

# Muscle Training Journal

DATE:

THIS JOURNAL BELONGS TO:

- How to progress through training safely
- Signs I am overdoing it
- Day-to-day Application
- General Advice
- Can I train my muscles safely?
- What are the benefits of muscle training?
- What type of muscle training
- Monitoring effects after the exercises
- Fatigue management and a pacing approach
- Post class reflection diary

# How to Progress Through Training Safely:

## Progression of Training:

- Maintain training level for 2-3 weeks.
- Increase weight /distance by small amounts.
- Maintain new programme for 2-3 weeks.
- Set new level and repeat.
- Do not strength and power train on busy days.
- Rest if feeling unwell.
- Drop a level in programme on recovery from illness.
- At end of session, you should feel like you can do it all over again.

## Day-to-Day Application:

- Pace day-to-day activities as well as exercise.
- Take more time to do energy draining tasks.
- Spread larger tasks such as cleaning over multiple days.
- Do regular smaller supermarket shops rather than one big shop a week.
- Have frequent breaks, listen to your body.
- Modify Activities - can you sit down to do them?
- Set aside time to do tasks you've priorities or things you love to do.

## Signs of overdoing it:

- Feeling tired at end of the session.
- Feeling exhausted the next day.
- Increase in muscle aches or pain the next day.
- Sensory changes e.g crawling, creeping under the skin.
- "Jumping" legs.
- "Jelly legs" and "lead boots".
- **If you are overdoing it, rest, reduce intensity and drop a level.**

## General Advice and Tips:

- Try to maintain a dedicated activity at least twice a week.
- Dedicate at least 3 months to a regular exercise programme to see change.
- Incorporate activities that can be maintained in the future, make it realistic.
- **Other exercise suggestions are:** Yoga (avoid excessive stretching, focus on core), thai chi, dancing, swimming, water walking, hydrotherapy and walking outdoors.

# Polio Muscle Training:

- **Muscle training** will be targeting either endurance or strength and can progress to power.
- Deciding what to train will depend on your client's goals and your assessment.
- In general **function** should be a primary target so consider what functional task your client is finding difficult and what muscle groups are contributing to this. Then consider if the task requires endurance, strength or power.
- It is important to incorporate pacing into your training programme. **Pacing** allows the activity to cease so that muscle can recover and continue to perform at its optimum. It is worth noting that polio people are very good at pushing through barriers and not noticing.

## One way to prescribe training and adapt to focus on either endurance or strength is using '1 Max':

- **In Endurance training:** 1 Max is reached at the point that the quality of your movement deteriorates e.g. when your speed of movement or length of step, starts to drop off.
- **In Strength training:** 1 Max is the Maximum resistance you can lift or pull through full range, once.



# Type of Training: Endurance

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## Endurance Definition:

- The ability for muscles to keep working, without reducing quality of performance, over a period of time.
- Endurance training improves the ability of muscle to meet metabolic demands, by opening up smaller blood vessels, bringing oxygen to the muscle – as a result the muscle does not tire as easily.

## Endurance Training:

- Repetitive and slow.
- Interval training has also proven to be effective - “slow” and fast.
- A resistance component improves the ability of muscle to develop tension – (state of readiness to move is heightened) - muscle becomes toned up.

## Putting Endurance into Practice:

- **Endurance** is conservative in prescription = paced.
- Find out at what point the quality of movement deteriorates (speed, length, drops off). Use distance or time taken (call this the 1 Max).
- Identify your activity e.g. walking, bike, treadmill, pool.
- Now exercise at  $\frac{1}{2} = \frac{3}{4}$  of the point (**1 Max**) and build slowly over time.
- **Rest:** Minimum of  $\frac{1}{2}$  the time taken to exercise. Many find that resting for the same amount of time the exercise took.
- Repeat only if full recovery is felt.
- Gauge yourself by quality – **pace yourself**.
- **Frequency:** Can be completed safely daily if following guidelines might be daily exercise but alternating body region / type of exercise.
- 2 months for results, 3 months for change.

# Type of Training: Strength

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## Strength Definition:

- The ability of the muscle to develop enough tension to carry a specified load.
- The greater the load, greater the tension.

## Strength Training:

- Weight resistance through full range of movement.
- The load is moved at training speed or slower.
- Load is to be increased over time.
- Quality of performance will determine if load is correct for each stage of training.

## Putting Strength into Practice:

- Strength also takes a conservative approach.
- Find out at what is the **Maximum resistance** you can lift or pull through full range, once (call this your 1 Max).
- Set resistance to train at **75% to 95%** of the 1 Max.
- Repeat exercise **3 - 4x**.
- Rest for a minimum of  $\frac{1}{2}$  the time taken to exercise – must recover in full.
- Repeat 3 - 4 cycles.
- Include both concentric and eccentric contractions\*\*.
- Gauge performance by **quality** – pacing.
- Muscles NOT affected may be trained at 90 – 100% of the 1 Max.
- Frequency = **alternate days, max 3 x a week**.
- **2 months for results, 3 months for change**.

\*\*Where concentric contraction results in the shortening of a muscle, used to perform positive work or to accelerate a body part – for example bicep concentric contraction is bringing the hand up towards the chin – shortening the bicep muscle. While Eccentric Contraction is a resistive force that results in elongation of a muscle, or to decelerate a body part – for example when lowering a weight from the chin down to a table through opening the elbow joint – biceps lengthening.

# Type of Training: Power

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## Power Definition:

- Power provides us with strength and speed.
- Power is when you can move a load rapidly.
- Enables a muscle to 'sprint'.

## Power Training:

- Moving a set load, fast.
- Train by moving a load rapidly through full range.

## Putting Power into Practice:

- Power training can be used for Muscles not affected by Polio following strength and endurance training established.
- Power is strength with speed.
- Must train with **caution** to avoid injury to joints.
- Use strength training weights with rapid movements.
- Use interval training.
- Repetitions: 2 - 3 reps.
- Cycles : 2 or 3 sets.
- Frequency = **alternate days, max 3 x a week.**

In a meta study of the effectiveness of *Effects of Exercise Training, Lifestyle Modification and Modality on Fitness and Post-polio Syndrome in Polio Survivors*, the intensity of the exercise were based on 70-75% of reserve heart rate (HR reserve) plus resting heart rate (HRrest) or 75% maximum heart rate (HRmax). The training frequency was 2 to 3 sessions per week and 15 to 40 minutes per session.

# Training Plan:

What muscles need training as identified by my Therapist / G.P / Self:

What type of training should I be doing? e.g. Endurance / Strength:

What are the exercises I have been prescribed (See 'Weekly Plan')?

# Weekly Plan:

Excercise	Weight	Repetitions	Frequency	Position

# Weekly Monitoring:

Day of the Week:							
How did I feel before I did the exercises? How did I feel whilst performing the exercises? Pain? Enjoyment? Challenged?							
How did I feel immediately after the exercises? Getting out of the water? When I got home?							
How did I feel the next day? Fatigue ..... /10 Energised ..... /10 Pain ..... /10							
Things to remember for next time:							
Anything else to note?							

# Select a rating:

When rating your fatigue out of ten the chart below may help you:

0



No Fatigue

1-3



Mild Fatigue

4-6



Moderate Fatigue

7-9



Extreme Fatigue

10



The Worst Fatigue

When rating your pain out of ten the chart below may help you:

0



No Pain

2



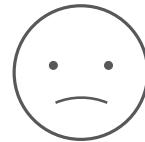
Mild Pain

4



Moderate Pain

6



Severe Pain

8



Very Severe Pain

10



Worst Possible Pain

When rating your energy out of ten the chart below may help you:

0



2



4



6



8



10





## **About the Duncan Foundation**

The Duncan Foundation is a national support service for people living with neuromuscular conditions, and the health professionals who treat and support them. Our goal is to empower people with these conditions to live to their maximum physical potential.

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For more information visit: [www.duncanfoundation.org](http://www.duncanfoundation.org)