

# Workout Recording Log

## Implementing Progressive Overload

### Daniel McMenimen Healthcare Studies

#### Introduction

The intent of Supportive Living Inc. (SLI) is to raise the quality of life for people living with traumatic brain injury, stroke and other neurological disorders. SLI provides supportive and affordable housing, community based wellness programming, while collaborating with local colleges and universities to provide educational opportunities and research.

The local YMCA's of Gloucester and Marblehead provide an extensive Neuro Fitness program centered on exercise and rehabilitation to improve the quality of life, for those individuals who have experienced brain injuries.

Supportive Living continues to research new avenues regarding physical and cognitive fitness levels.

#### Objective

Create a work-out log where staff members will be able to track progress of participants towards their stated goals. The new format will implement a progression of exercises and daily check marks that indicate completion and modification of weight adjustments or repetitions per exercise. This form would record several weeks of workouts and be comprehensively contained on to one (1) sheet of paper for easy reviewing.



#### What is Neuro Fit?

Evidence based exercise program for individuals suffering ABI (acquired brain injury), or other neurological disorders.

- Each participant has an individualized program to achieve his or her goal.
- Progressive overloads are strategic to improving the physical, cognitive and social health of an individual.

#### What is Progressive Overload?

- "Progressive overload is when you gradually increase the weight, frequency, or number of repetitions in your strength training routine. This challenges your body and allows your musculoskeletal system to get stronger." (Bubnis, Healthline, et al. July 2020)
- Progressive overload is an effective training method to a variety of exercises including strength, cardiovascular, balance, endurance, and flexibility training.
- A benefit of this training method is to avoid plateauing. Plateauing is when your body adapts to the type of exercise you're doing, and you essentially do not make any more progress on the exercises until they are adjusted. (Bubnis, Healthline, et al. July 2020)

#### Related Literature

"Insufficient progressive overload may be one of the reasons for the variability in CR (cardiac rehabilitation) outcomes, including a lack of improvement in CRF (cardiorespiratory fitness) within UK programmes. Previous work in athletic performance settings has shown that the minimum increase in weekly training load should be  $\geq 10\%$  to gain significant adaptations and subsequent improvements in physical performance. [11] In cardiac populations, the proposed weekly increase in training load has yet to be clearly established." (Khushal, Nichols, Carroll, Abt, 2020)

"Training adaptation is a concept that is often considered by the coaches to plan and execute a training program in which the FITT principles (Frequency, Intensity, Time and Type) and progressive overload principles are commonly used to adjust training regimes to achieve a specific goal(s) [14,15]." (Rizal, Hajar, Kuan, 2018)

#### Materials and Methods

Design a workout plan for Participant A which includes the exercises below. Each exercise starts with little or no resistance and they slowly increase after two-weeks.

- **Exercise bike:** with adjustable resistance levels strengthens legs, core muscles and cardio
- **Medicine ball toss:** tossing medicine ball to measure upper body strength while reinforcing balance.
- **Sit to Stand:** Purpose is strengthen thigh and core muscles that add to stability.
- **Shoulder flex and arm raise:** Purpose is to strengthen upper body
- **Rowing:** Purpose is strengthen back, arm and core muscles.
- **Leg Extensions:** Purpose is to strengthen hip and quadriceps muscle; reduce and rehabilitate knee injuries.

Participant A was monitored throughout the workout and kept track of amount of rest time, water breaks, pauses in exercises.

#### Program to be Implemented

##### BASELINE (Starting point)

Resistance and weights :  
Bike – Level 1 (20 minutes)  
Medicine ball toss – 6lbs  
Sit-to-stand – N/A (No weight)  
Shoulder flex – N/A (No weight)  
Rows – Blue resistance band  
Leg Extensions – N/A (No weight)

##### PHASE 1: First modification of exercises

Resistance and weights :  
Bike – Level 2 (20 minutes)  
Medicine ball toss – 8lbs  
Sit-to-stand – 5lbs  
Shoulder flex – 2.5lbs  
Rows – Green resistance band  
Leg Extensions – Ankle weights (2.5lbs)

##### PHASE 2: Second modification of exercises

Resistance and weights :  
Bike – Level 3 (20 minutes)  
Medicine ball toss – 10lbs  
Sit-to-stand – 10lbs  
Shoulder flex – 5lbs,  
Rows – Red resistance band  
Leg Extensions – Ankle weights (5lbs)

##### PHASE 3: Third modification of exercises

Resistance and weights : Add 2 reps to all  
Bike – Level 3 (20 minutes)  
Medicine ball toss – 10lbs  
Sit-to-stand – 15  
Shoulder flex – 5lbs,  
Rows – Red resistance band  
Leg Extensions – Ankle weights (5lbs)

#### New Form with Data Collection

**Supportive Living Inc.**  
**Workout Log**

Name: **PARTICIPANT A** Goal: **MAINTAINING STRENGTH**

| Exercises     | Baseline         |      |     |     | Phase 1 |                |      |      | Phase 2 |      |                |     | Phase 3 |      |      |                |      |   |   |   |
|---------------|------------------|------|-----|-----|---------|----------------|------|------|---------|------|----------------|-----|---------|------|------|----------------|------|---|---|---|
|               | Sets/Reps/Weight | 2/28 | 3/2 | 3/7 | 3/9     | 3/14           | 3/16 | 3/21 | 3/23    | 3/28 | 3/30           | 4/4 | 4/6     | 4/11 | 4/13 | 4/18           | 4/20 |   |   |   |
| Bike          | 20 min Level 1   | X    | X   | X   | X       | 20 min Level 2 | X    | X    | X       | X    | 20 min Level 3 | X   | X       | X    | X    | 20 min Level 4 | X    | X | X | X |
| MB Toss       | 3/10/6lbs        | X    | X   | X   | X       | 3/10/8lbs      | X    | X    | X       | X    | 3/10/10lbs     | X   | X       | X    | X    | 3/12/10lbs     | X    | X | X | X |
| Sit-to-Stand  | 3/10/NA          | X    | X   | X   | X       | 3/10/5lbs      | X    | X    | X       | X    | 3/10/10lbs     | X   | X       | X    | X    | 3/12/10lbs     | X    | X | X | X |
| Shoulder Ext  | 3/10/NA          | X    | X   | X   | X       | 3/10/2.5lbs    | X    | X    | X       | X    | 3/10/5lbs      | X   | X       | X    | X    | 3/12/5lbs      | X    | X | X | X |
| Rows          | 3/12/Blue Band   | X    | X   | X   | X       | 3/12/Green     | X    | X    | X       | X    | 3/12/Red       | X   | X       | X    | X    | 3/15/Red       | X    | X | X | X |
| Leg Ext       | 3/12/NA          | X    | X   | X   | X       | 3/12/2.5lbs    | X    | X    | X       | X    | 3/10/5lbs      | X   | X       | X    | X    | 3/12/5lbs      | X    | X | X | X |
| Staff Initial |                  |      |     |     |         |                |      |      |         |      |                |     |         |      |      |                |      |   |   |   |

**Notes: (2/28-3/9)** The exercises are done efficiently and do not seem too difficult for participant A weight should be added.  
**(3/14-3/23)** Participant A made a flawless adjustment to the first phase the first addition of weight does not seem too difficult. Weight should again be added.  
**(3/26-4/6)** The increase in weight provided an effective change in the exercises. Next progression should be an increase in reps.  
**(4/11-4/20)** Increase a few exercises at a time from this point forward.

| Exercises     | Phase 4        |              | Phase 5        |              | Phase 6        |              | Phase 7        |              |
|---------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
|               | Modifications  | Session Date |
| Bike          | 20 min Level 4 |              | 25 min Level 4 |              | 25 min Level 4 |              | 20 min Level 5 |              |
| MB Toss       | 3/12/10lbs     |              | 3/15/10lbs     |              | 3/15/10lbs     |              | 3/12/12.5lbs   |              |
| Sit-to-Stand  | 3/12/10lbs     |              | 3/10/12.5lbs   |              | 3/10/12.5lbs   |              | 3/12/12.5lbs   |              |
| Shoulder Ext  | 3/15/5lbs      |              | 3/15/5lbs      |              | 3/10/7.5lbs    |              | 3/10/7.5lbs    |              |
| Rows          | 3/8/10lbs      |              | 3/8/10lbs      |              | 3/10/10lbs     |              | 3/10/10lbs     |              |
| Leg Ext       | 3/15/5lbs      |              | 3/15/5lbs      |              | 3/10/7.5lbs    |              | 3/10/7.5lbs    |              |
| Staff Initial |                |              |                |              |                |              |                |              |

Participant A's program was limited to an 8 week period of time as a trial to see if this form would be successful

#### Results and Conclusion

- This new log was used in work out sessions over an 8 week period of time and was well received and easily adapted to by staff and interns. This document allowed for efficient and organized collection of participants work out data.
- The newly designed workout log permitted staff members to monitor the progress of each participant throughout the entire sixteen-week program. All data and observations were recorded on one sheet as opposed to multiple pages.
- Participant A was able to successfully to progress along his scheduled plan of exercise. As his workout increased, there was no negative impact on the participant during or after the workout. Aside from slowing down to maintain proper technique, participant A did not require any assistance or breaks in the workout.
- Rest periods were monitored throughout the progression of each period. The amount of breaks stayed consistent, and the only notable observation was slowing down exercises to maintain a proper technique.
- Participant A family member reported an unexpected result that he was less moody and had more energy at home as progression was made in the program; therefore allowing a more rapid increase of weight and repetitions throughout the beginning phases.

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