



# How much you can improve in three months?

## Results from Active Life Lab effectiveness study

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# Piloting at Smart Gym

**Measurement  
Week**  
September 2018  
N = 200

**Training**  
3 Months  
N = 175

**Measurement  
Week**  
December 2018  
N = 100 / 80

## 2. Heart Rate Variability

- Autonomic nervous System
- Stress level



## 3. Aortic Stiffness

- Pulse wave velocity
- Blood pressure

## 1. Body Composition

- Muscle mass
- Fat mass
- Visceral fat



# Effectiveness Measurement



## 4. Walking 6 min

- Distance
- Aerobic fitness
- Vo2max

## 6. Grip Force

- Hand strenght
- Functional capacity



## 5. Leg Press

- Lower body strength
- Kg/kg

## Hyviö Questionnaires

- Wellbeing
- Motivation
- Physical activity



# Training at Smart Gym

- Endurance strength training protocol
  - Familiarization session
    - Personal training card → computerized exercise machines
  - Maximal load session → Individual training program
  - Endurance strength sessions
    - 10-15 min warm-up
    - 15 exercises / no breaks between
    - 20 repetitions
    - 50 % of maximal load / progressive load increase 2kg/4kg
    - 3 sets / 2 min break between
  - Increase force, improve posture and help with weight control

1. Leg Press



2. Push Up



3. Abduction



4. Chest Press



5. Biceps



6. Squat



7. Pec Deck



8. Leg Extension



9. Optimal Rhomb



10. Abdominals



11. & 12. Hip Extension left + right



13. Back Extension



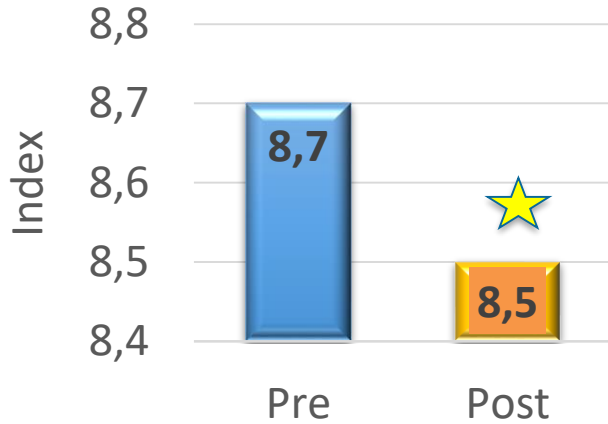
14. Calf Raises



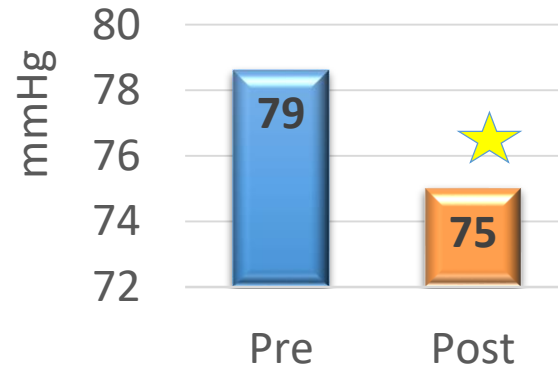
15. Shoulder Raises



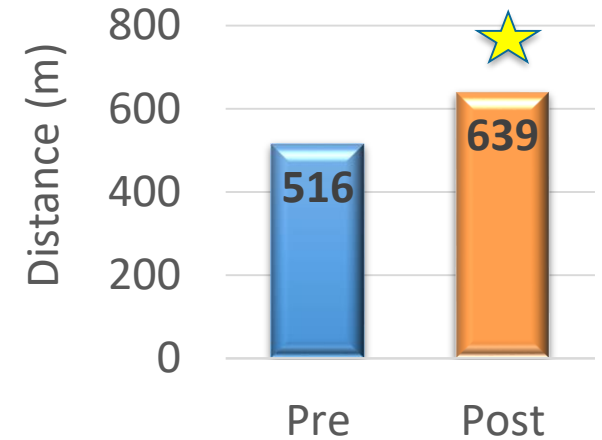
### Visceral Fat



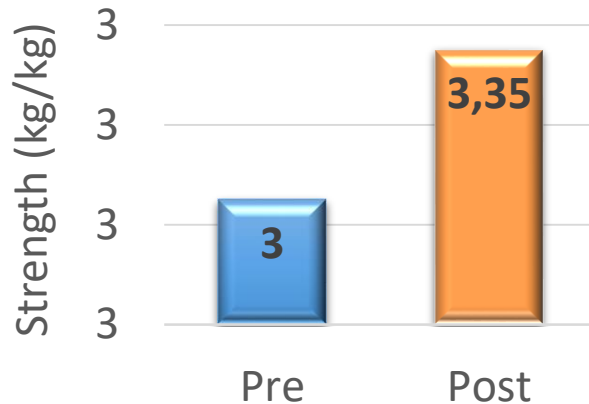
### Diastolic Blood Pressure



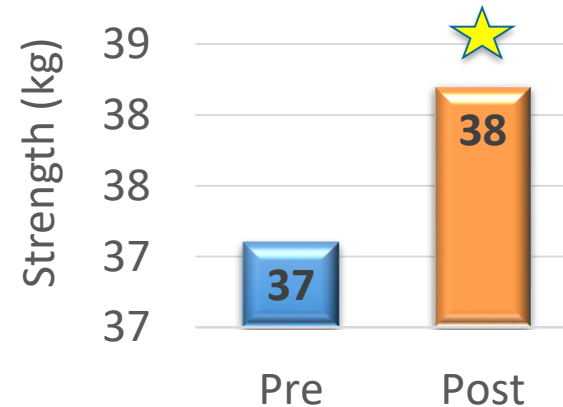
### 6 min Walking Test



### Leg Press



### Grip Force



**Results after three months training (n = 65)**

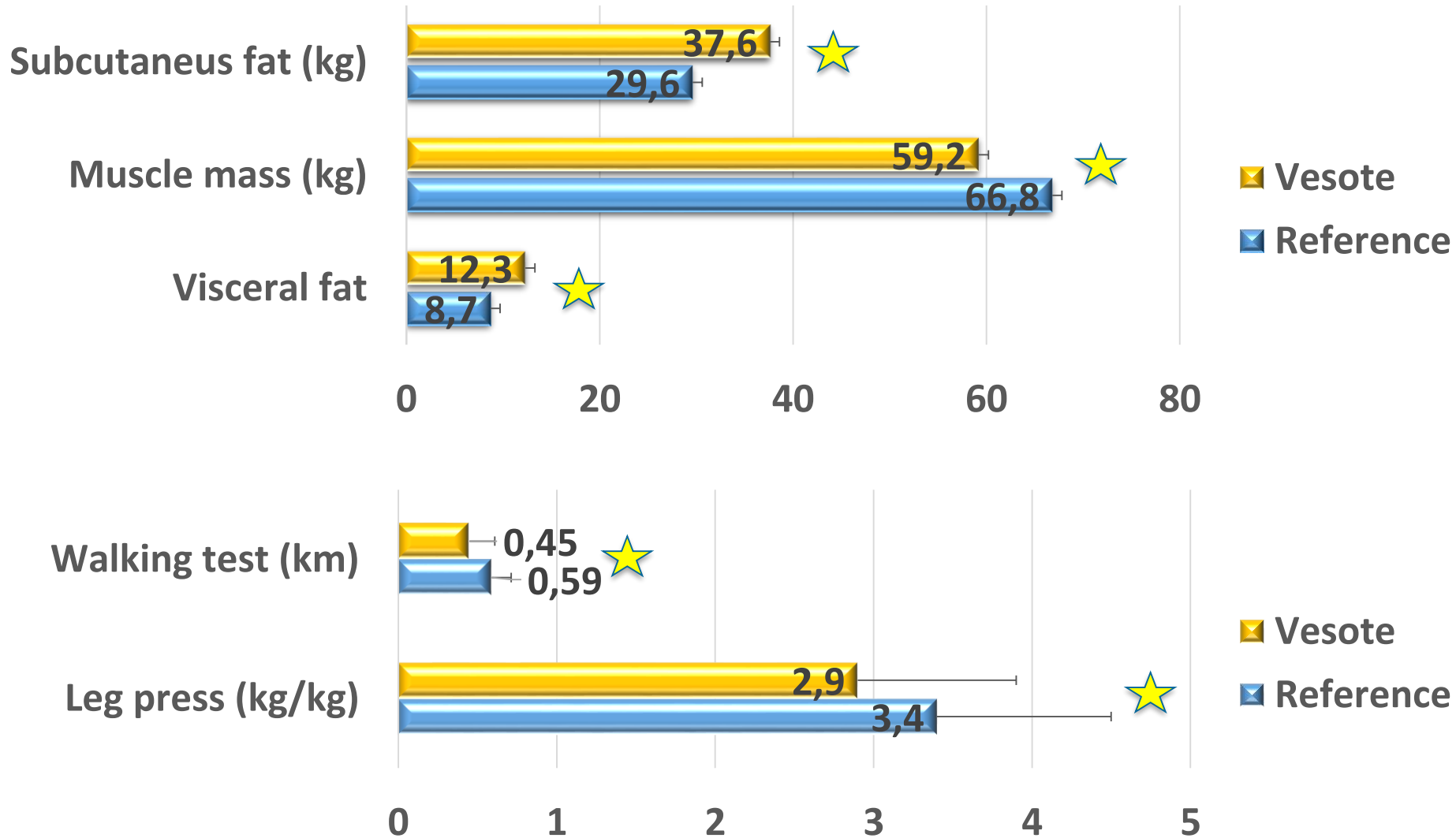


# Vesote group

- Guided from the local health care system
  - Secondary prevention
    - Prevent the disease from getting worse by eliminating or reducing the risk factor
- Lack of exercise and increased risk of diabetes
- Vesote is one of the government's leading programs
  - South Savo Social and Health Care Authority, Essote
    - Effective and target-based lifestyle counselling throughout the South Savo region

# Baseline differences

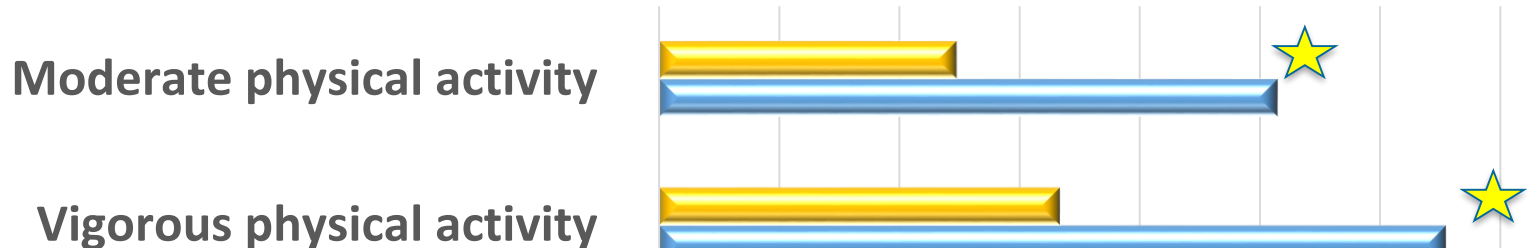
Vesote = 35, Reference = 142





# Hyviö questionnaire

■ Vesote  
■ Reference



0 20 40 60 80 100

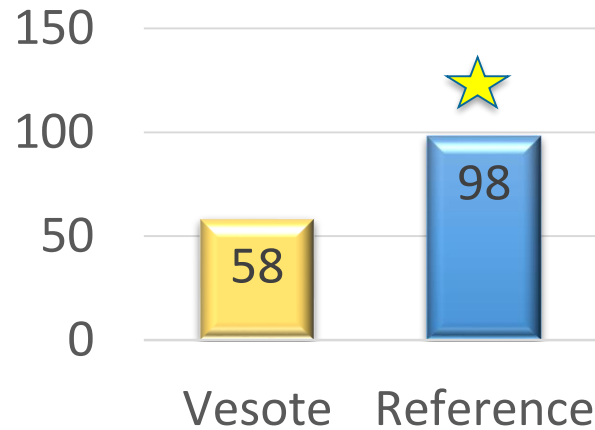


0 2 4 6 8 10

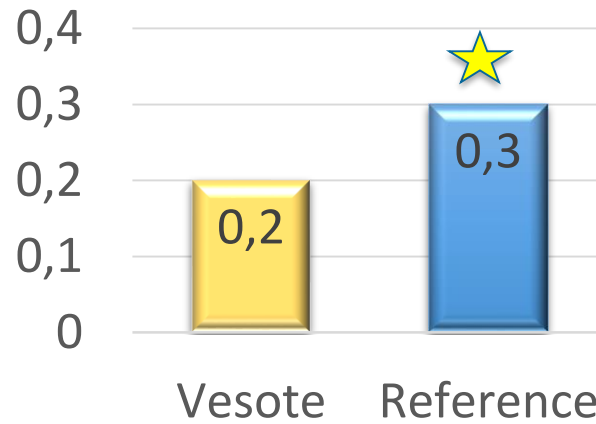
# Vesote Lifestyle counselling

- Counselor and client define the starting situation
  - Individual plan for the lifestyle changes
- Increase the amount and quality of exercise, drug-free treatment of sleep, and better nutrition
- Exercise service palette
  - Municipality specific
  - Some are free
    - Swimming pool and gym for free in Mikkeli
- Second appointment after few weeks
  - Ensure the introduction of new instructions and advice
- Duration 0,5 -1 year
  - Minimum of 3 appointments
- Active Life Lab measured clients at the starting point and again after 3 months counselling

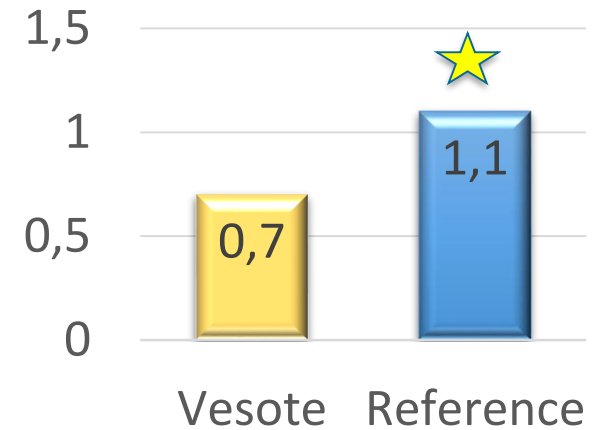
### Walking test (m)



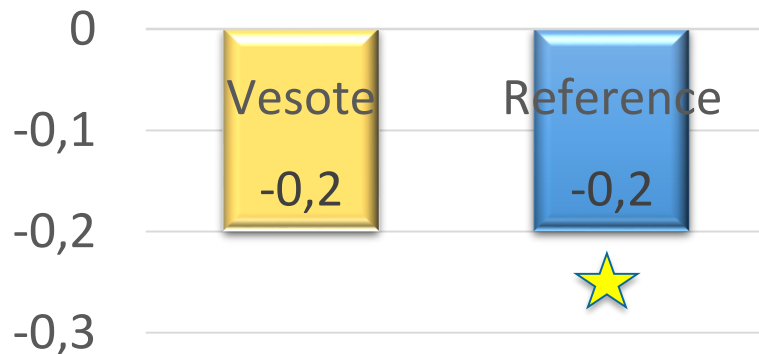
### Leg Press (kg/kg)



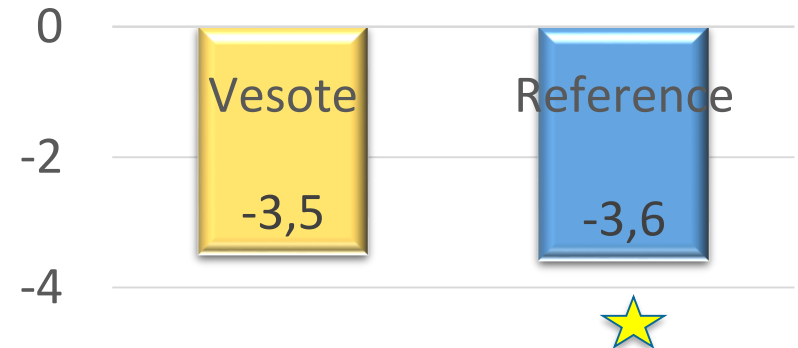
### Grip force (kg)



### Viskeral fat index

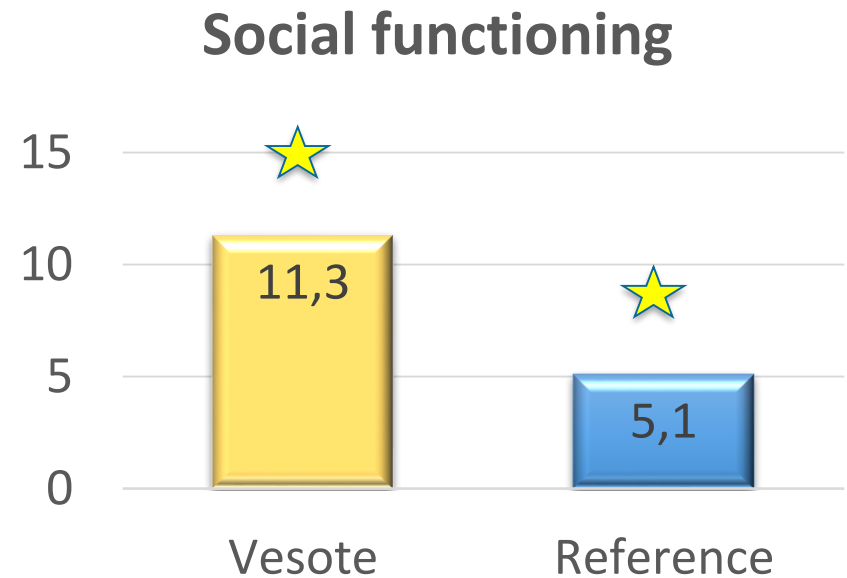
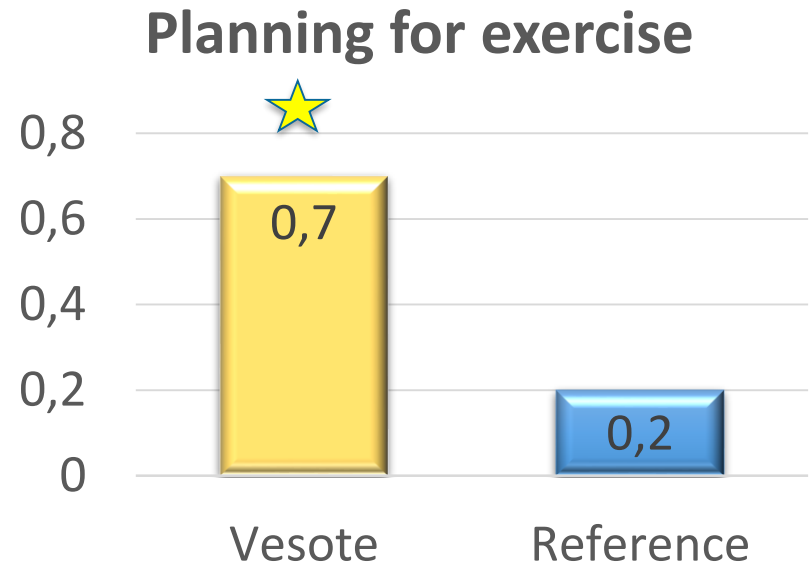
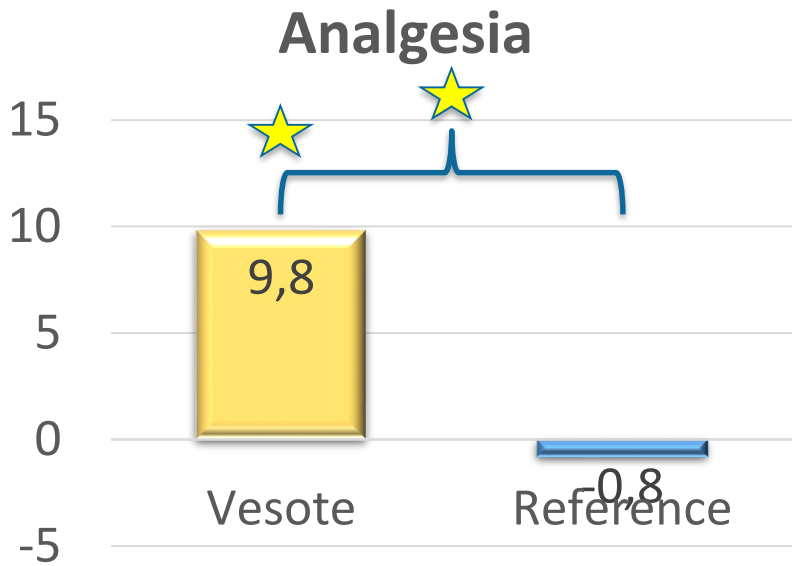


### Diastolic Blood Pressure (mmHg)



**Changes at Follow-up measurement**  
**Vesote = 16, Reference = 65**

# Changes in Hyviö Questionnaire



# Vesote future

- Vesote program finished in the end of 2018
- In the South Savo region lifestyle counselling continues in cooperation with Essote and Active Life Lab
  - Spring 2019
    - 60 new baseline effectiveness measurements
    - 30 booked measurements
    - More to come
  - Fall 2019 will be the follow-up effectiveness measurement
- Control group
  - What happens if there is no lifestyle counselling

# Conclusion

- Positive feedback
  - Doing the measurement is easy
  - Immediate feedback of the results motivates
- Data collection benefits all, lifestyle counseling clients, lifestyle counselors and developers
- A close partnership between health care and research and development enables development work that can
  - take into account local specificities
  - react quickly to weaknesses
  - ultimately improve health and well-being for more people