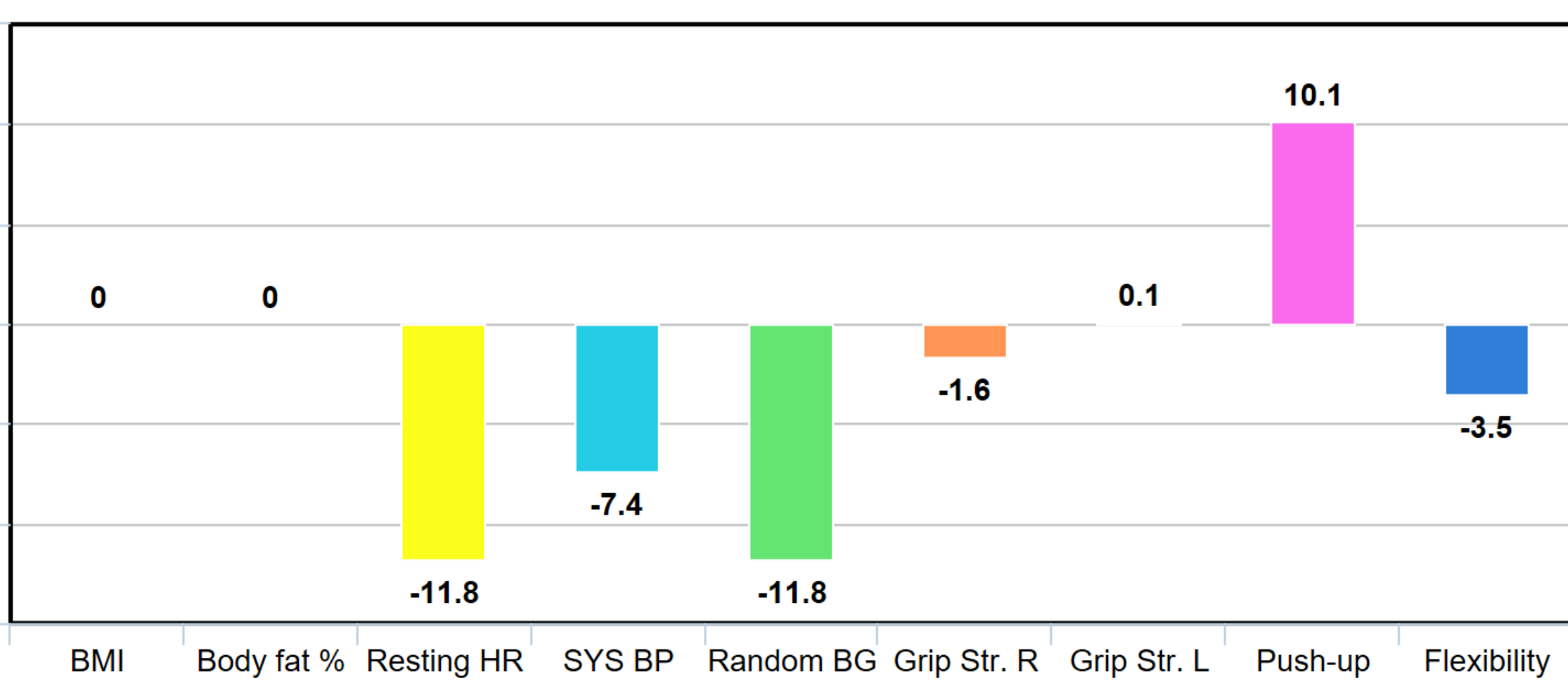


Firefighter Fitness Prescription

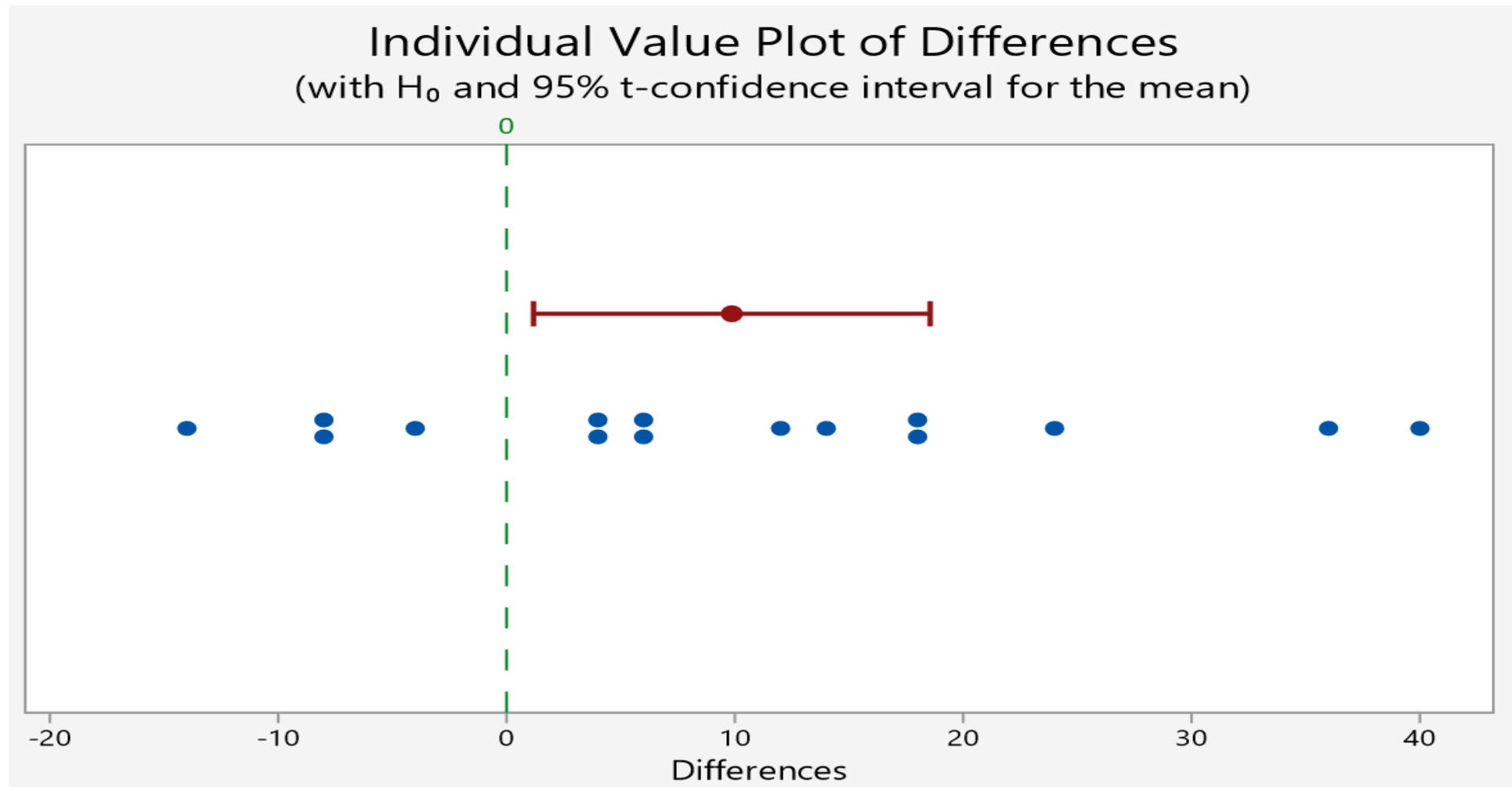
INVESTIGATORS:
Chris Torell, PA-S, CPT
Melodie Kolmetz, MPAS, PA-C, EMT-P
William Brewer, MALS, CES

Biometric and Fitness Assessment Changes



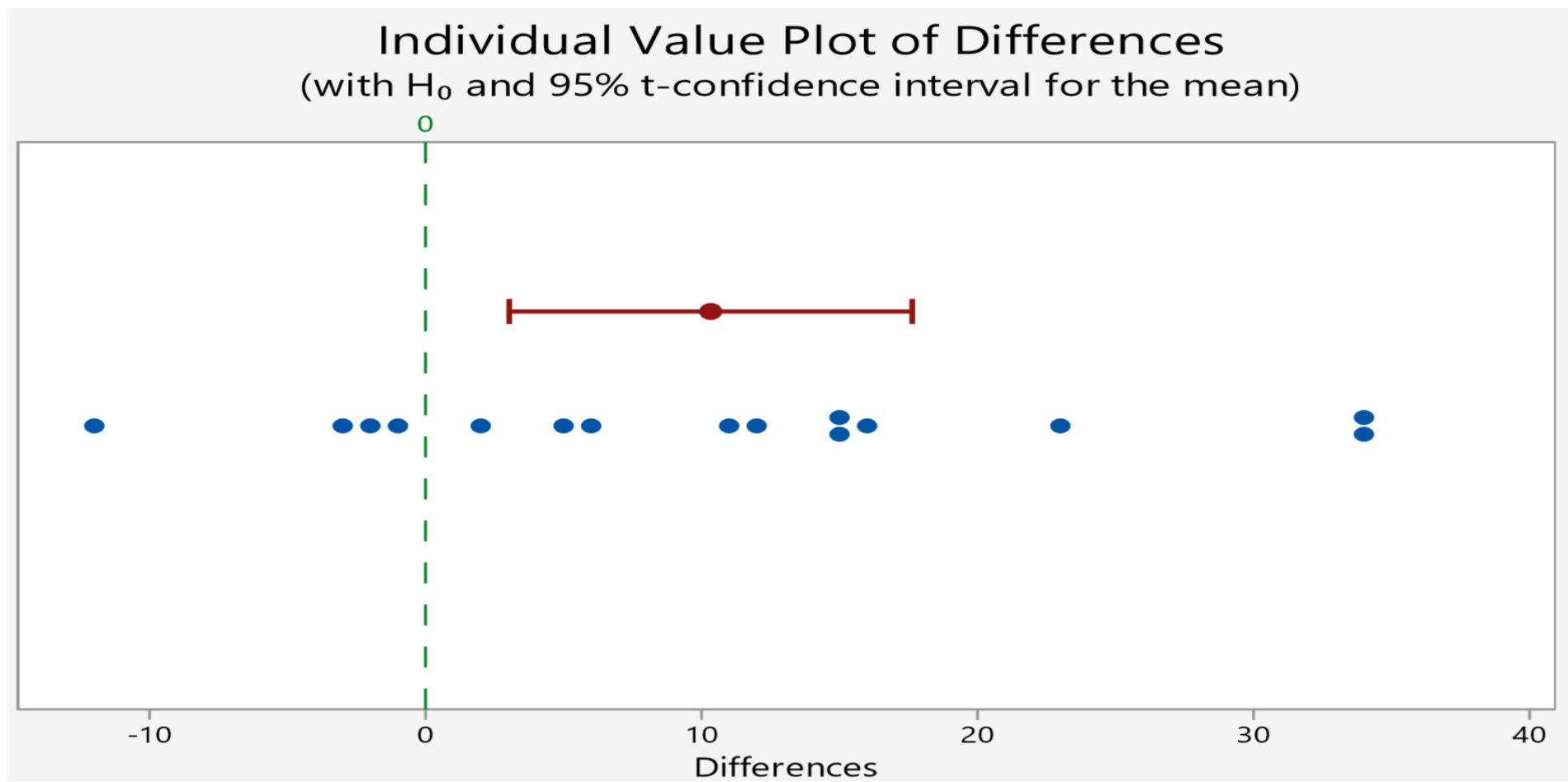
Blood Pressure

Sample	N	Mean	StDev	SE Mean
Pre SYS BP	15	132.533	10.239	2.644
Post SYS BP	15	122.667	13.020	3.362



Resting Heart Rate

Sample	N	Mean	StDev	SE Mean
Pre resting HR	15	87.533	14.312	3.695
Post resting HR	15	77.200	12.735	3.288



Average Change

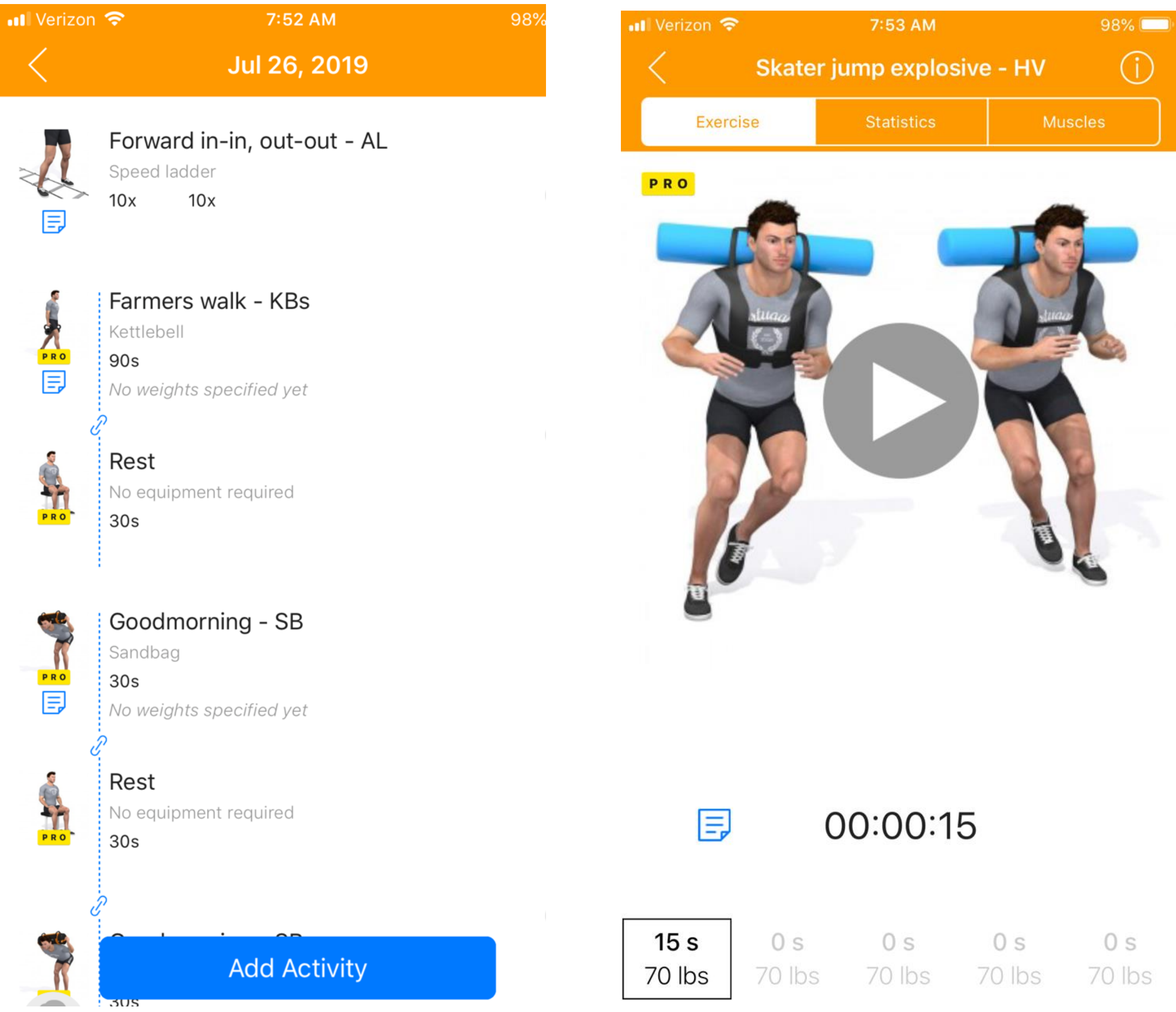
- Systolic blood pressure: **-9.9 mmHg**
- Resting HR: **-10.3 bpm**
- Moderate-intensity physical activity: **+167 mins/wk**
- Resistance training: **+2.1 days/wk**
- Enjoyment of exercise: **+29.9%**

6-week standardized exercise program is effective at lowering cardiovascular disease risk among volunteer firefighters.

RIT College of Health Sciences and Technology



VIRTUAGYM MOBILE TRAINING APP



ABSTRACT

BACKGROUND: Myocardial infarctions are the leading cause of line-of-duty fatalities among firefighters. Firefighters who are overweight or obese and have substandard fitness levels are more at risk for cardiac events.

PURPOSE: To determine if a six-week standardized exercise program is an effective intervention for lowering CVD risk in volunteer firefighters by increasing physical activity through resistance and aerobic training, improving fitness, and lowering risk factors.

METHODS: 15 participants for a non-compensated six-week exercise program were solicited from a local all-volunteer fire department. The program utilized standard fire equipment as exercise equipment and tracked physical activity on a smartphone training app. Pre and post-program assessments included fitness and biometric measurements and a qualitative survey about perception of exercise.

RESULTS: Pre-program assessments showed 26.7% of participants were overweight and 73.3% were obese, according to BMI. Significant decreases in systolic blood pressure (9.9 mmHg) and resting heart rate (10.3 bpm) were observed (P-values <0.05). Self-reported moderate-intensity physical activity and resistance training significantly increased by 167 mins/wk and 2.1 days/wk, respectively (P-values <0.05). A significant 29.9% increase in enjoyment of exercises was also recorded (P-value <0.05). No significant improvements were made in muscular strength, muscular endurance, flexibility, BMI, body fat percentage, or random blood glucose levels (P-values >0.05).

CONCLUSIONS: The 6-week exercise program is an effective and enjoyable intervention for increasing physical activity while lowering blood pressure and resting heart rate. All are correlated with a lower CVD risk.

Firefighter Health and Fitness
Resources and Research

