



SENS motion[®] increases physical activity¹ in hospitalized patients

Older adults are physically inactive 95 % of the time during hospitalization. This increases the risk of readmission as well as a significant deterioration of physical capacity and quality of life².

SENS motion[®] increases self-activation in hospitalized patients and supports the dialogue about physical activity



Motivates the patient by visualizing goals and expectations



Delivers accurate measurement and provides an overview to the healthcare personnel



Clinical evidence

Inactivity in the elderly during hospitalization has negative effects

In Danish hospitals more than 600.000 elderly above the age of 65 are hospitalized each year (3). Elderly medical patients in acute hospitalization spend on average 70-90 % of the time in bed and spend only 3-5% of the time either standing or walking (2).

Research has shown that even a short period of inactivity leads to reduction in physical fitness and muscle mass (4). Compared to younger patients elderly patients have a reduced ability to recover due to inactivity (5). The consequences of inactivity affect the patient's ability to be self-reliant in activities of daily living (ADL) as well as a degrading quality of life (6). Physical inactivity is a factor that prolongs the disease and rehabilitation period (8) leading to admission or readmission (7).

100 steps a day reduces the risk of readmission by 10%.

Physical activity during hospitalization is associated with a reduced risk of readmission within 30 days. With an increase of 100 steps to the daily walking distance for elderly hospitalized patients the risk of readmission is reduced by approximately 10% (9).



"We are convinced that the SENS motion[®] system, as a tool used in healthcare, will be able to generate significant positive outcomes because it enables collection of measurements and the delivery of online feedback on the patient's (in)activity"

Henning Bliddal, MD, Professor,
Parker Institute at Bispebjerg and
Frederiksberg Hospital.

Bispebjerg Hospital promotes physical activity with SENS motion[®]

A clinical study at Bispebjerg Hospital, with 93 patients, showed that patients with independent walking ability spent 51 minutes more out of bed when using SENS motion[®] compared to patients not using SENS motion[®].

Patients were equipped with SENS motion[®] enabling them to keep track of their level of physical activity from a tablet. The aim of the study was to identify whether SENS motion[®] can motivate patients to be more physically active and whether the tool suits large scale implementation in clinical practice.

Both patients and clinical personnel experience positive outcomes with SENS motion[®]:

- Patients can easily use the technology and experience useful feedback as well as increased engagement in their level of physical activity
- The clinical personnel see positive reactions from the patients
- SENS motion[®] technology is a great tool to initiate difficult conversations about physical activity

Background

The study was initiated to promote physical activity.

Fysio- and Occupational Therapy Department at Bispebjerg and Frederiksberg Hospital rolled out the project in collaboration with Videnscenter for Velfærdsteknologi (VihTek).

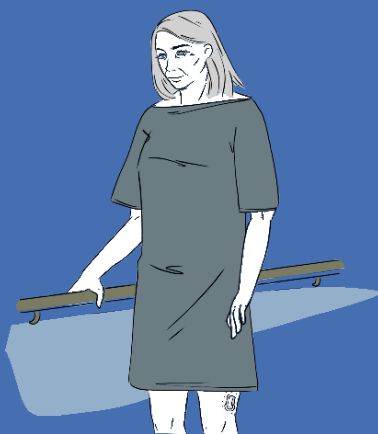
Fysio- and Occupational Therapy Department at Bispebjerg and Frederiksberg Hospital has initiated a similar study expanding to include more departments, more groups of patients and more than doubling the amount of patients.

How to use SENS motion®

- 1 The discrete sensor patch is applied to the thigh of the patient. Data is immediately collected.



- 2 The sensor measures the patient's physical activity and daily rhythm.



- 3 The patient can view goals and expectations on a tablet.

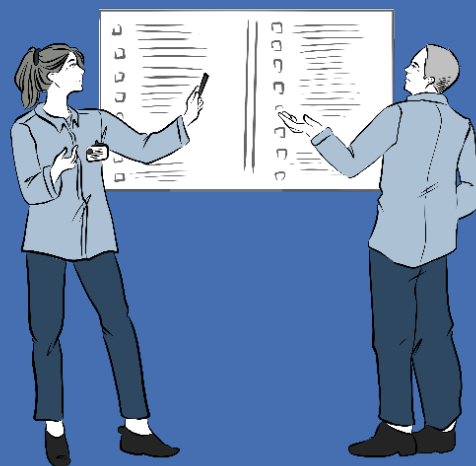


A tool for the patient and healthcare personnel

A communication tool that shows the importance of physical activity for the patient and encourages motivation and compliance.



Provides an overview and summary of patients' activity by extracting statistics for data-driven management and multidisciplinary dialogues



Specifications

Precise measurements

SENS motion[®] is a sensitive technology developed to measure small movements. SENS motion[®] registers physical activity and measures the time spent in minutes and seconds:

- Standing
- Sitting
- Sleeping
- Walking
- Running
- Biking

GDPR compliant Cloud-database

Healthcare personnel can easily access and browse data online, extract statistics, and manage patients' data.

Synchronization

The SENS motion[®] app on the patient's tablet synchronizes with new measurements when the patient is near the tablet.

User Interface

The SENS motion[®] app on the patient's tablet shows measurements in a simple and user friendly design specially developed for older patients.

Discrete patch

The patch can stick to the skin for up to 14 days and can be used with patients ages 3 and up.

No charging

The sensor has the capacity to measure continuously for 15 weeks. It can be used unlimited within the battery capacity, but it cannot be recharged.

Approvals

Medical device Class 1
(Certified by Force Technologies)

Validated in cooperation with researchers and CE approved (Bartholdy et al., Arthritis 2018, doi: 10.1155 / 2018/6596278)

Tested on more than 1500 patients
(in patient procedures up to 500 patients)

References

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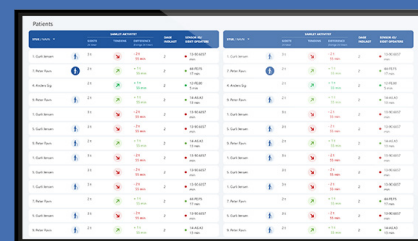
Quick setup and easy data access

1. The SENS motion[®] system comes in a suitcase containing patches, sensors and a tablet.



2. When the sensor is mounted on the patient it automatically connects with the app on the patient's tablet, which immediately collects data

3. From the app data is sent to a cloud based database with direct access for healthcare personnel



SENS
motion

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