

What Is the OPT Model?

The OPT model was conceptualised as a training programme for a society that has more structural imbalances and susceptibility to injury than ever before. This programming process systematically progresses any client to any goal. The OPT model is built on a foundation of principles that progressively and systematically allows any client to achieve optimal levels of physiologic, physical, and performance adaptations, including:



Physiological Benefits

- Improves cardiorespiratory efficiency
- Enhances beneficial endocrine (hormone) and serum lipid (cholesterol) adaptations
- Increases metabolic efficiency
- Increases bone density

Physical Benefits

- Decreases body fat
- Increases lean body mass (muscle)
- Increases tissue strength (tendons, ligaments, muscles)

Performance Benefits

- Strength
- Power
- Endurance
- Flexibility
- Speed
- Agility
- Balance

The OPT model is based on the scientific rationale of human movement science. Each stage has a designated purpose that provides the client with a systematic approach for progressing toward his or her individual goals, as well as addressing his or her specific needs. Now, more than ever, it is imperative that health and fitness professionals fully understand all components of programming as well as the right order in which those components must be addressed to help their clients achieve success.

Phases of Training

The OPT model is divided into three different levels of training — stabilisation, strength, and power (Figure 1.1). Each level contains specific phases of training. It is imperative that the health and fitness professional understands the scientific rationale behind each level and each individual phase of training to properly use the OPT model.

Stabilisation Level

The Stabilisation Level consists of one phase of training—Phase I: Stabilisation Endurance Training. The main focus of this form of training is to increase muscular endurance and stability while developing optimal neuromuscular efficiency (coordination).

The progression for this level of training is proprioceptive. This means that difficulty level is increased by introducing a greater challenge to the balance and stabilisation systems of the body (versus simply increasing the load). For example, a client may begin by performing a push-up and then progress by performing the same exercise using a stability ball Figure 1.2. This progression requires additional activation from the nervous system and the stabilising muscles of the shoulders and trunk to maintain optimal posture while performing the exercise.

Stabilisation and neuromuscular efficiency can only be obtained by having the appropriate combination of proper alignment (posture) of the human movement system (kinetic chain) and the stabilisation strength necessary to maintain that alignment (4–6). Stabilisation training provides the needed stimuli to acquire stabilisation and neuromuscular efficiency with proprioceptively enriched exercises and progressions. The goal is to increase the client's ability to stabilise the joints and maintain optimal posture.

It must be noted that stabilisation training must be done before strength and power training. Research has shown that inefficient stabilisation can negatively affect the way force is produced by the muscles, increase stress at the joints, overload the soft tissues, and, eventually, cause injury (7–10).

Stabilisation Endurance Training not only addresses the existing structural deficiencies, it may also provide a superior way to alter body composition (reduce body fat) because all the exercises are typically performed in a circuit fashion (short rest periods) with a high number of repetitions (11–13). By performing exercises in a proprioceptively enriched environment (controlled, unstable), the body is forced to recruit more muscles to stabilise itself. In doing so, more calories are potentially expended (11–12).

Goals and Strategies of Stabilisation Level Training

PHASE 1: STABILISATION ENDURANCE TRAINING

Goals

- Improve muscular endurance
- Enhance joint stability
- Increase flexibility
- Enhance control of posture
- Improve neuromuscular efficiency (balance, stabilisation, muscular coordination)

Training Strategies

- Training in unstable, yet controllable environments (proprioceptively enriched)
- Low loads, high repetitions

Strength Level

The Strength Level of training follows the successful completion of stabilisation training. The emphasis is to maintain stabilisation endurance while increasing prime mover strength. This is also the level of training an individual will progress to if his or her goals are hypertrophy (increasing muscle size) or maximal strength (lifting heavy loads). The Strength Level in the OPT model consists of three phases.

In Phase 2: Strength Endurance Training, the goal is to enhance stabilisation endurance while increasing prime mover strength. These two adaptations are accomplished by performing two exercises in a superset sequence (or back-to-back without rest) with similar joint dynamics Table 1.1. The first exercise is a traditional strength exercise performed in a stable environment (such as a bench press), whereas the second exercise is a stabilisation exercise performed in a less stable (yet controllable) environment (such as a stability ball push-up). The principle behind this method is to work the prime movers predominantly in the first exercise to elicit prime mover strength. Then, immediately follow with an exercise that challenges the stabilisation muscles. This produces an increased ability to maintain postural stabilisation and dynamic joint stabilisation.

Phase 3: Hypertrophy Training is designed for individuals who have the goal of maximal muscle growth (such as bodybuilders). Phase 4: Maximal Strength Training works toward the goal of maximal prime mover strength by lifting heavy loads. These two phases of training can be used as special forms of training and as progressions within Strength Level Training.

Goals and Strategies of Strength Level Training

PHASE 2: STRENGTH ENDURANCE TRAINING

Goals

- Improve stabilisation endurance and increase prime mover strength
- Improve overall work capacity
- Enhance joint stabilisation
- Increase lean body mass

Training Strategies

- Moderate loads and repetitions (8–12)
- one traditional strength exercise and one stabilisation exercise per body part in the resistance training portion of the programme

Table 1.1 Phase 2 Example Supersets		
Body Part	Strength Exercise	Stabilisation Exercise
Chest	Barbell bench press	Stability ball push-up
Back	Seated cable row	Stability ball dumbbell row
Shoulders	Shoulder press machine	Single-leg dumbbell press
Legs	Leg press	Single-leg squat

PHASE 3: HYPERTROPHY TRAINING

(optional phase, depending on client's goals)

Goal

- Achieve optimal levels of muscular hypertrophy (increase muscle size)

Training strategies

- High volume, moderate to high loads, moderate or low repetitions (6–12)

PHASE 4: MAXIMUM STRENGTH TRAINING

(optional phase, depending on client's goals)

Goals

- Increase motor unit recruitment
- Increase frequency of motor unit recruitment
- Improve peak force

Training strategies

- High loads, low repetitions (1–5), longer rest periods

Power Level

The Power Level of training should only be entered after successful completion of the Stabi- lisation and Strength Levels. This level of training emphasises the development of speed and power.

This is achieved through one phase of training simply named Phase 5: Power Training.

The premise behind this phase of training is the execution of a traditional strength exercise (with a heavy load) superset with a power exercise (with a light load performed as fast as possible) of similar joint dynamics. This is to enhance prime mover strength while also improving the rate of force production Table 1.2.

Goals and Strategies of Power Level Training

PHASE 5: POWER TRAINING

Goals

- Enhance neuromuscular efficiency
- Enhance prime mover strength
- Increase rate of force production

Training Strategies

- Superset: one strength and one power exercise per body part in the resistance

Rate of force production Ability of muscles to exert maximum force output in minimum amount of time.

training portion of the programme

- Perform all power exercises as fast as can be controlled

Table 1.2 Phase 5 Example Supersets

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Body Part	Strength Exercise	Power Exercise
Chest	Incline dumbbell press	Medicine ball chest pass
Back	Lat pull-down machine	Soccer throw
Shoulders	Overhead dumbbell press	Front medicine ball oblique throw
Legs	Barbell squat	Squat jump