Chapter 14 – Integrated Program Design and the Optimum Performance Training™ (OPT™) Model

Overview

Program design is the purposeful creation of a system or plan to achieve a goal. Since each person will have unique goals and fitness needs, exercise programs must be individualized to each client. It all starts with the assessment process. Then, after objectively determining a client's fitness starting point, exercises and training systems can be identified that best help them achieve their goals. At a minimum, the assessment process should uncover which exercises are appropriate for a client and which ones are contraindicated, as well as the intensity level and total training volume for which the person is ready. With that information in-hand, the correct phase of OPT™ can be assigned to maximize goal attainment safely and efficiently.

Chapter Highlights

The Acute Variables of Training

The acute variables are the components that get manipulated and progressed with each workout. They include repetitions, sets, training intensity, repetition tempo, training volume, rest interval, training frequency, training duration, and exercise selection. Each phase of the OPT model uses a different combination of acute variables to produce the specificity required to target each phase's associated adaptation.

Fitness Training Periodization

Periodization is the breaking up of a fitness program in to smaller segments to produce optimal adaptations. It involves two primary objectives: dividing the program into distinct periods of training and training different adaptations in each period. This ensures that progression is maximized while avoiding the pitfalls of overtraining or plateaus. Within the OPT model, the phases of training represent this periodization. Ideally, individuals will spend around 4-6 weeks training in each relevant phase.

First, an annual plan (macrocycle) should be developed that takes into account long-term goals. It should include which phases will need to be worked through to eventually achieve long-term success. An annual plan allows clients to see a roadmap of how their workouts will progress over one year to best reach their goals.

Once the annual plan has been developed, the focus is brought down to the monthly (mesocycle) and weekly (microcycle) level. The monthly plan is like the annual plan but provides a more detailed snapshot of the next four weeks of training and when reassessments will occur. Then, the acute variables for individual exercises are specifically progressed on a weekly basis in service of larger monthly and annual goals.

Additionally, once a client is relatively experienced with exercising, each phase of OPT™ no longer needs dedicated 4-6-week cycles. Instead, weekly plans can be developed that change phases each day of the week. This is known as undulating periodization. For example, a bodybuilder could lift for hypertrophy on Monday and Friday, maximal strength on Wednesday, and then perform a stabilization workout on Saturday. This way, multiple adaptations can be addressed in a short timeframe while still allowing for optimal recovery.

Phases of the OPT™ Model

The OPT™ model was developed to take the guesswork out of program design. It involves three levels (stabilization, strength, and power) subdivided into five phases. The OPT model should be thought of as a staircase guiding clients through different levels of adaptation. The journey will involve going up and down the stairs, stopping at different steps, and moving to various heights.

It starts by training the body's foundational stability and postural alignment (Phase 1: Stabilization Endurance Training). Most clients will need to initially spend a full cycle in Phase 1 in order to first address movement compensations and postural distortion patterns. Stabilization training is also highly beneficial for even advanced athletes to circle back to after more intense periods of strength and power training. This can be done by using either a dedicated 4-6-week Phase 1 cycle, or by integrating Phase 1 workouts into a weekly training plan that uses multiple phases. Proprioceptively enriched environments, higher repetition ranges, and the application of slow (4/2/1) tempos are hallmarks of stabilization training.

Phase 1: Stabilization Endurance Training – Acute Variables								
	Reps	**Sets**	**Tempo**	**% Intensity**	**Rest Interval**	**Frequency**	**Duration**	**Exercise Selection**
Flexibility	1	1-3	30s hold	N/A	N/A	3-7 times/week	4-6 weeks	SMR and static stretching
Core	12-20	1-4	Slow 4/2/1	N/A	0-90s	2-4 times/week	4-6 weeks	1-4 core-stabilization
Balance	12-20 6-10 (SL)	1-3	Slow 4/2/1	N/A	0-90s	2-4 times/week	4-6 weeks	1-4 balance-stabilization
Plyometric	5-8	1-3	3-5s hold on landing	N/A	0-90s	2-4 times/week	4-6 weeks	0-2 plyometric-stabilization
SAQ	2-3	1-2	Moderate	N/A	0-90s	2-4 times/week	4-6 weeks	4-6 drills with limited horizontal inertia and unpredictability
Resistance	12-20	1-3	4/2/1	50-70%	0-90s	2-4 times/week	4-6 weeks	1-2 stabilization progression

Next is the Strength Level, which contains three unique phases of training. For all three phases, the flexibility, core, balance, plyometric, and SAQ components will follow the same acute variable scheme; however, the resistance training segment of the workout will be structured differently depending on which phase is being used. Phase 2: Strength Endurance Training is the next step after completing stabilization endurance training. It uses supersets of more-stable strength exercises paired with biomechanically similar stabilization exercises. This way muscular

endurance is improved while maintaining the stability adaptations achieved during Phase 1. Once a client has adequate stabilization and strength endurance, they are then ready for Phases 3 and 4.

Phase 2: Strength Endurance Training – Acute Variables								
	Reps	**Sets**	**Tempo**	**% Intensity**	**Rest Interval**	**Frequency**	**Duration**	**Exercise Selection**
Flexibility	5-10	1-2	1-2s hold	N/A	N/A	3-7 times/week	4 weeks	SMR and active-isolated stretching
Core	8-12	2-3	Medium	N/A	0-60s	2-4 times/week	4 weeks	1-3 core-strength
Balance	8-12	2-3	Medium	N/A	0-60s	2-4 times/week	4 weeks	1-3 balance-strength
Plyometric	8-10	2-3	Repeating	N/A	0-60s	2-4 times/week	4 weeks	1-3 plyometric-strength
SAQ	3-5	3-4	Fast	N/A	0-60s	2-4 times/week	4 weeks	6-8 drills allowing greater horizontal inertia but limited unpredictability
Resistance	8-12	2-4	2/0/2 (Str) 4/2/1 (Stab)	70-80%	0-60s	2-4 times/week	4 weeks	1 strength superset with 1 stabilization

Phase 3: Hypertrophy Training is considered optional because not all clients will want to increase muscle size. Most functional fitness goals can be achieved with a combination of working between Phases 1 and 2. However, for clients who are looking to increase lean muscle mass, hypertrophy training should be used. It focuses on high levels of volume with minimal rest periods to force cellular changes that result in the formation of new muscle fibers.

Phase 3: Hypertrophy Training – Acute Variables								
	Reps	**Sets**	**Tempo**	**% Intensity**	**Rest Interval**	**Frequency**	**Duration**	**Exercise Selection**
Flexibility	5-10	1-2	1-2s hold	N/A	N/A	3-7 times/week	4 weeks	SMR and active-isolated stretching
Core	8-12	2-3	Medium	N/A	0-60s	3-6 times/week	4 weeks	0-4 core-strength
Balance	8-12	2-3	Medium	N/A	0-60s	3-6 times/week	4 weeks	0-4 balance-strength
Plyometric	8-10	2-3	Repeating	N/A	0-60s	3-6 times/week	4 weeks	0-4 plyometric-strength
SAQ	3-5	3-4	Fast	N/A	0-60s	2-4 times/week	4 weeks	6-8 drills allowing greater horizontal inertia but limited unpredictability
Resistance	6-12	3-5	2/0/2	75-85%	0-60s	3-6 times/week	4 weeks	2-4 strength / body part

Phase 4: Maximal Strength Training then works to optimize motor unit recruitment and synchronization. It is also an optional phase of training. Simply put, while hypertrophy lifting causes muscles to grow, maximal strength lifting is all about training the existing muscle mass to work more efficiently with the nervous system to be able to handle increasingly heavier loads. To do so, Phase 4 uses near-maximal intensities with low repetition ranges and long rest periods.

Phase 4: Maximal Strength Training – Acute Variables								
	Reps	**Sets**	**Tempo**	**% Intensity**	**Rest Interval**	**Frequency**	**Duration**	**Exercise Selection**
Flexibility	5-10	1-2	1-2s hold	N/A	N/A	3-7 times/week	4 weeks	SMR and active-isolated stretching
Core	8-12	2-3	Medium	N/A	0-60s	2-4 times/week	4 weeks	0-4 core-strength
Balance	8-12	2-3	Medium	N/A	0-60s	2-4 times/week	4 weeks	0-4 balance-strength
Plyometric	8-10	2-3	Repeating	N/A	0-60s	2-4 times/week	4 weeks	0-4 plyometric-strength
SAQ	3-5	3-4	Fast	N/A	0-60s	2-4 times/week	4 weeks	6-8 drills allowing greater horizontal inertia but limited unpredictability
Resistance	1-5	4-6	X/X/X	85-100%	3-5 min	2-4 times/week	4 weeks	1-3 strength / body part

Once a client has adequate stabilization and endurance and possesses a level of strength and muscle mass with which they are comfortable, they can move to Phase 5: Power Training. Power training is the culmination of the OPT™ model and focuses on developing both high force and velocity. It is beneficial to all types of clients—not just athletes—because improving overall power translates to performing functional every-day tasks more safely and efficiently. To increase power capabilities, both force and velocity generation are trained at the same time by using supersets of a heavy maximal strength exercise with a biomechanically similar power exercise, such as barbell squats superset with box jumps.

Phase 5: Power Training – Acute Variables								
	Reps	**Sets**	**Tempo**	**% Intensity**	**Rest Interval**	**Frequency**	**Duration**	**Exercise Selection**
Flexibility	10-15	1-2	Controlled	N/A	N/A	3-7 times/week	4 weeks	SMR and dynamic stretching
Core	8-12	2-3	X/X/X	N/A	0-60s	2-4 times/week	4 weeks	0-2 core-power
Balance	8-12	2-3	Controlled	N/A	0-60s	2-4 times/week	4 weeks	0-2 balance-power
Plyometric	8-12	2-3	X/X/X	N/A	0-60s	2-4 times/week	4 weeks	0-2 plyometric-power

Phase 5: Power Training – Acute Variables (continued)								
	Reps	**Sets**	**Tempo**	**% Intensity**	**Rest Interval**	**Frequency**	**Duration**	**Exercise Selection**
SAQ	3-5	3-5	X/X/X	N/A	0-90s	2-4 times/week	4 weeks	6-10 drills allowing maximal horizontal inertia and unpredictability
Resistance	1-5 (S) 8-10 (P)	3-5	X/X/X (S) X/X/X (P)	85-100% (Strength) up to 10% BW or 30-45% 1RM (Power)	1-2 min between pairs 3-5 min between circuits	2-4 times/week	4 weeks	1 strength superset with 1 power

Key Terms

Program design—A purposeful system or plan put together to help an individual achieve a specific goal.
Acute variables—Important components that specify how each exercise is to be performed.
Repetition—One complete movement of a single exercise.
Set—A group of consecutive repetitions.
Training intensity—An individual's levels of effort compared with their maximal effort, which is usually expressed as a percentage.
Repetition tempo—The speed at which each repetition is performed.
Rest interval—The time taken to recuperate between sets.
Training volume—Amount of physical training performed within a specified period.
Training frequency—The number of training sessions performed during a specified period (usually one week).
Training duration—The timeframe of a workout or the length of time spent in one phase of training.
Exercise selection—The process of choosing appropriate exercises for a client's program.
Training plan—The specific outline, created by a fitness professional to meet a client's goals, that details the form of training, length of time, future changes, and specific exercises to be performed.
Annual plan—Generalized training plan that spans one year to show when the client will progress between phases; a.k.a. macrocycle.
Monthly plan—Generalized training plan that spans one month and shows which phases will be required each day of each week; a.k.a. mesocycle.
Weekly plan—Training plan of specific workouts that spans 1 week and shows which exercises are required each day of the week; a.k.a. microcycle.