[IMAGE]

Approach Resistance Training With Continual Change in Mind

By Corey Mote, BS, DC

Proper weight training is an important aspect of an overall comprehensive wellness strategy, but the wrong information can lead to poor results, burnout and ultimately, failure to adhere to this important aspect of an overall wellness regimen. The concept of *periodization* can help avoid these potential problems.

There are as many philosophies for varying your fitness routine with the intent of attaining overall optimal fitness as there are fitness trainers. Most trainers typically agree that sets should range anywhere from six to 15 repetitions per set, performing three to six sets per session. Some believe one must train with heavier weights, doing six to eight repetitions per set, in order to maximize strength for a given sport-specific action or movement; while others will shoot for 12-15 repetitions per set with lighter weight for strength endurance. For those looking to develop musculature while simultaneously shooting for optimal definition (as in physique sculpting), the majority probably agree that the midrange of eight to 12 repetitions is best.

So, which range of repetitions should you perform in order to optimize your performance in a given sport? Well, all three – regardless of the sport. If you train using the same method throughout the year, you are asking for musculoskeletal injuries, as well as psychological burnout. A plateau is quickly reached and may not be broken without some sort of modification in the regimen. You will not see improvement without periodic alteration in the way in which the musculature is trained.

Periodization Training

Interval Training - Copyright â Stock Photo / Register Mark An athlete’s workout regimen is typically multifaceted, but should most notably be differentiated via the incorporation of periodization – a method of alternating training loads to produce peak performance for a specific competitive event. Periodization is a well-established scheme adopted from Russia, as it was one of the "secrets" that helped Russian athletes dominate Olympic sports for so long. But it’s not just for Olympians; periodization can be incorporated into the training program of an athlete, amateur or professional, for virtually any sport.

Specifically, resistance-training periodization is a technique of varying the intensity level and volume of a weight-training program on a regular basis to not only increase the benefits gained, but also to reduce the

risk of injury. Instead of maximizing the amount of weight you lift every time, you lift heavy weights with low repetitions for a period of time, then follow this with a period of using lighter weights and a higher number of repetitions.

Periodization programs are comprised of three distinct cycles. These cycles are known as macrocycles, mesocycles and microcycles. Think of a macrocycle as the entire program itself, which may envelop several months to a year of training (depending on one's goals and how the program is designed). One macrocycle consists of multiple mesocycles, which may range from several weeks to a few months each. Each mesocycle is divided into microcycles that generally range from one to four weeks. Microcycles include daily and weekly training variations.

Taking Advantage of Muscle Confusion

The idea of periodization training is to regularly change up your routine so your muscles are continually "confused." The result: the muscles will respond more to training, growing stronger and bigger rather than getting used to the "same old" workout routine.

So many people who hit the gym seeking to better their performance in their sport, or to just improve their physiques, make the mistake of working out exactly the same way week after week. They soon end up hitting a plateau after a few months and frustration sets in. The reason this happens is because the muscles are getting the same stimulus every week (same exercises, same number of reps, same number of sets, etc.). When you change up the elements in your routine, you keep your muscles guessing, and guessing usually means growth, strength improvement, and ultimately better performance.

Training Using Periodization Principles

Periodization may be implemented into many aspects of an athlete's program; however, in this article, let's focus specifically on the utilization of periodization in resistance training. First of all, with every set, one should train to failure (to the point that another repetition is not possible). The weight should be adjusted accordingly so the reps will fall into the desired range of repetitions for each set.

If you need to peak during a certain season or time of the year for a given sport, then one macrocycle should constitute an entire year for your training purposes. The mesoscycles for the regimen would typically fall into three categories: strength, hypertrophy and muscular endurance. Here's a sample workout for each category / mesocycle:

Strength Training

For six to eight weeks, train in the lower repetition range of six to eight repetitions per set, six sets per exercise. With lower reps and increased intensity, you are training with a focus on strength. The rest time between sets when training at these lower repetitions is between 90 and 120 seconds. A typical workout regimen for strength training is as follows, resting for 90-120 seconds in between sets:

Day 1: chest, triceps, delts

- Incline bench press: six sets, 6-8 repetitions per set
- Cable crossover: six sets, eight repetitions per set
- Triceps pushdowns : six sets, eight repetitions per set
- Lateral delt raises: four sets, eight repetitions per set

Day 2: quads, glutes, hamstrings, calves

- Barbell squats: eight sets, 6-10 repetitions per set
- Single-leg hamstring curls: six sets, eight repetitions per set
- Calf raises: eight sets, 8-10 repetitions per set

Day 3: lats, biceps

- Bent-over barbell rows (supinated grip): six sets, eight repetitions per set
- Lat pulldowns (wide pronated grip): four sets, eight repetitions per set
- EZ-bar biceps curls: six sets, eight repetitions per set

Muscle Size Training

The next two months are geared toward 8-12 repetitions at five sets per exercise, taking rest intervals between sets of no more than 60 seconds. At this phase, you are training mainly for hypertrophy (increased size) of the musculature. You are essentially training with a balance between intensity and volume. A typical workout regimen for hypertrophy training is as follows:

Day 1: chest, triceps

- Incline bench press: five sets, 10-12 repetitions per set
- Cable crossovers: five sets, 8-12 repetitions per set
- Triceps pushdowns: six sets, 10-12 repetitions per set
- Close-grip barbell bench press: four sets, 10-12 repetitions per set

Day 2: delts, lats

- Single-arm dumbbell bent-over rows: five sets, 10-12 repetitions per set
- Lat pulldowns (wide pronated grip): three sets, 10 repetitions per set
- Lat pulldowns (shoulder-width supinated grip): three sets, 10 repetitions per set
- Lateral delt raises: five sets, 12 repetitions per set
- Front delt raises: five sets, 12 repetitions per set

Day 3: quads, glutes, hamstrings, calves

- Barbell squats: five sets, 8-12 repetitions per set
- Dumbbell split-legged squats: five sets, 10-12 repetitions per set
- Single-leg hamstring curls: five sets, 10 repetitions per set
- Calf raises: six sets, 12 repetitions per set

Day 4: traps, biceps

- Close-grip upright rows (supinated grip): five sets, 12 repetitions per set
- Dumbbell shoulder shrugs: four sets, 10 repetitions per set
- EZ-bar biceps curls: five sets, 12 repetitions per set
- Dumbbell curls: five sets, 10-12 repetitions per set

Muscle Endurance Training

For the four to six weeks following hypertrophy training (this time period may be doubled for high-endurance athletes), train for muscular endurance with 12-15 repetitions per set. Sets are decreased to three per exercise, but the rest time between sets goes to 30-45 seconds. This type of training is the most similar phase of the three to doing cardio.

With this phase, it would be a good idea to incorporate supersets in the routine, further increasing the endurance component. However, make sure to keep intensity in the mix, as going to failure with each set remains an important factor.

A typical workout regimen for strength training is as follows, setting your rest periods between sets to no more than 45 seconds:

Day 1: chest, delts

- Dumbbell bench press: three sets, 15 repetitions per set
- Incline dumbbell bench press: three sets, 12-15 repetitions per set
- Cable crossover: three sets, 12-15 repetitions per set
- Pec deck: three sets, 12-15 repetitions per set
- Lateral delt raises: three sets, 15 repetitions per set
- Front delt raises: three sets, 15 repetitions per set
- Rear delt raises: three sets, 15 repetitions per set

Day 2: glutes, quads, calves

- Walking dumbbell lunges: three sets, 15 repetitions per set
- Split-legged squat: three sets, 15 repetitions per set
- Barbell squat: three sets, 15 repetitions per set
- Donkey calf raises: four sets, 15-20 repetitions per set

Day 3: hamstrings, triceps

- Single-leg hamstring curls: four sets, 15 repetitions per set
- Stiff-legged deadlifts: four sets, 15 repetitions per set
- Triceps pushdowns (close grip): three sets, 15 repetitions per set
- Triceps pushdowns (reverse grip): three sets, 15 repetitions per set
- Close-grip bench press: three sets, 12-15 repetitions per set

Day 4: lats, biceps

- Dumbbell bent-over rows: three sets, 15 repetitions per set
- Lat pulldowns (wide pronated grip): three sets, 15 repetitions per set
- Barbell bent-over rows (pronated grip): three sets, 15 repetitions per set
- EZ-bar biceps curls: three sets, 15 repetitions per set
- Hammer curls: three sets, 15 repetitions per set
- Preacher curls: three sets, 12-15 repetitions per set

As far as each week during a given mesocycle goes, further change-up in the routine is undertaken by adding in variation to the types of exercises for a given muscle group form week to week. No single workout for a given body part is the same as the one before.

For instance, for one week, perform barbell squats when working the quads; the next week, perform walking lunges. In other words, each week within a mesocycle is a microcycle, further varying the stimulus.

The key of resistance training periodization is to vary the volume and intensity of your workouts. Use heavy weights and low reps for several sessions, and then change your routine up by using lighter weights and high repetitions. Some people periodize by doing three sessions of high-intensity training, followed by a session of lighter weights. This also works, since it keeps the muscles guessing.

Periodization has been used for years for training athletes of all sports, and it works as well with resistance training as it does for any other parameter involved in an athlete's overall training program. If you feel you have hit a sticking point in your gains, perhaps your body is craving a change.

So, what's the bottom line here? Resistance training periodization will help you make gains and avoid hitting exercise plateaus. It also reduces boredom. Implement periodization into your weight-training routine, and you will be impressed with the improvements in your strength, as well as your overall performance in the sport you are training for. Talk to your doctor of chiropractic to learn more about how to perform these exercises and to help develop the best exercise program to maximize your health and wellness.

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