

Strength Training Guidelines



OVENS VALLEY
PHYSIO & PILATES

- **Muscle strength:** the amount of force that a muscle can exert (how heavy can you lift). This is made up of hypertrophy and neuromuscular recruitment.
- **Hypertrophy:** size of muscle mass
- **Neuromuscular recruitment:** % of muscle fibres working
- **Muscle power:** how fast a muscle can exert an amount of force (how fast can you lift)
- **Muscle endurance:** how many times can a muscle exert an amount of force (how many times can you lift)
- **Load:** the amount of weight being lifted
- **Volume:** how much the weight is being lifted (x repetitions x sets)
- **Intensity:** Speed of muscle contractions
- **Frequency:** number of time performed a week
- **Rest:** rest periods between sets of and exercise

The following are the prescription for different strength goals:

	Load	Volume	Intensity	Frequency	Rest
Muscle Strength	70-100% 1RM	3-12 reps, 3 sets	moderate	3-4 per week	2-3 mins
Hypertrophy	70-85% 1RM	8-12 reps, 3-6 sets	moderate	3-4 per week	2-3 mins
Neuromuscular Recruitment	>85% 1RM	3-6 reps, 3 sets	moderate	3-4 per week	2-3 mins
Muscular Endurance	70% 1RM	10-25 reps, 3-6 sets	Slow for 10-15 reps, fast for 15-25 reps	3-4 per week	1-2 mins
Muscular Power	30-60% of 1RM for upper body, 0-60% of 1RM for lower body	1-6 reps, 1-3 sets	fast	2-3 per week	2-3 mins

- **Adaptation:** The body will respond to load and adapt to the stimulus applied.
- **Specificity:** Training must be specific to sport and goals, consider muscle actions involved, speed of movement, range of motion, muscle groups trained, energy systems involved, intensity and volume of training.
- **Diminishing returns:** All people have a physiological limit to how much physical improvement they will receive by participating to a particular exercise program and physical results will gradually slow down and plateau
- **Progressive overload:** The exercise program must be continually adjusted in an incremental fashion, increasing the complexity, volume or intensity of the exercise program to avoid plateau
- **Progression:** When training at specific reps x sets, it is recommended that a 2-10% increase in load be applied when you can perform the current workload for one to two repetitions over the desired number on two consecutive training sessions
- **Detraining:** Improvements gained from exercise participation will slowly reverse once the exercise stimulus has ceased. If you don't use it you lose it!
- **Exercise selection:** Unilateral and bilateral, single- and multiple-joint exercises should all be included with emphasis on multiple-joint exercises for maximizing overall muscle strength in novice, intermediate, and advanced individuals .
- **Sequencing:** Include large muscle group exercises before small muscle group exercises, multiple-joint exercises before single-joint exercises, higher-intensity exercises before lower-intensity exercises.
- **Recovery:** Enough rest must be allowed for the muscles to recover, adapt and actually repair to become stronger. Don't train the same muscle groups 2 days in a row and not more than x3 per week.