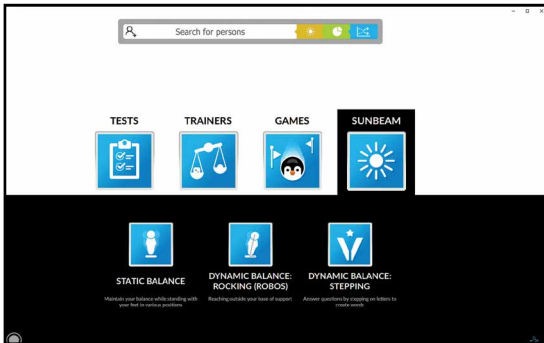




# HUR SmartBalance

## SUNBEAM module

The inclusion of the award-winning Sunbeam protocol as an additional module in the HUR Smart Balance allows for the inclusion of evidence-based balance training.

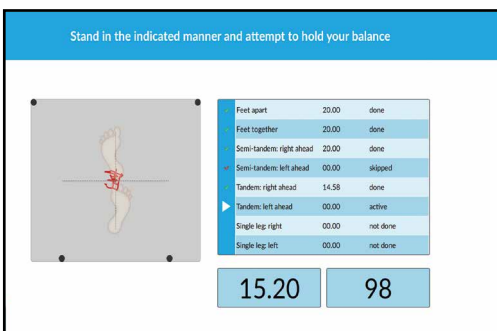


The module has been designed in collaboration with the Sunbeam lead researcher Dr Jennie Hewitt.

### HUR SmartBalance SUNBEAM module includes:

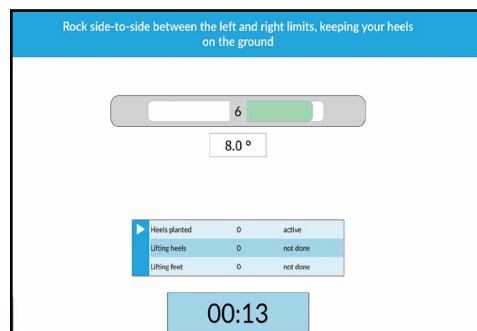
- Both dynamic and static exercises/tests
- Additional training for stepping and cognition
- All results being saved and visualized

SUNBEAM - Strength and Balance Exercise in Aged Care



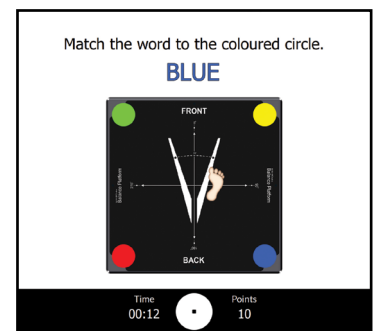
### Dynamic

- Toe and Heel raises
- Stepping combinations



### Static

- Standing positions and actions



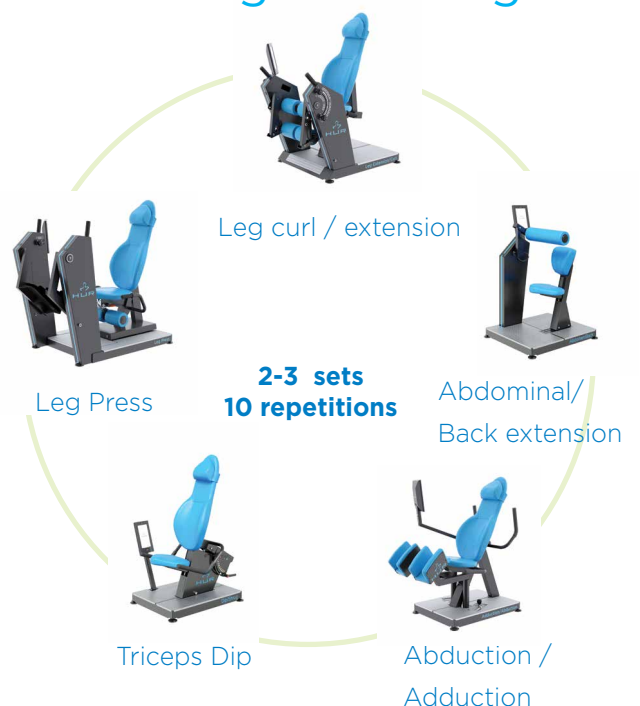
### Stepping And Cognition

## Balance Training



## Strength Training

For Effective Results



# Strength and Balance Exercise in Aged Care (SUNBEAM)

CLINICAL TRIAL  
Summary Report

## *Progressive Resistance and Balance Training for Falls Prevention in Long-Term Residential Aged Care Facilities*

### **PARTICIPANTS**

221 participants from 16 residential aged care facilities were included in the trial. The average participant age was 86. Treatment was randomized with 113 participants receiving progressive resistance and balance training (exercise group), and 108 receiving usual care (usual care group).

### **The SUNBEAM PROGRAM**

The exercise group participated in progressive resistance training using HUR Intelligent Technology plus balance exercises 2 times/week for 1 hour for a total of 25 weeks (50 sessions). Following the initial intervention, participants completed a 6-month maintenance program 2 times/week for 30 minutes. Participants performed 2-3 sets of 10-15 repetitions on a circuit of 5 HUR machines:

Participants performed 2-3 sets of 10-15 repetitions on a circuit of 5 HUR machines:

- Adduction / Abduction ST5520
- Leg Press Incline ST5545
- Dip / Shrug STE3125
- Leg Extension / Leg Curl STE5530 • Abdomen / Back Extension STE5310

The balance exercises were a combination of complex static and dynamic standing exercises.

### **FINDINGS**

- A **55% reduction in falls rate** for the exercise group, with a significant decrease in falls involving an injury
- **Fewer fallers in the exercise group** (46%) vs the usual care group (69%) with usual care group participants more likely to have multiple falls.
- The **exercise group scored higher on the SPPB** (Short Physical Performance Battery) than the usual care group at 12-months
- **Participants with cognitive decline / dementia also had a reduction in falls** (50%), multiple falls (40%) and injurious falls (44%)
- Those with **cognitive decline also significantly improved their physical performance**, including better static and dynamic balance and sit-to-stand ability
- The cost effectiveness analysis compared the costs of falls and injurious falls to the cost of the program and found that the program can be considered cost-effective with a **potential cost saving of up to \$670 per fall avoided** for the intervention group.

Original published articles

Hewitt J et al. (2018) J Am Med Dir Assoc. Apr;19(4):361-369

Hewitt J et al. (2019). Clin Rehabil. Mar;33(3):524-534

Mak A et al. (2022). J Am Med Dir Assoc. May;23(5):743-749



## KEY FINDINGS

Rate of Falls Reduced By

# 55%

following progressive strength and balance training

For participants with cognitive impairment/dementia, falls reduced by 50% with improved physical performance noted

A national roll-out of the Sunbeam strength and balance program would save Australian healthcare economy an estimated \$120 million for the first year due to the short- and long-term benefits.