Kinesis
Health Technologies

Kinesis Balance™

Self assessment of falls risk and physical function

Overview

Kinesis Health Technologies Ltd have developed

Kinesis Balance™, a tool to facilitate self assessment of physical function, falls risk and wellbeing (www.kinesishealthtech.com/balance).

Kinesis Balance™ uses inertial sensors embedded in a smartphone to measure an older adults balance and mobility when completing a range of balance and functional assessments. The tool also includes an evidence-based analysis of fall risk and wellbeing.

Our validated, patent-protected algorithms are based on a large dataset of community dwelling older adults. Our products are supported by top tier peer-reviewed scientific publications[1-5] (www.kinesishealthtech.com/research).

Kinesis Balance™ allows an older person to assess and track their physical function and falls risk in the home or community environment and provides guidance and support to maintain independence and a balance in life.

Benefits

- Improving older adults' **awareness** of falls
- **Remotely** monitoring patients at home
- Supporting **self assessment**
    & supervised assessment
- Facilitating **intervention** to prevent falls
- Deliver falls prevention programs at **scale**
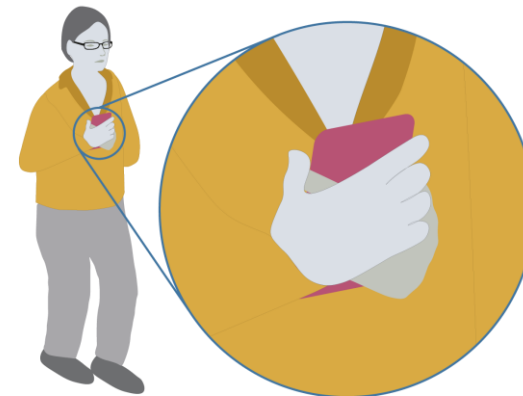
Hold your phone
with both hands

Kinesis Balance™ Features

- Reliable profiling and trending of fall risk, balance and function against age and gender norms

- Advice on staying healthy, maintaining function and avoiding falls

- Secure backup of patient data to the cloud

- Accessible and exportable data

Assessing physical function

- Balance
- Gait
- Mobility and strength
  - Timed Up & Go
  - Sit to stand / Five times sit to stand
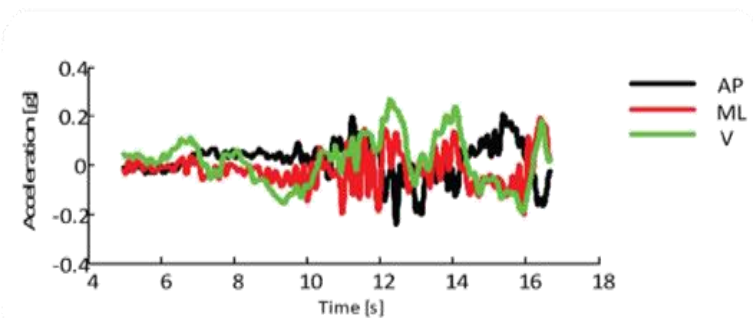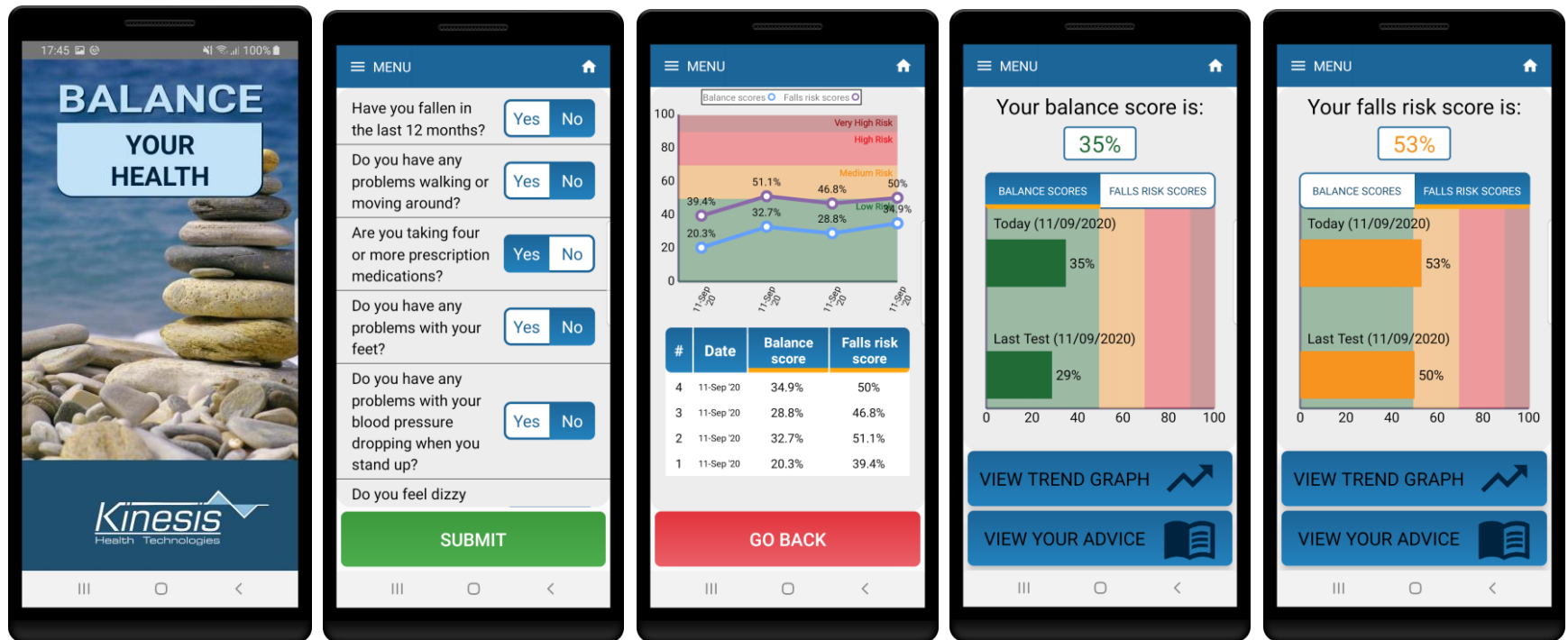

Validated falls risk questionnaire

Tracking wellbeing

Activity

Nutrition

Sleep

Mental Health

Cognition

Usability

- *Kinesis Balance™* has been designed for ease of use by older adults for self-assessment

- *Kinesis Balance™* can also by used with a family member or a carer in a supervised manner

Use Cases

Kinesis Balance™ is suitable for use in:

- Population health and prevention

- Post-acute monitoring

- Therapy and rehabilitation

- Clinical trials

References

1. B. R. Greene, S. J. Redmond, and B. Caulfield, 'Fall Risk Assessment through Automatic Combination of Clinical Fall Risk Factors and Body-Worn Sensor Data', IEEE Journal of Biomedical and Health Informatics, 21 (2016), 1-1.2
2. B.R. Greene, E.P. Doheny, R.A. Kenny, and B. Caulfield, 'Classification of Frailty and Falls History Using a Combination of Sensor-Based Mobility Assessments', *Physiol. Meas.,* 35 (2014), 2053-66.
3. B. R. Greene, D. McGrath, L. Walsh, E. P. Doheny, D. McKeown, C. Garattini, C. Cunningham, L. Crosby, B. Caulfield, and R. A. Kenny, 'Quantitative Falls Risk Estimation through Multi-Sensor Assessment of Standing Balance', *Phys Meas,* 33 (2012), 2049-63.
4. B. R. Greene, K. McManus, and B. Caulfield, 'Automatic Fusion of Inertial Sensors and Clinical Risk Factors for Accurate Fall Risk Assessment During Balance Assessment', in *IEEE Biomed. Health Inform. Conf* (Las Vegas, NV: 2018).
5. B. R. Greene, K. McManus, S, J. Redmond, B. Caulfield and C. C. Quinn, 'Digital Assessment of Falls Risk, Frailty, and Mobility Impairment Using Wearable Sensors', *npj Digital Medicine,* 2 (2019), 125.

Contact

For more information on how
Kinesis Health Technologies
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reduce costs and prevent falls,
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