

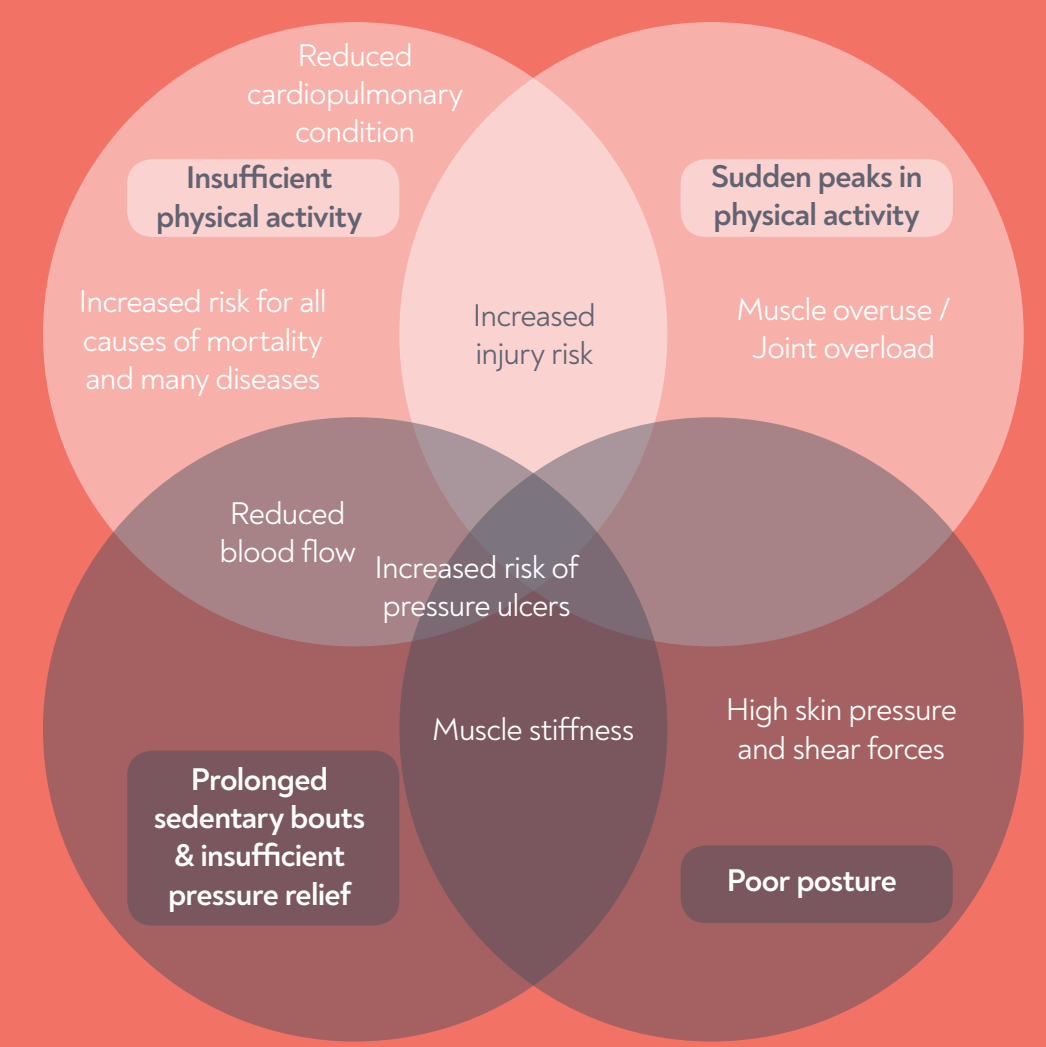
# Active wheelchair.

A monitoring wheelchair nudging users into proper wheelchair behavior.

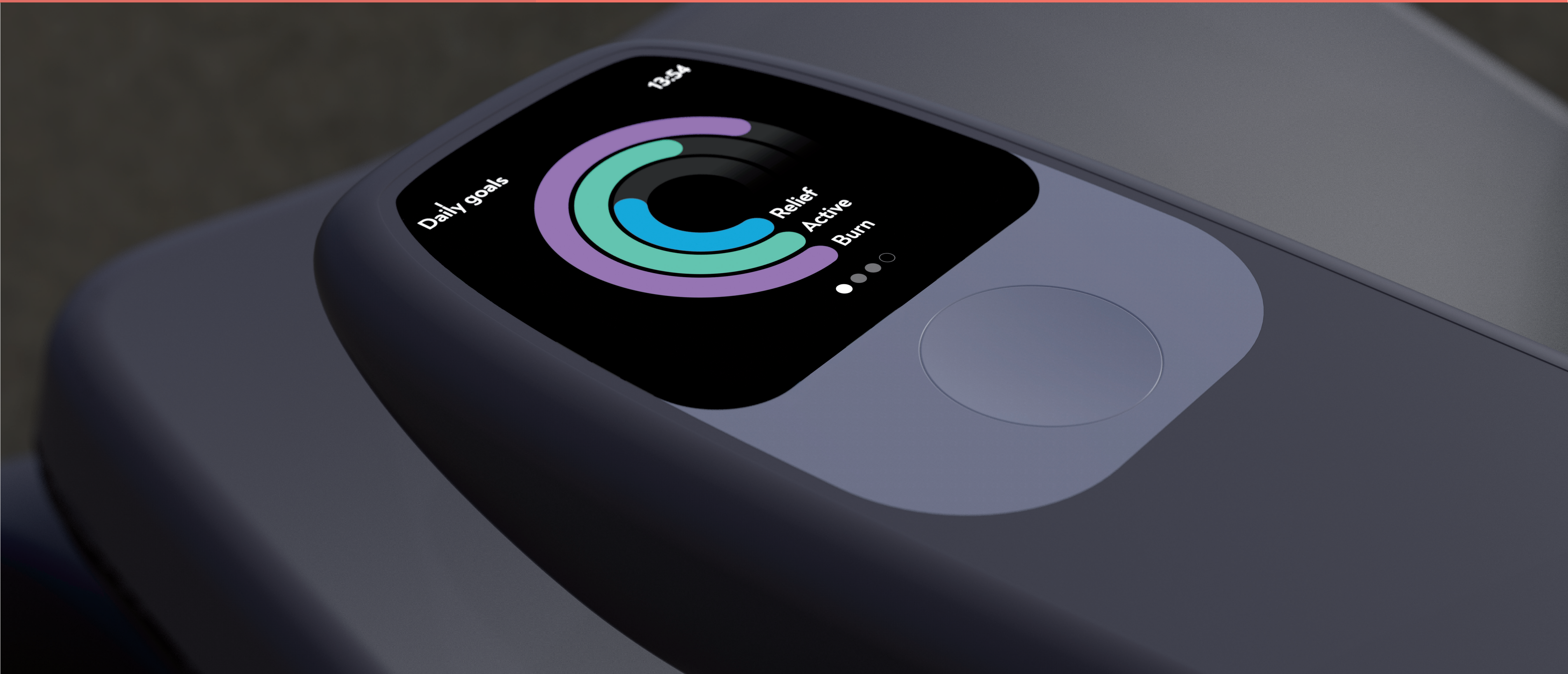
Active wheelchair helps their users achieve target behaviors using behavioral intervention principles and nudging theory.

Wheelchair users of all ages are advised by their medics to be as active as possible, relieve pressure on the buttocks as often as they can and to maintain a proper posture. Most wheelchair users have difficulties to support this kind of lifestyle.

An integrated wheelchair interface and a smartphone application provide the user with a strategy of nudges in order to improve wheelchair behavior.



Potential risks of poor wheelchair behavior



## Strategy

If the wheelchair users perform proper wheelchair behavior, they will hardly notice that the wheelchair is monitoring. Based on the analyzed measurement data, they receive strategically timed prompts to become conscious about their behavior. Attractive visualisations persuade the user to become more physically active, perform frequent pressure relief, improve their posture and alert for potentially harmful behavior.

With one button they can quickly overview their primary daily goals, see their relief and activity of the past hour and activate posture guidance.

The application uses coaching, social interactions, goal-setting and rewarding as a motivational strategy. Based on wheelchair behavior, goals of the user and preferred amount of coaching, the application alters its motivational messages and persuasion.

This product gives wheelchair users a motivational tool to monitor their progress, improve their health and might start conversation between the user, friends, family and during medical meetings.



## Application

Data from the wheelchair is sent to the smartphone application. This app provides the user with insights in previous behavior. Users have the ability to set new goals and change goals in a safe way. Active wheelchair enables them to compare, compliment and compete with fellow users and share their data with their medic.

## Wheelchair

Pressure sensors in the seating surface measure sedentary behavior, while the mobility sensing technology in the frame measures the movement of the wheelchair. Data from those sensors is processed and the system generates fitting visual, tactile and auditory feedback, which is based on their behavior, environment and preferences.



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Integrated Product Design

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