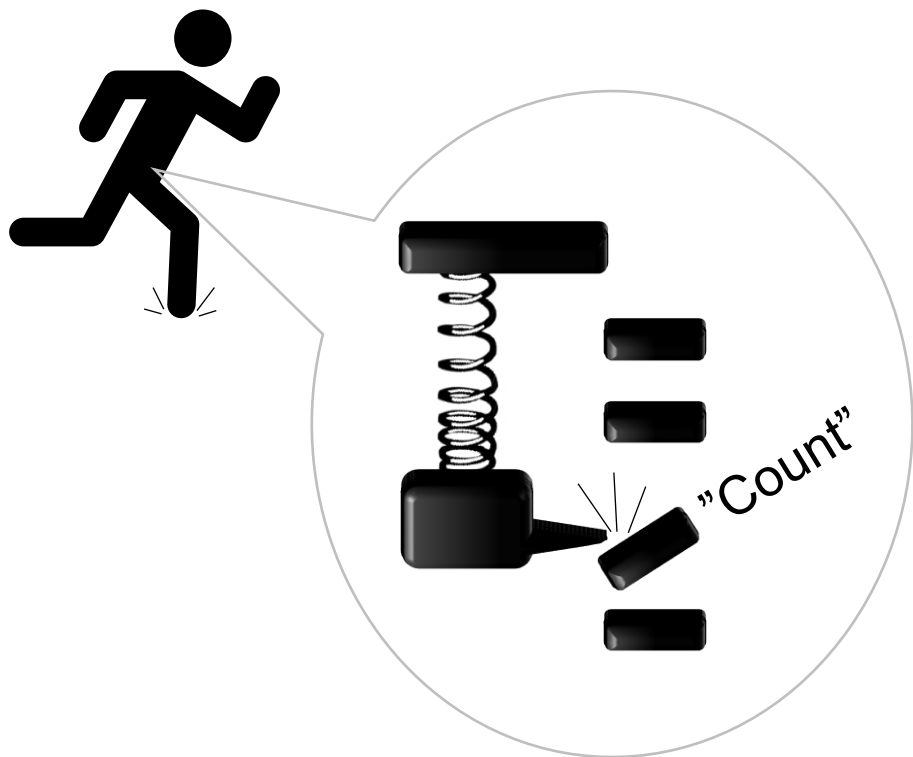
A photograph of three people wearing helmets and cycling gear, standing with their bicycles on a paved path. The image is overlaid with a semi-transparent blue filter. The text is centered over the image.

Pitkäaikaisen liikemittarin käytön tuloksia potilasryhmillä

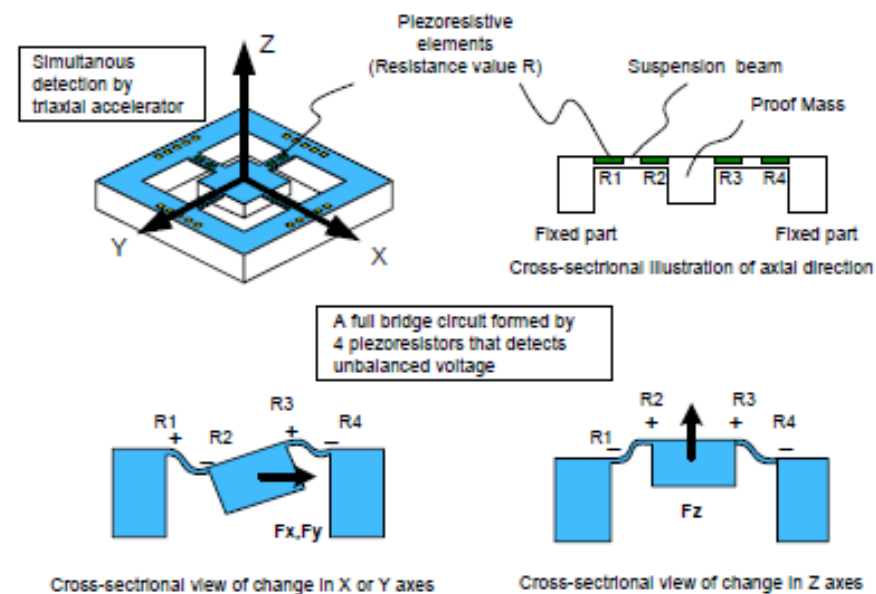
Henri Vähä-Ypyä
laboratorioinsinööri, tutkija
UKK-instituutti

Kiihtyvyyssmittari

Mekaanisen aikakauden mittaukset



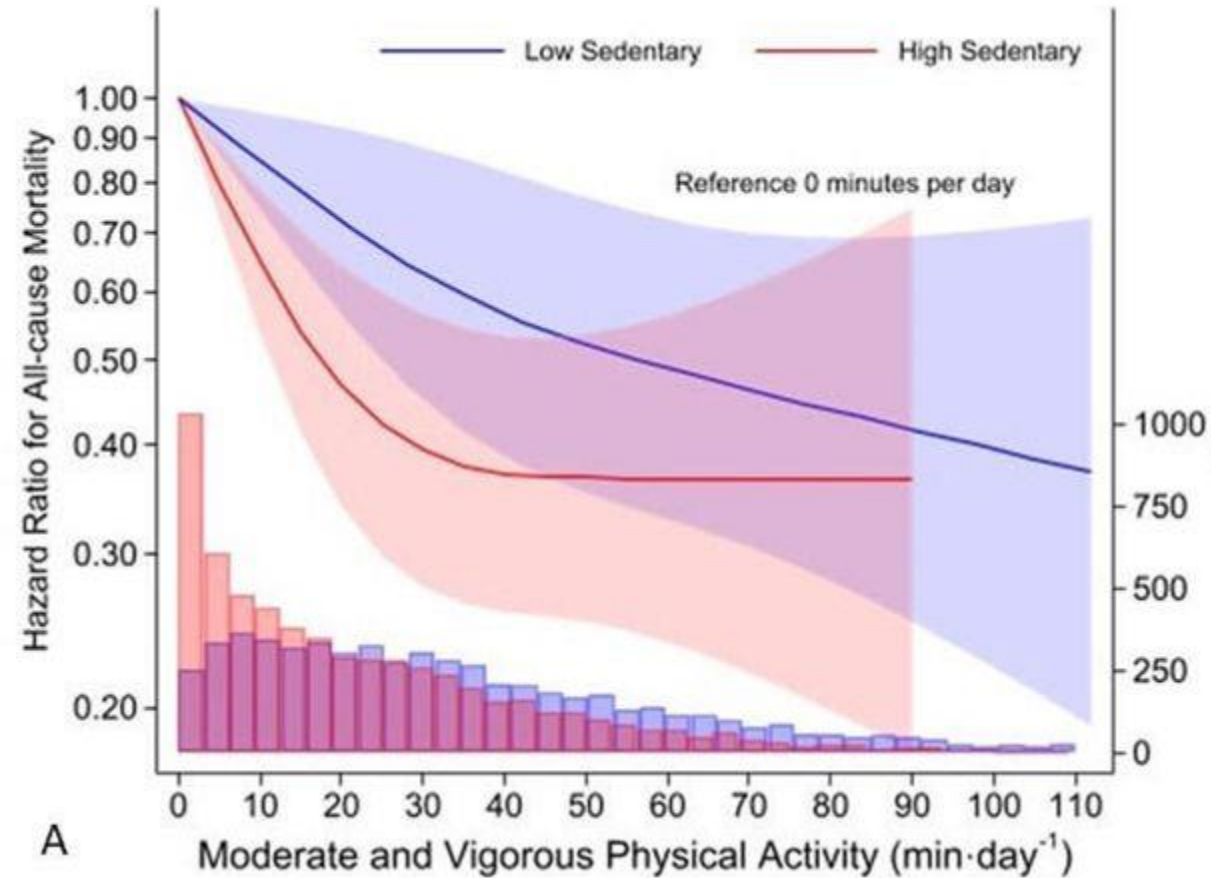
Sähköinen aikakausi



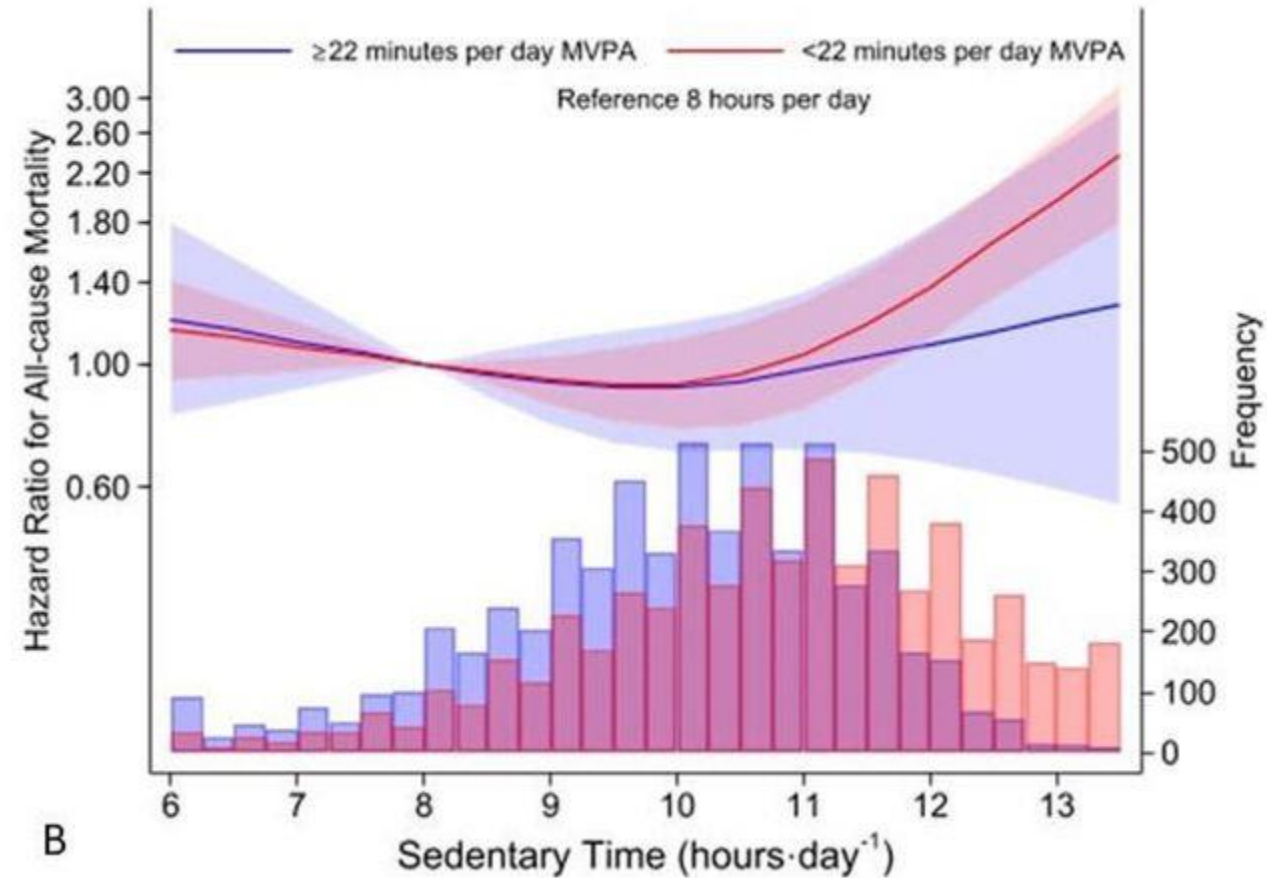
Liu, Richard & Zhang, Zhibin & Zhong, Rui & Chen, Xuemin & Li, Jing. (2021). NANOTECHNOLOGY SYNTHESIS STUDY: RESEARCH REPORT.

Mitatun liikkeen ja paikallaanolon yhteys kuolleisuusriskiin

Liike

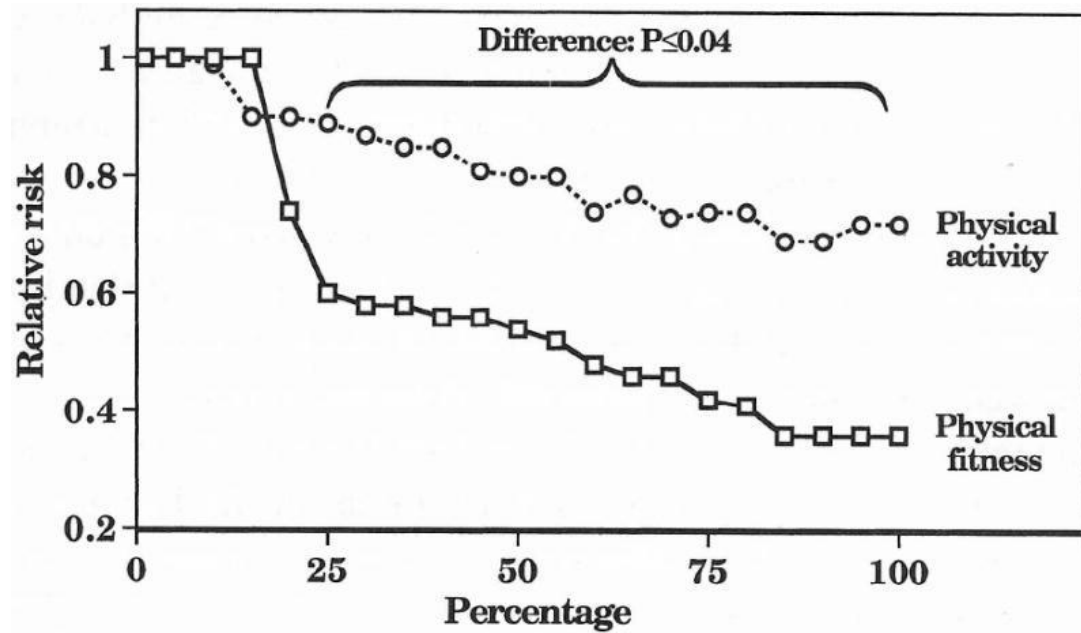


Paikallaanolo



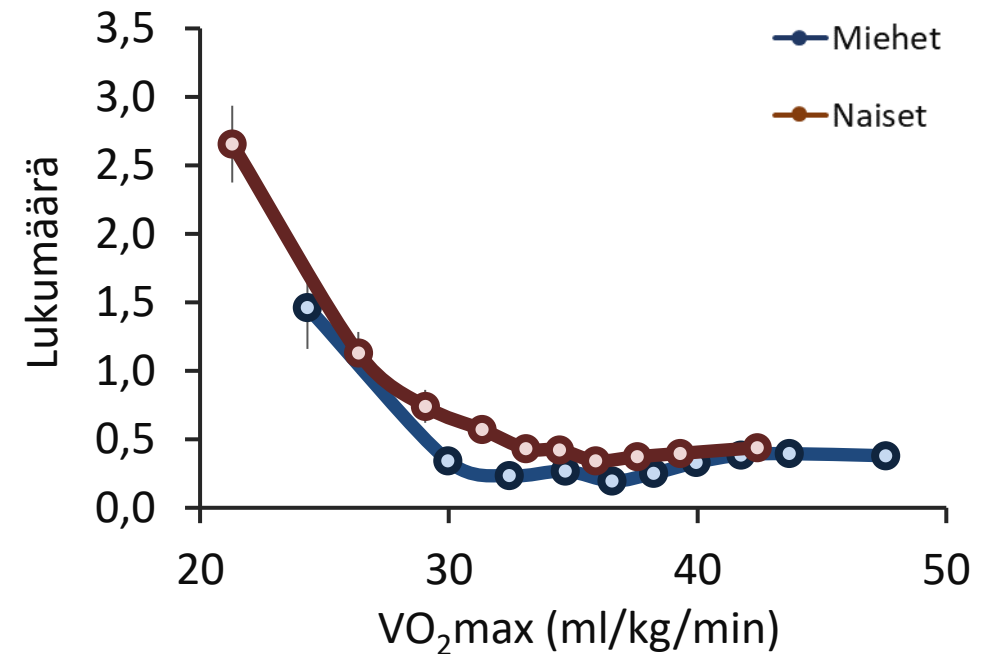
Edvard H Sagelv et al. Br J Sports Med doi:10.1136/bjsports-2022-106568

Kunto ja liike sekä sydäntautiriski



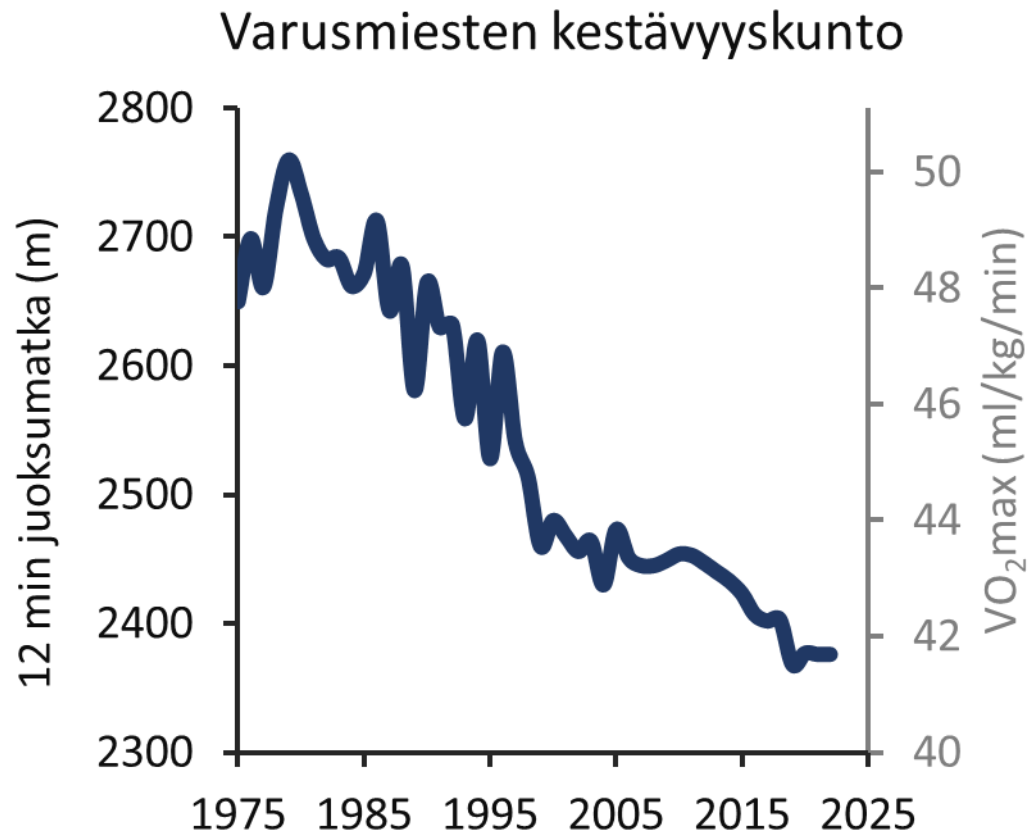
Williams, P. T. (2001). Physical fitness and activity as separate heart disease risk factors: a meta-analysis. *Medicine and science in sports and exercise*, 33(5), 754.

Rasittavaa liikettä sisältävät tunnit päivässä

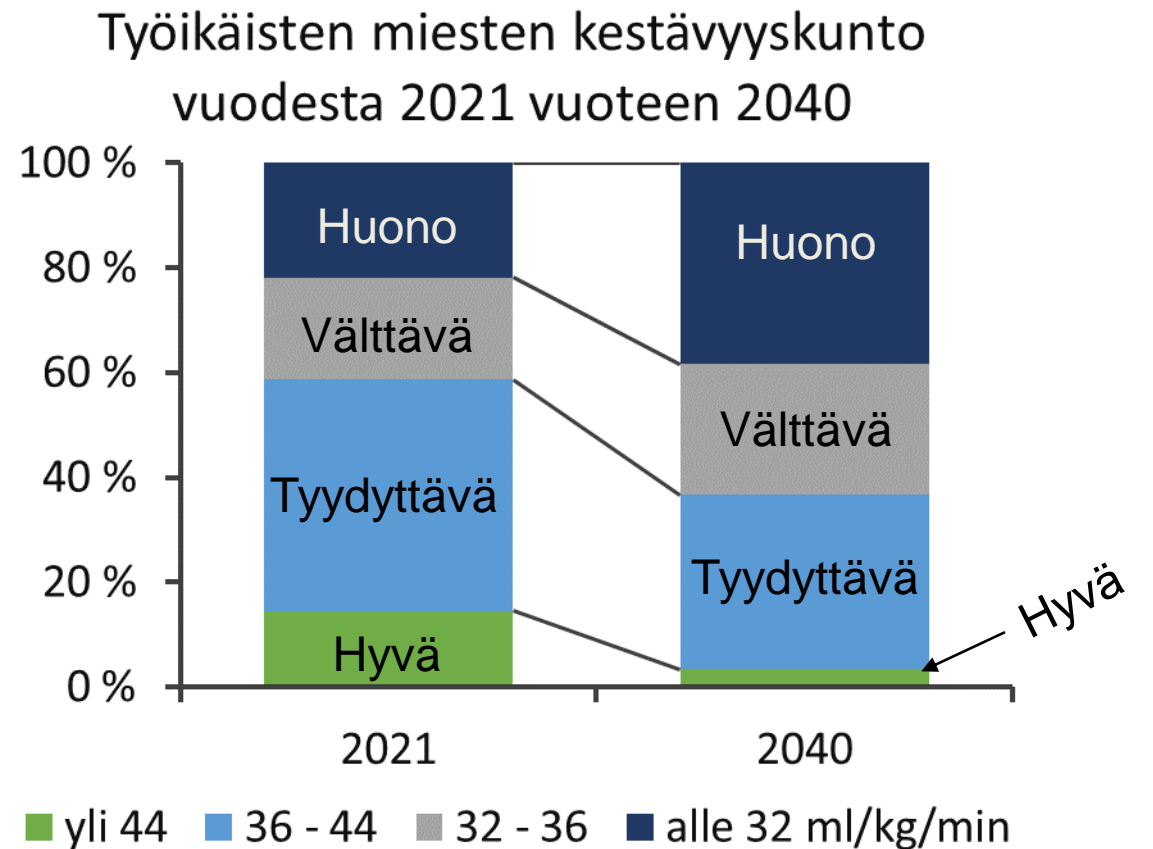


Vähä-Ypyä, H.; Husu, P.; Sievänen, H.; Vasankari, T. What Can One Minute of the Day Tell about Physical Activity? *Int. J. Environ. Res. Public Health* 2023, 20

Kestävyysvajetta aerobisessa kunnossa

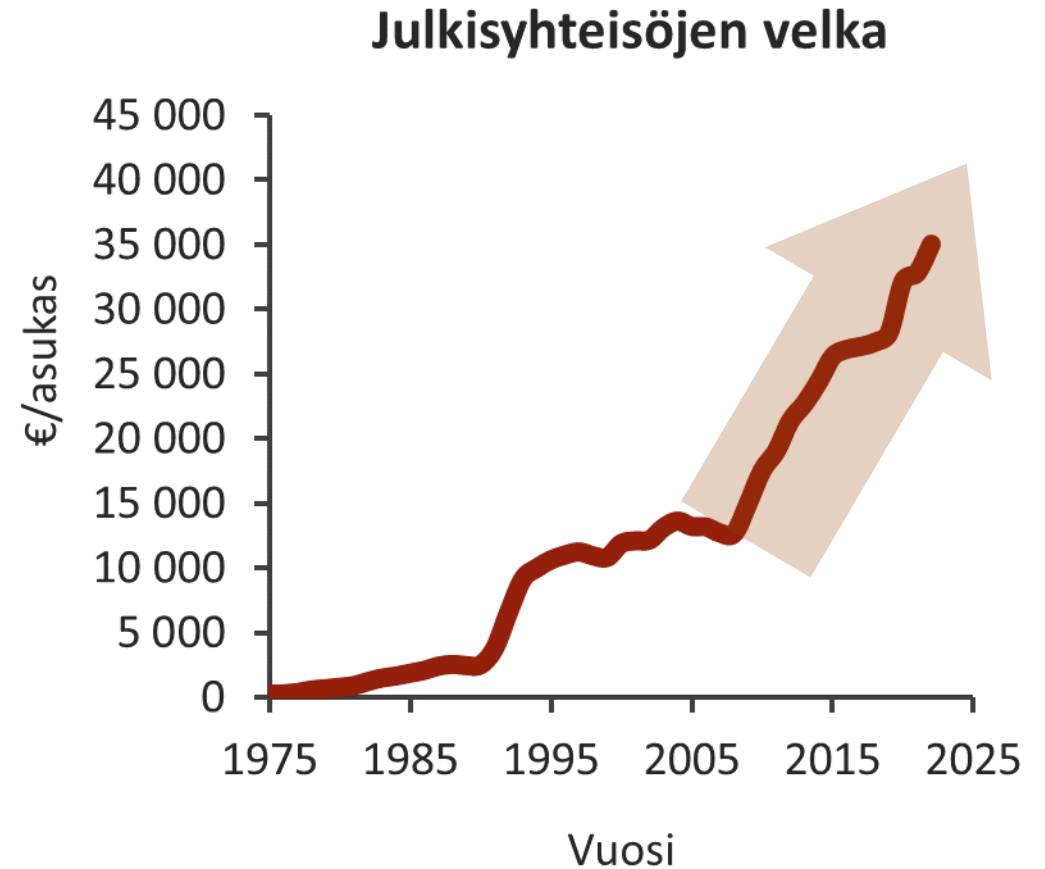
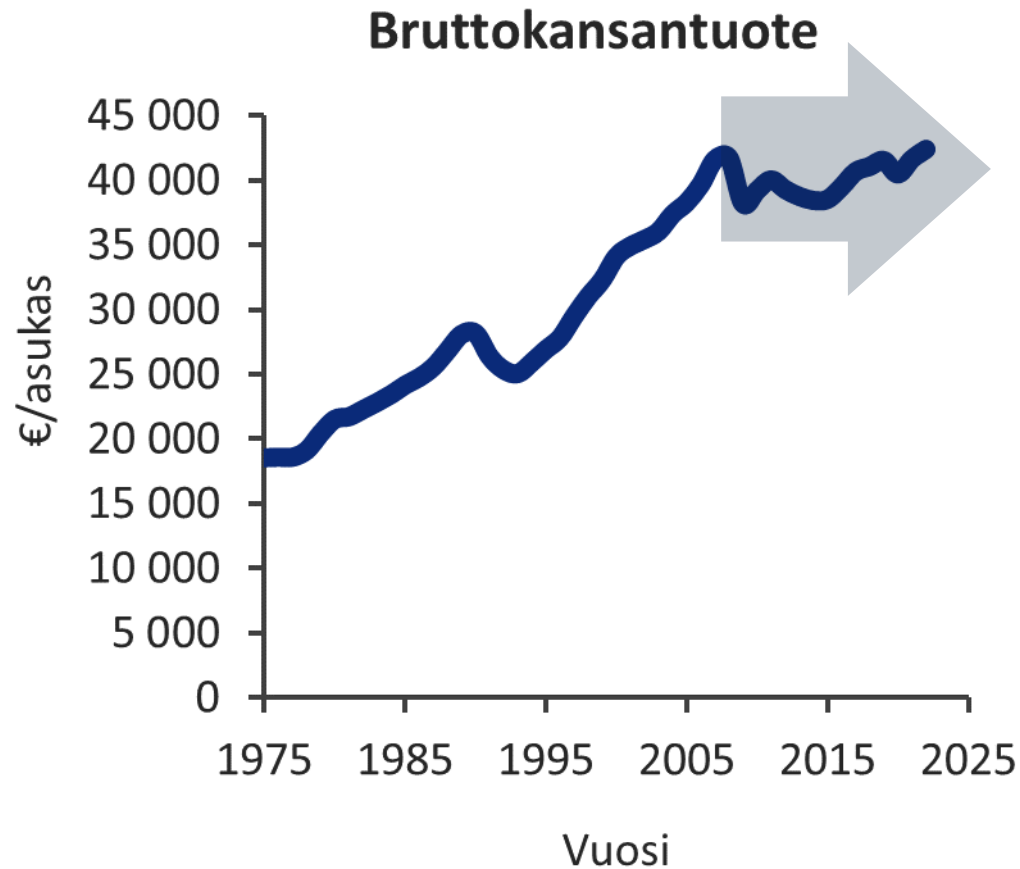


<https://puolustusvoimat.fi/web/sotilasliikunta/varusmiesten-kuntotilastot>



Tommi Vasankari, Kari Tokola, Jani Raitanen, Päivi Kolu, Henri Vähä-Ypyä, Pauliina Husu, Jani Vaara, Heikki Kyröläinen, Matti Santtila, Kai Pihlainen ja Harri Sievänen; Suomalaisien kestävyyskunto on laskenut vuosikymmeniä - onko Suomessa tulevaisuudessa enää hyväkuntoisia yli 50-vuotiaita työntekijöitä? Futura, 42(1), 4-12.

Kestävyyssvajetta taloudessa



Lähde: Tilastokeskus, kansantalouden tilinpito

Paljonko Rosie painaa?

AC/DC

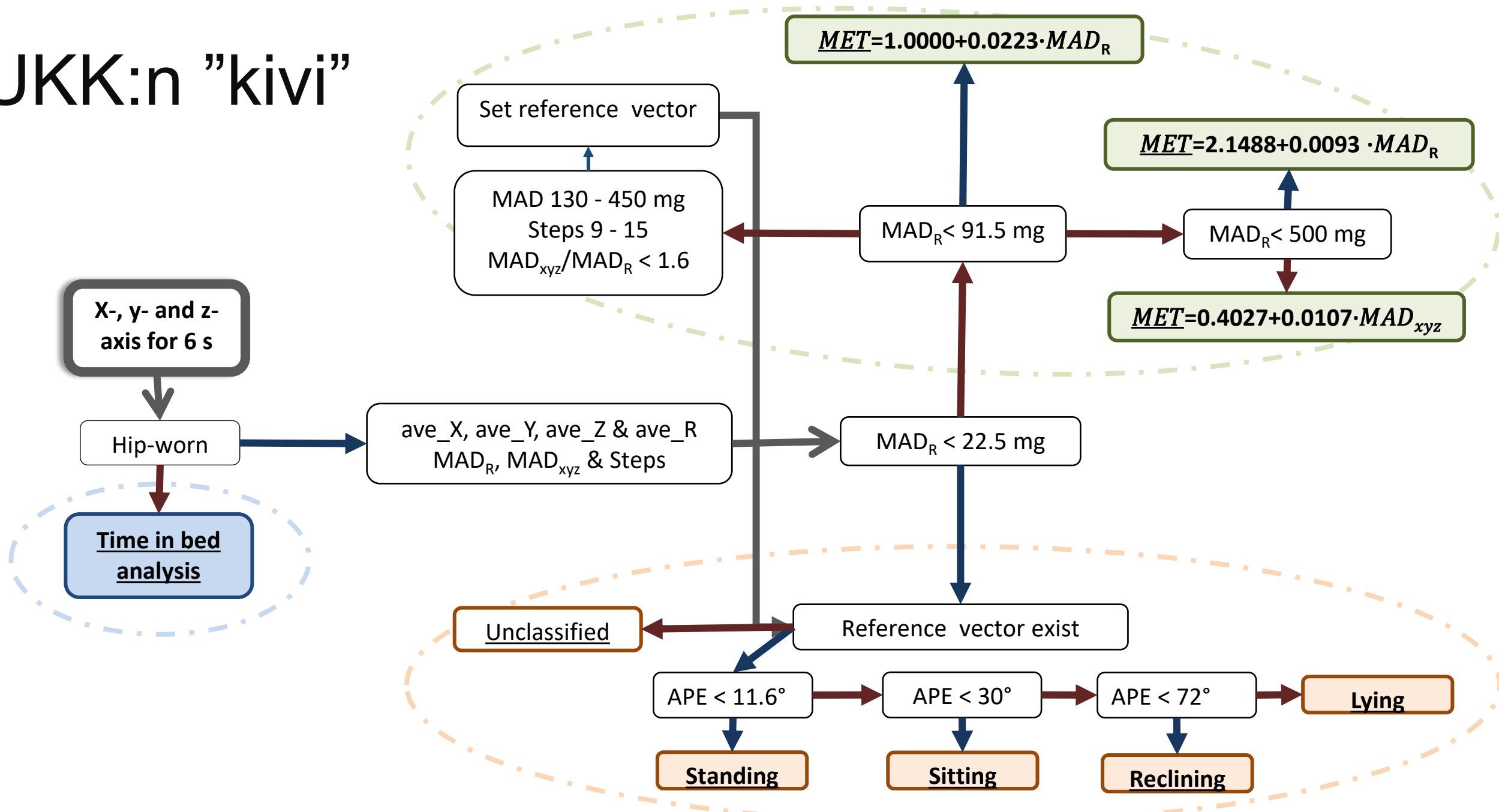
Weighin' in
at 19 stone



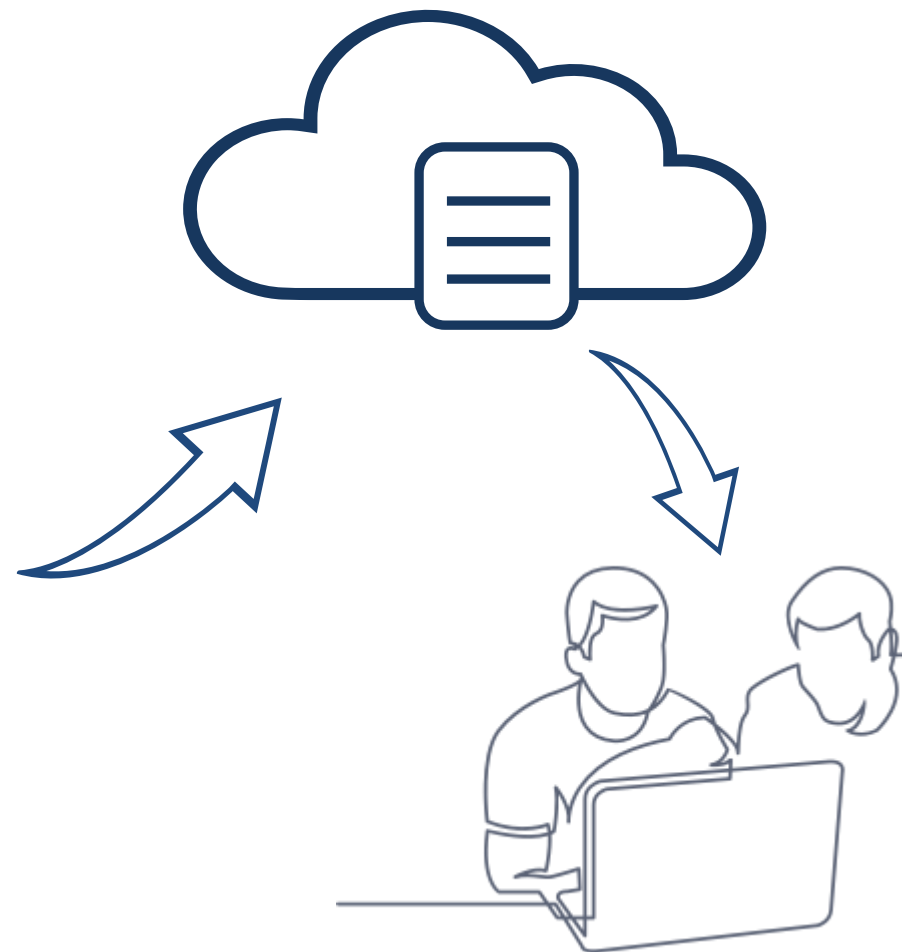
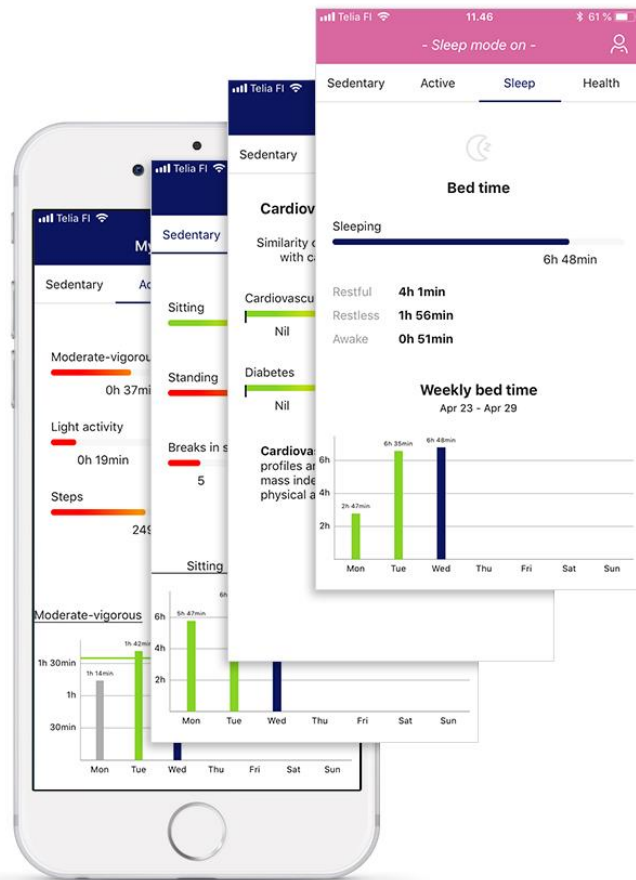
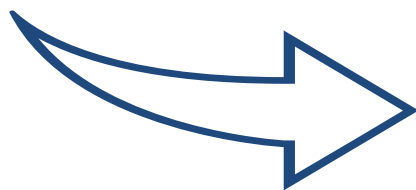
19 kiven massa

| <u>Kaupunki</u> | <u>Kiven massa (kg) 19 kiveä (kg)</u> | | <u>Kaupunki</u> | <u>Kiven massa (kg) 19 kiveä (kg)</u> | |
|---------------------------|---------------------------------------|-----|----------------------|---------------------------------------|-----|
| Amsterdam (1817-) | 3.00 | 57 | Kraków | 10.14 | 193 |
| Antwerpen | 3.76 | 71 | Warsaw | 10.14 | 193 |
| Amsterdam (-1817) | 3.95 | 75 | Dresden (-1841) | 10.15 | 193 |
| Osnabrück | 4.94 | 94 | Leipzig | 10.29 | 195 |
| Karlsruhe | 5.00 | 95 | Prague | 10.29 | 196 |
| Solothurn | 5.18 | 98 | Mecklenburg-Strelitz | 10.30 | 196 |
| Brittiläinen imp. (1835-) | 6.35 | 121 | Königsberg | 10.30 | 196 |
| Skotlanti | 7.94 | 151 | Vienna | 11.20 | 213 |
| Oldenburg | 9.69 | 184 | Stockholm | 13.60 | 258 |
| Breslau | 9.73 | 185 | Vilnius | 14.99 | 285 |
| Bremen | 9.97 | 189 | Danzig | 15.44 | 293 |
| Dresden (1841-) | 10.00 | 190 | | | |

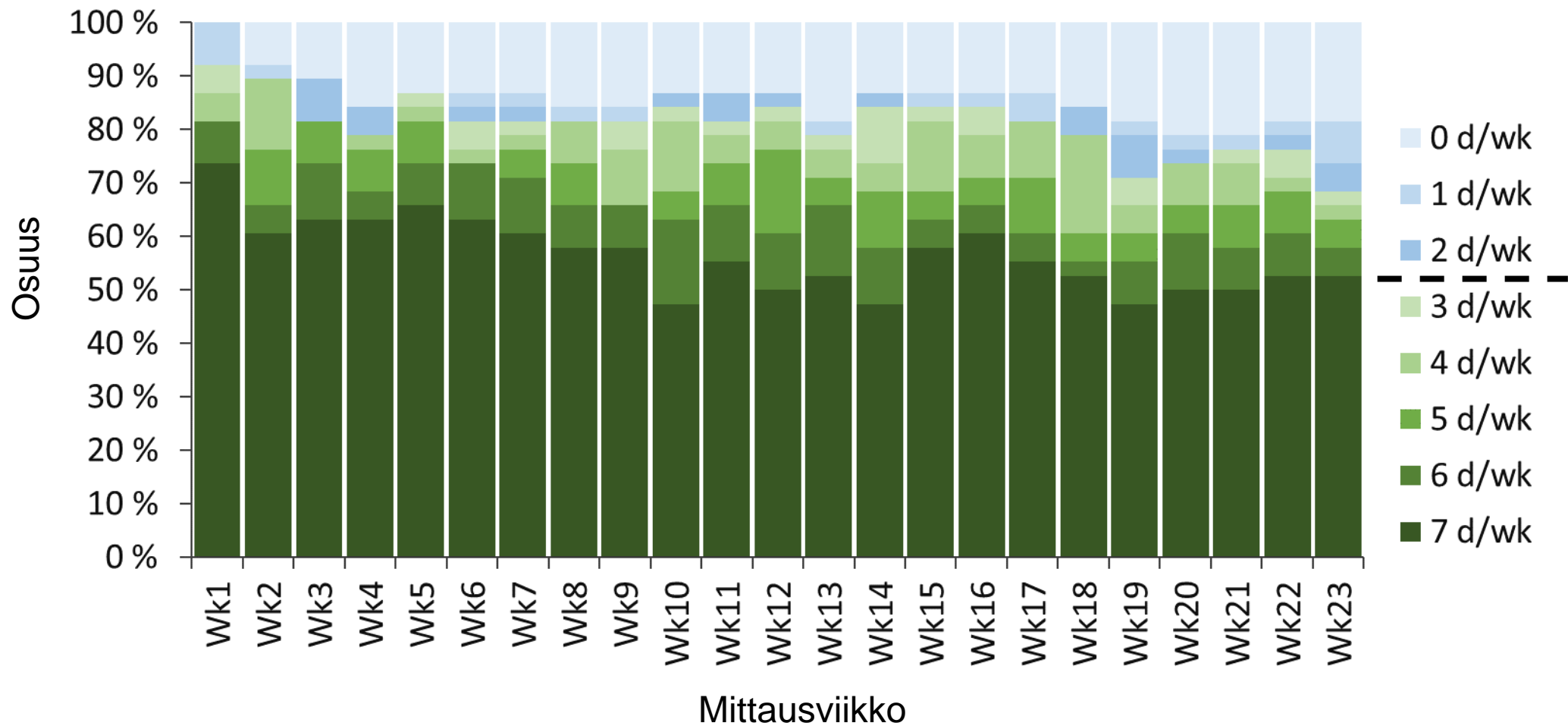
UKK:n ”kivi”



Interaktiivisia mittauksia



Sovelluksen käyttöpäivät viikossa



Sydänleikattujen potilaiden liikuntainterventio (PACO)

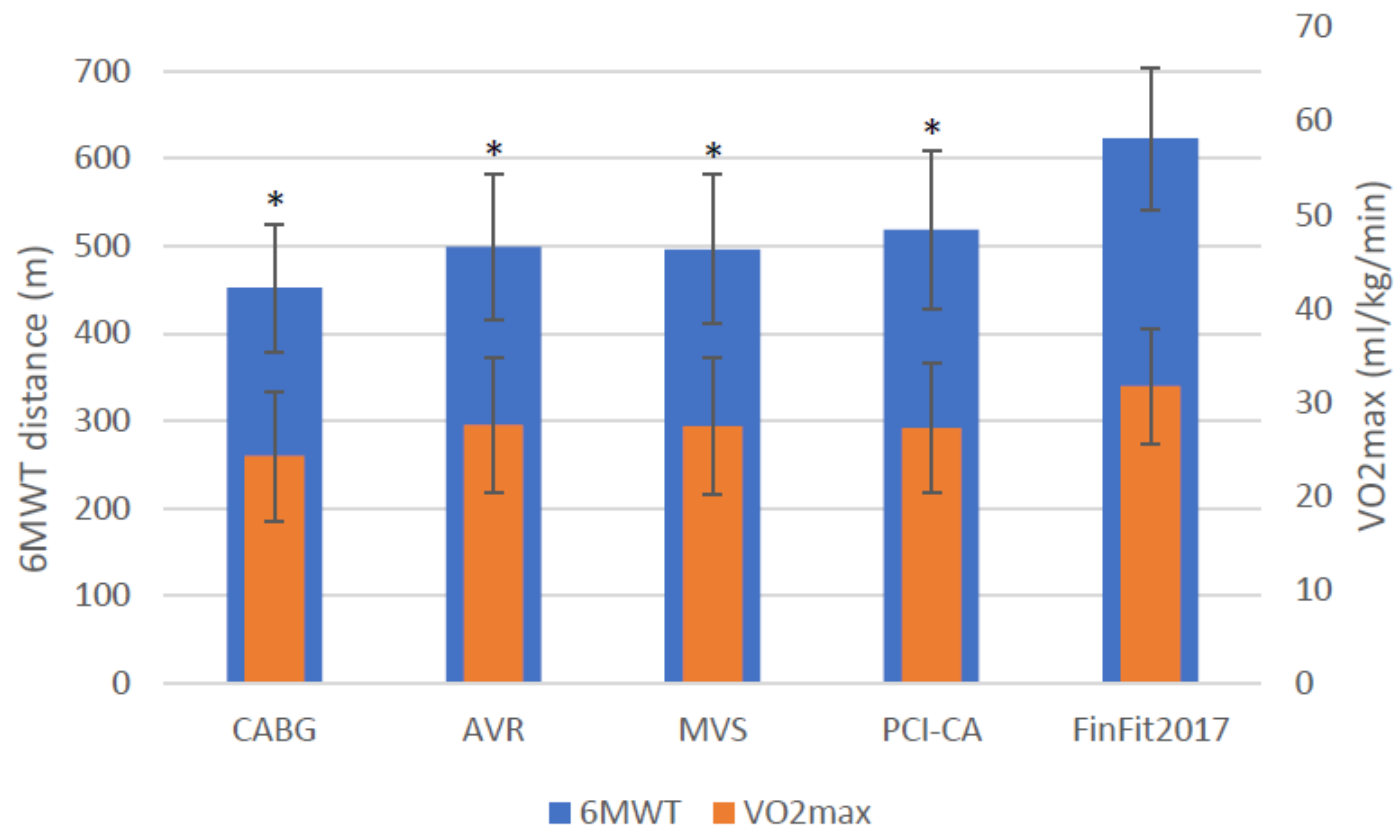
CABG: coronary artery bypass grafting

AVR: aortic valve replacement

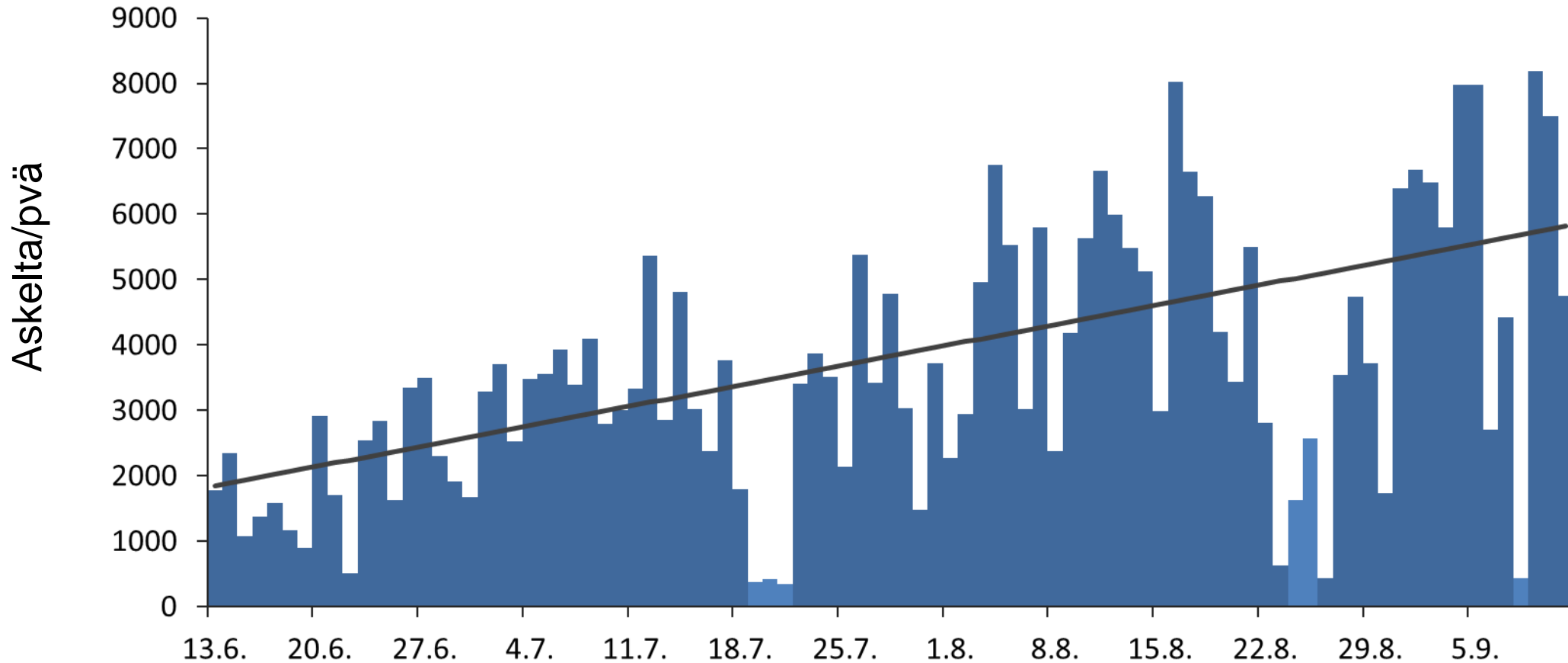
MVS: mitral valve surgery

PCI-CA: percutaneous coronary intervention or coronary angiography

FinFit2017: population-based sample of 60-69-year-old Finnish adults

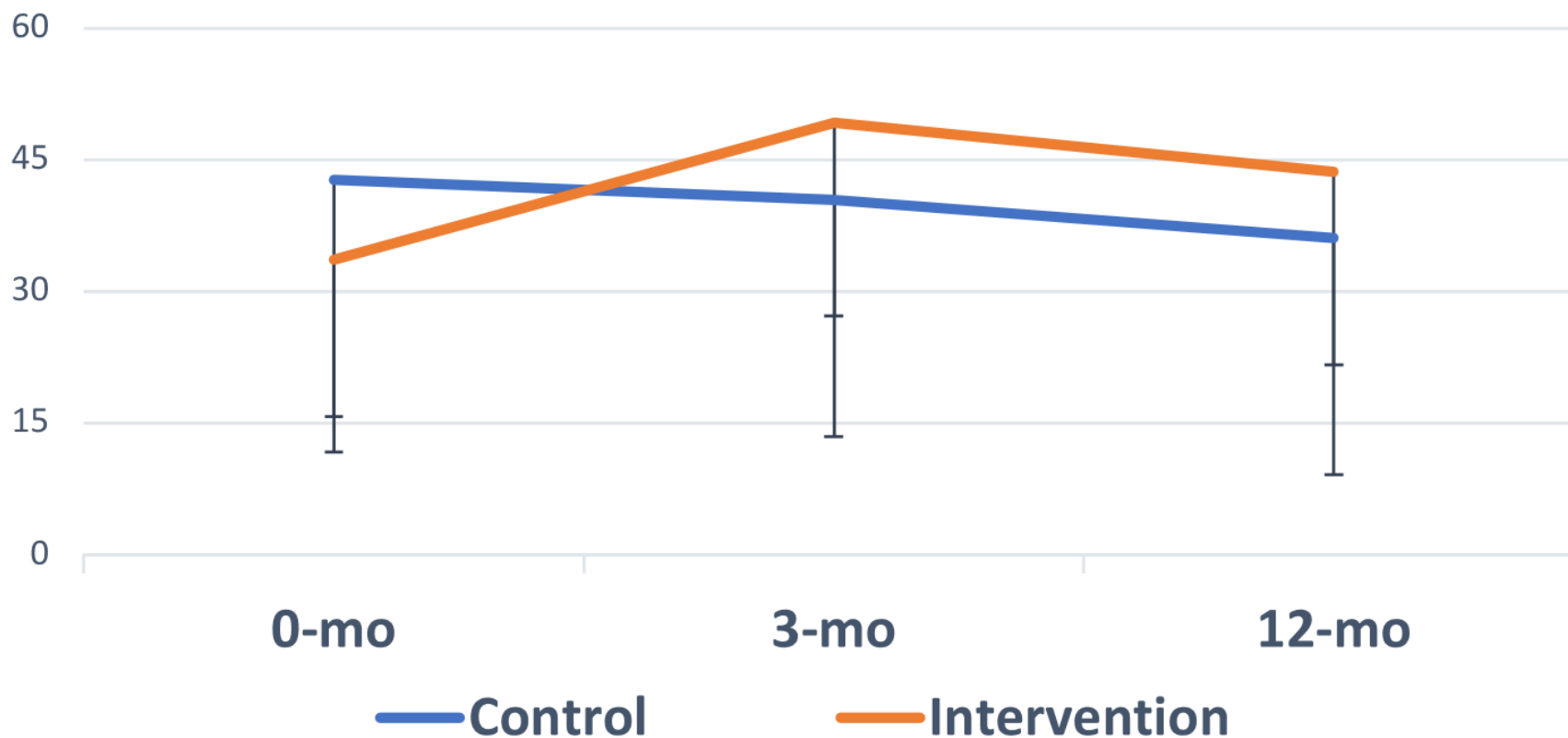


PACO – esimerkki askelten muutoksista 3 kk aikana



PACO – intervention vaikutus

Moderate-to-vigorous PA (min)



Tommi Vasankari, Jari Halonen, Ville Vasankari, Sini Vasankari, Kari Tokola, Henri Vähä-Yypä, Pauliina Husu, Harri Sievänen, Juha Hartikainen. Effectiveness of a Personalised 3-mo eHealth Intervention on Daily Steps Among Patients of Elective Cardiac Procedures: A Randomised Controlled Trial. *Journal for the Measurement of Physical Behaviour*, 2022, 5, 300-400. <https://doi.org/10.1123/jmpb.2022-0032>

ExSit-tutkimus: istumisen vähentäminen

| | Men (n=42) | Women (n=102) |
|------------------------|-------------------|----------------------|
| Age, years | 58.0 (6.0) | 56.4 (6.7) |
| Height, cm | 178.8 (7.1) | 165.2 (6.1) |
| Body mass, kg | 101.8 (14.7) | 86.7 (13.4) |
| BMI, kg/m ² | 31.8 (3.6) | 31.7 (4.2) |
| Waist circ., cm | 116.3 (11.0) | 106.7 (10.4) |
| SBP, mmHg | 149 (19) | 147 (20) |
| DBP, mmHg | 91 (11) | 90 (12) |

Istuminen

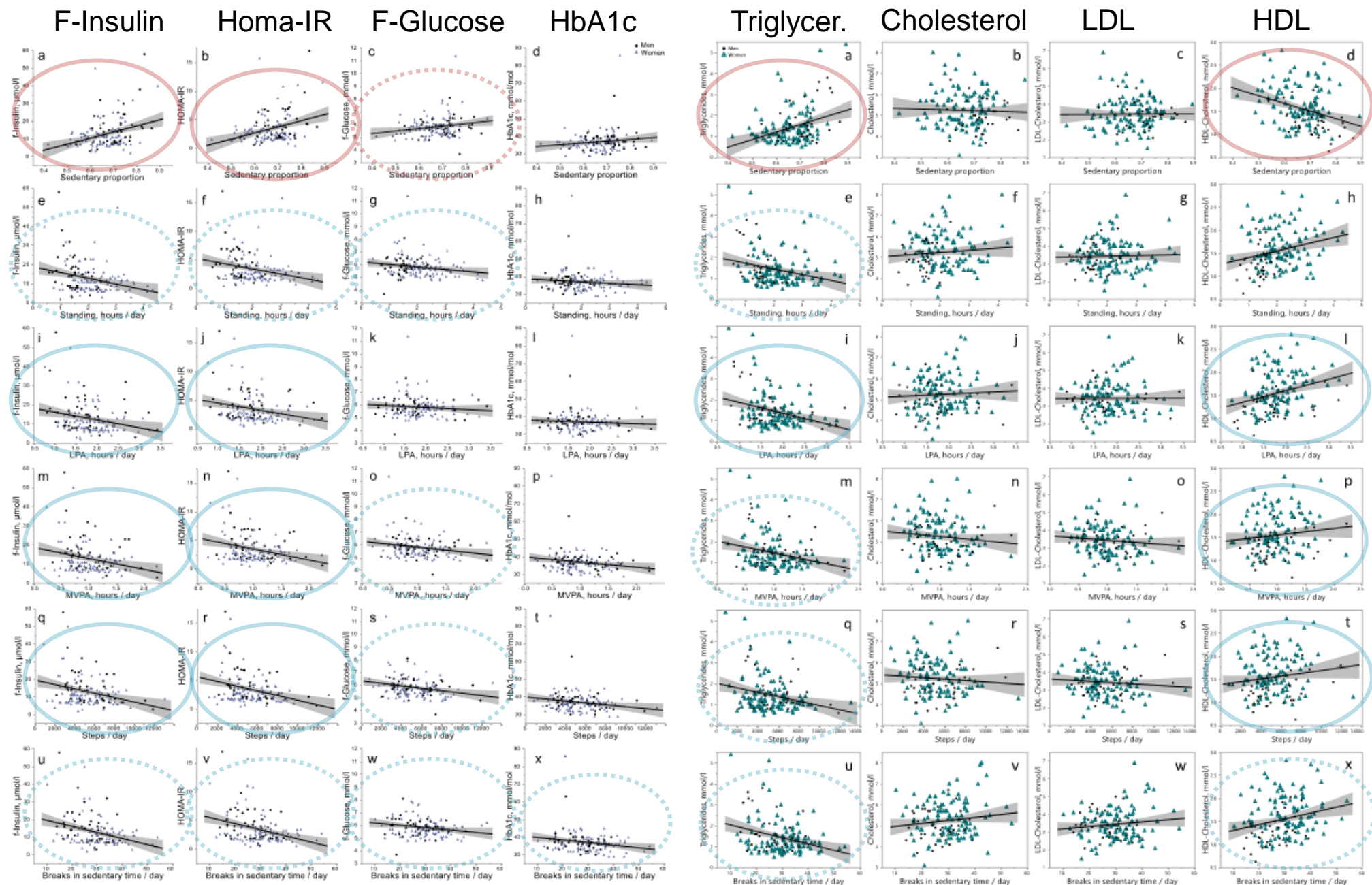
Seisominen

Kevyt liikkuminen

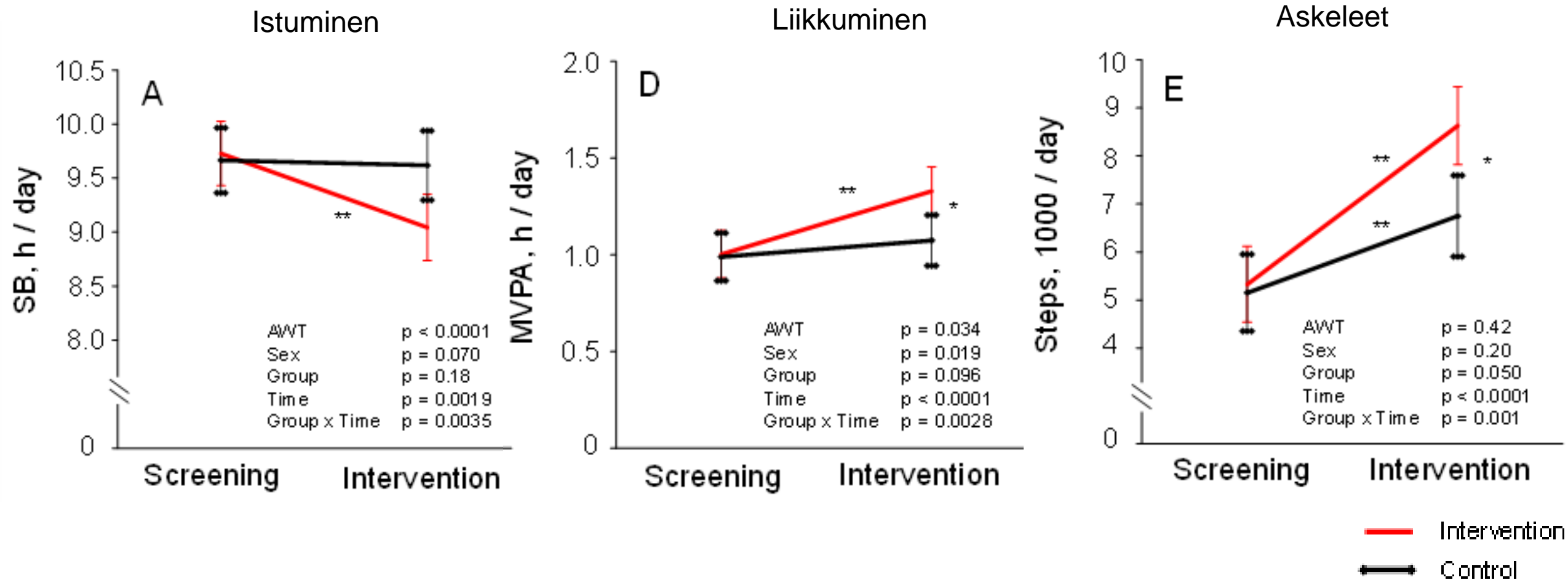
Reipas liikkuminen

Askeleet

Istumisen katkaisut

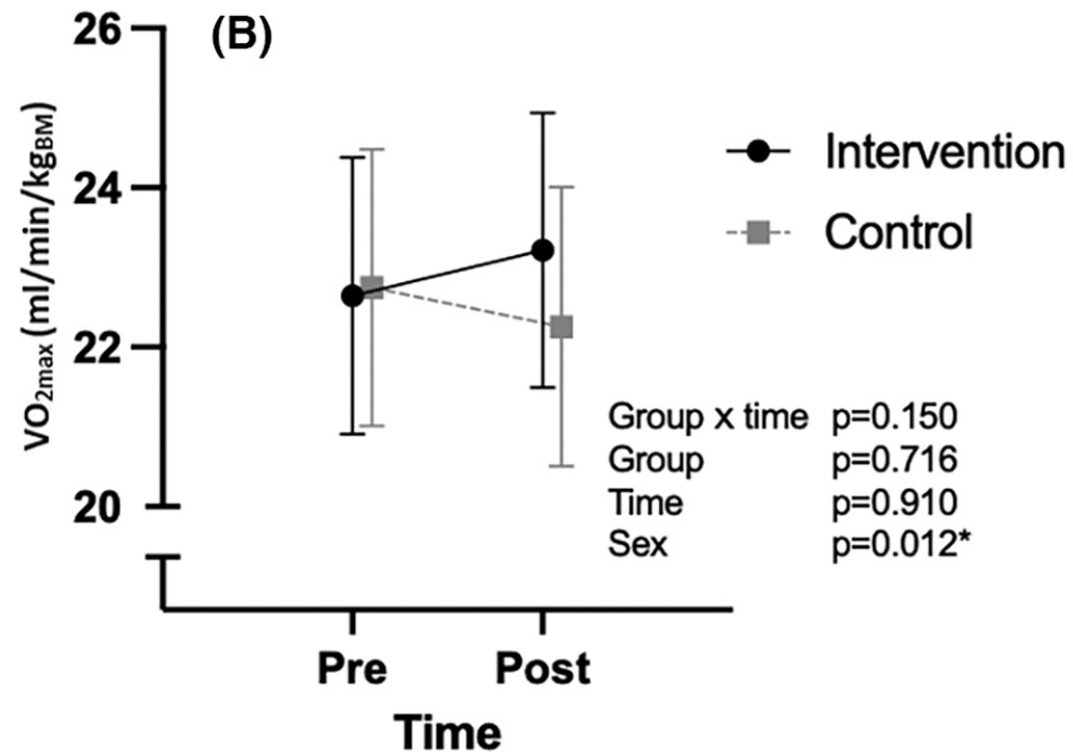
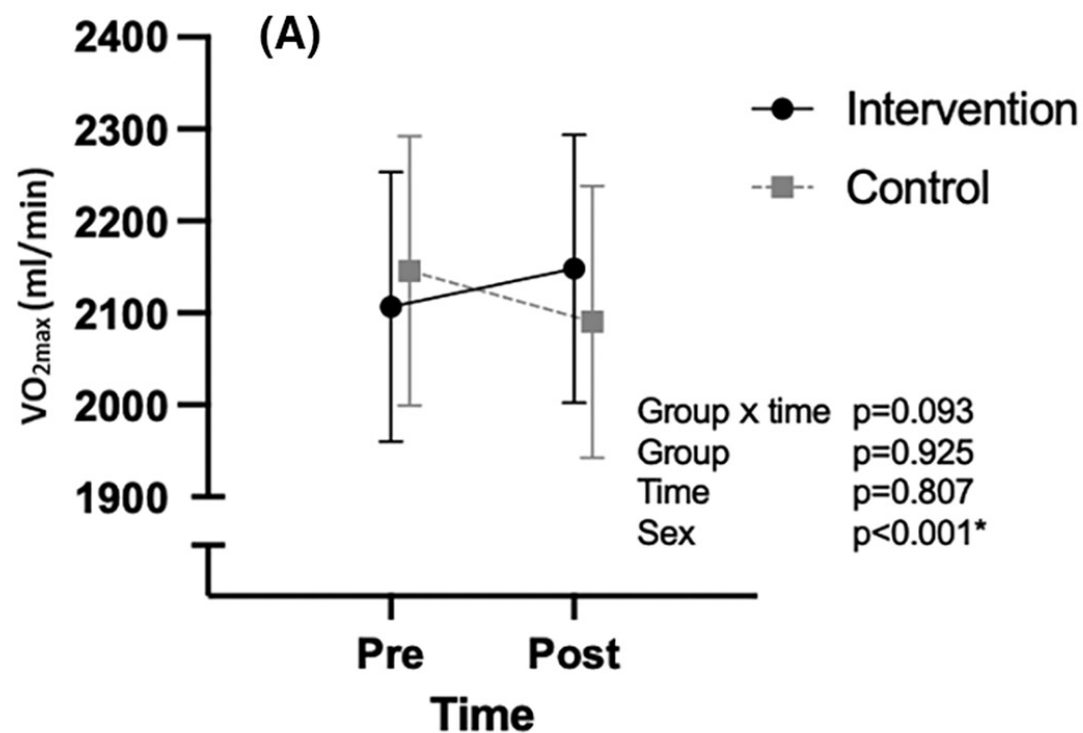


ExSit - muutokset 6 kk aikana liikkumisessa

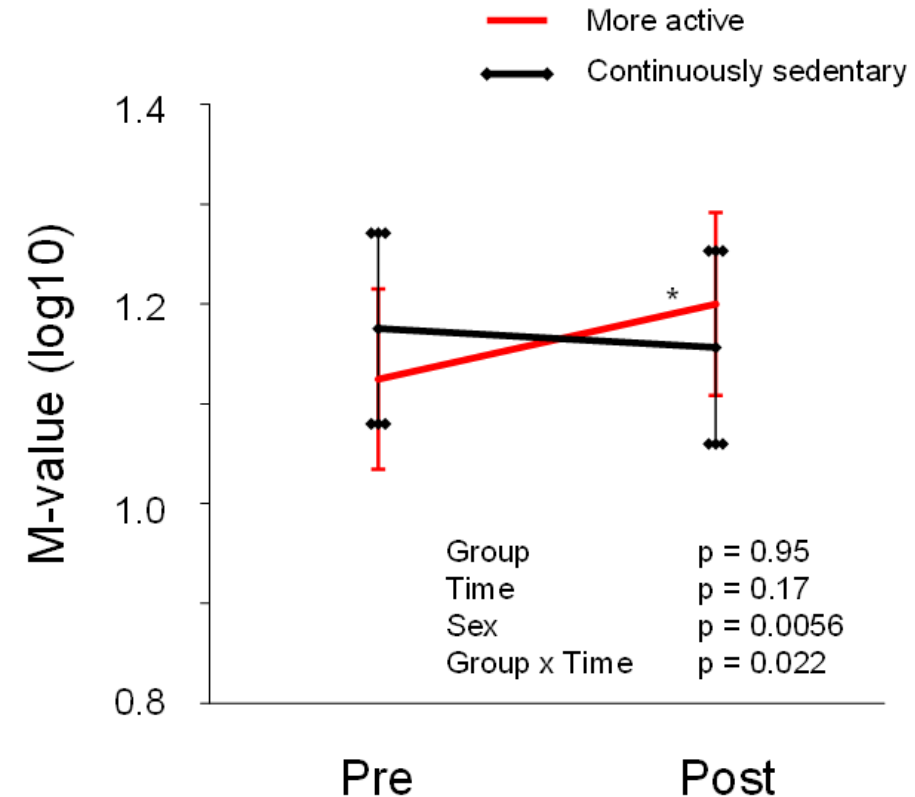
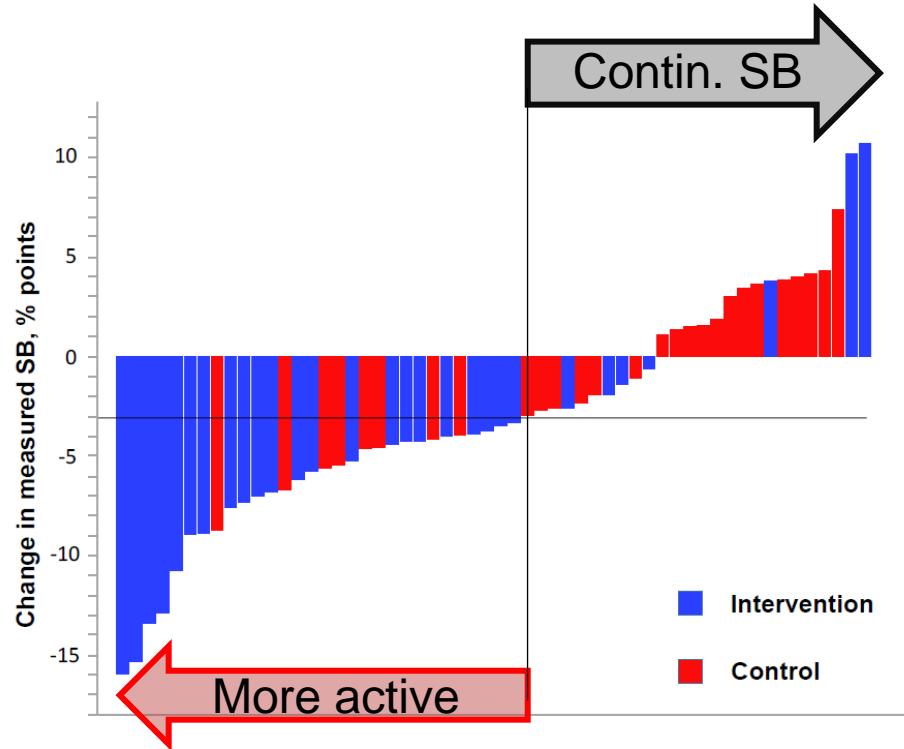


Sjöros, T., Laine, S., Garthwaite, T., Vähä-Yypä, H., Löyttyniemi, E., Koivumäki, M., ... & Heinonen, I. H. (2023). Reducing sedentary time and whole-body insulin sensitivity in metabolic syndrome: a 6-month randomized controlled trial.

ExSit - 6 kk jakson vaikutus $VO_2\max$

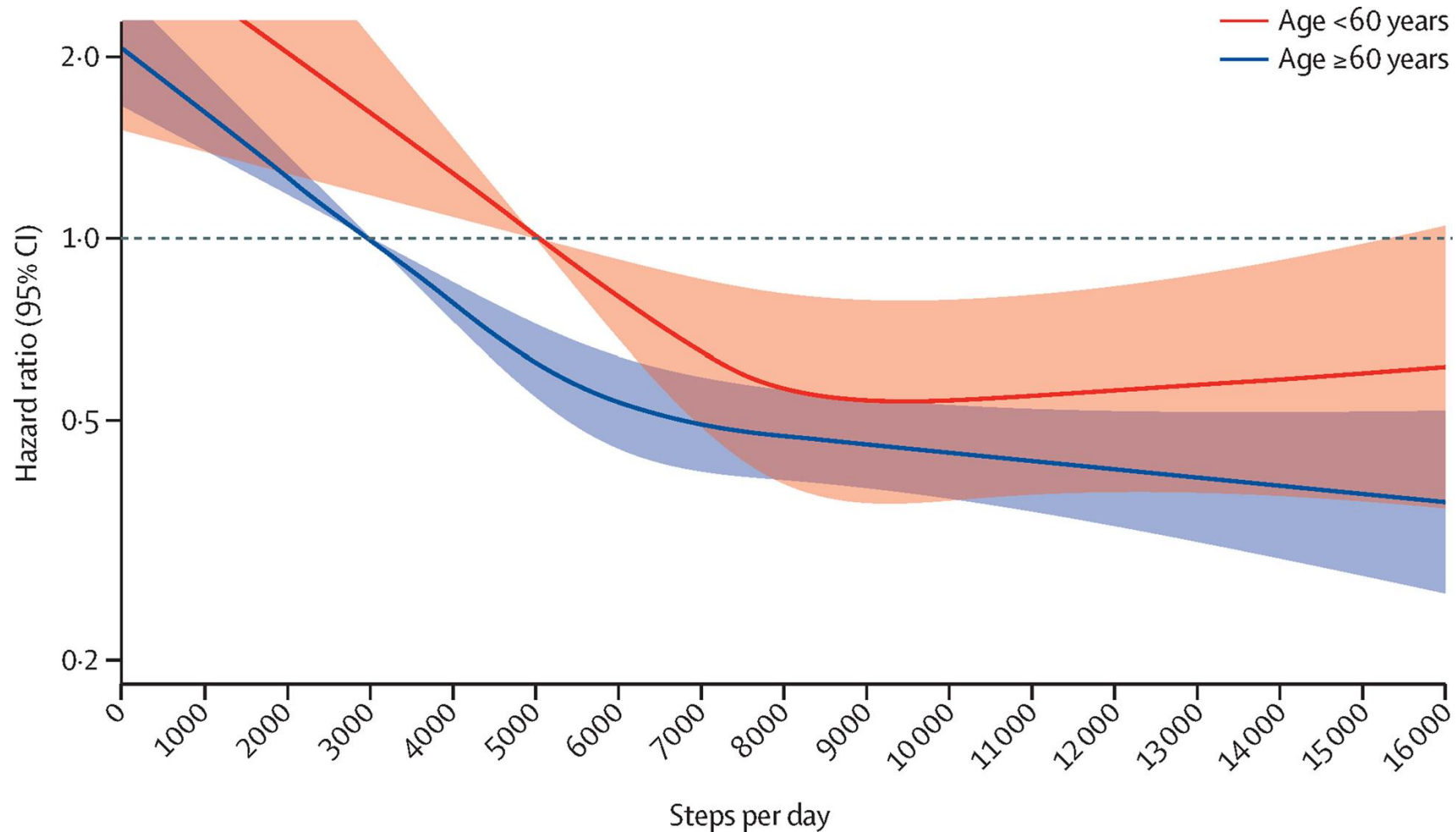


ExSit - istumisen muutos ja insuliiniherkkyys



Sjöros T, Laine S, Garthwaite T, Vähä-Ypyä H, Koivumäki M, Eskola O, Löyttyniemi E, Houttu N, Laitinen K, Kalliokoski K K, Sievänen H, Vasankari T, Knuuti J, Heinonen I H A. The Effects of a 6-Month Intervention Aimed to Reduce Sedentary Time on Skeletal Muscle Insulin Sensitivity – A Randomized Controlled Trial. Manuscript

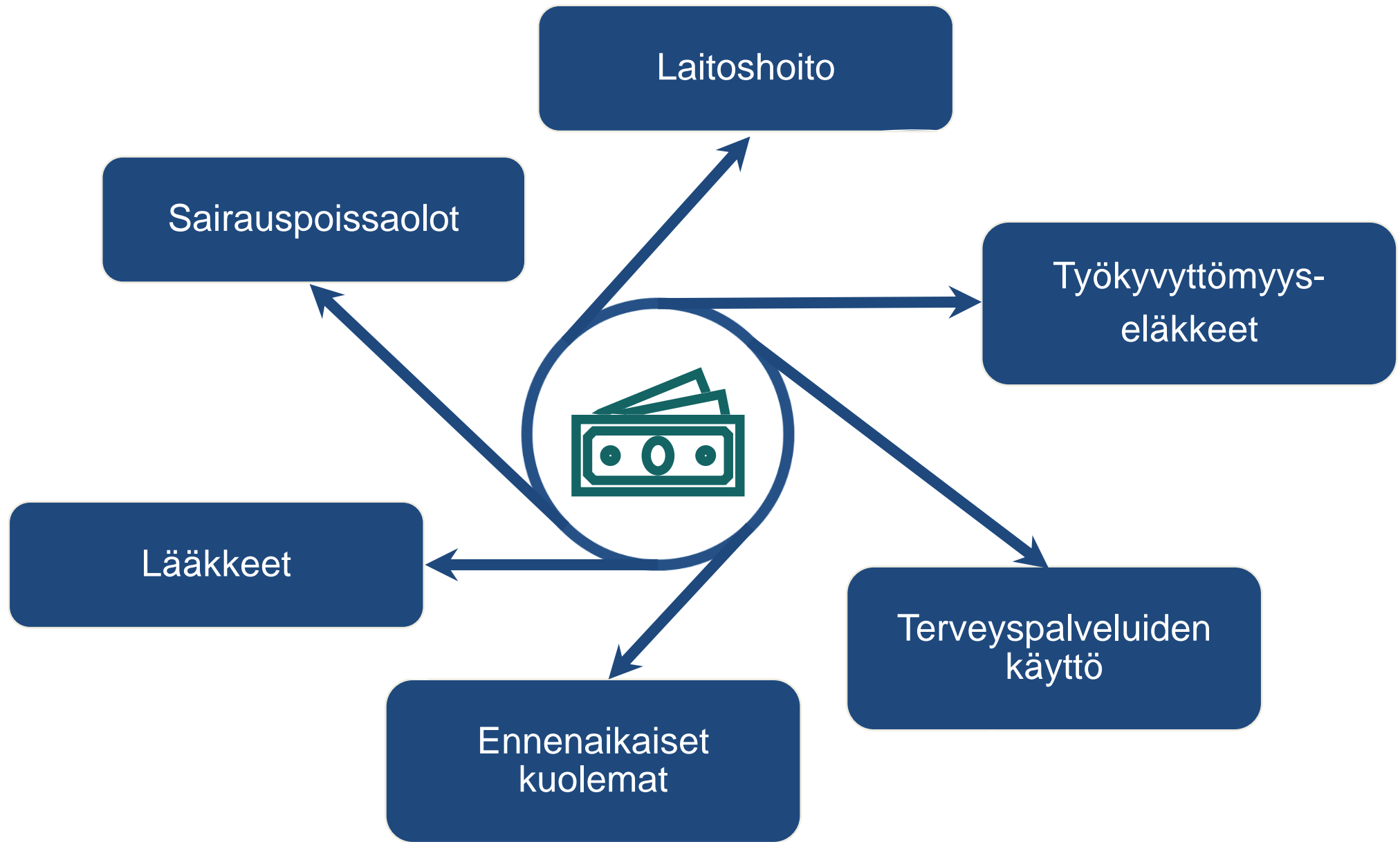
Askeleenhan tunnistaa kaikki...



Paluch, A. E., Bajpai, S., Bassett, D. R., Carnethon, M. R., Ekelund, U., Evenson, K. R., ... & Fulton, J. E. (2022). Daily steps and all-cause mortality: a meta-analysis of 15 international cohorts. *The Lancet Public Health*, 7(3), e219-e228.

... entä mikä ei ole askel?







Kiitos

ukkinstituutti.fi

