Exercise Prescription: Chronic Program Variables (Periodization of Training)

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A resistance training program is first developed by making decisions about acute program variables. Thus, a workout is created by deciding the: 1) Choice of exercises; 2) Order of exercises; 3) RM load; 4) Number of sets; 5) Rest periods. It is important that the strength and conditioning specialist be aware of program manipulations which will change the workouts over time. A workout is changed by manipulating the acute program variables to address the chronic considerations. After a certain amount of time, changing the acute workout is important in order to reduce boredom, injury, and overtraining.

The concept of “periodization” has been proposed to give a theoretical basis for changing workouts (manipulating acute program variables over time). It has been especially successful for enhancement of strength and power performances. In the theoretical model described by Stone et al., four basic phases are involved. They include hypertrophy (high volume low intensity), basic strength (moderate volume, high intensity), strength-power (low volume, very high intensity), and active rest (low volume, very low intensity). The keys are to change intensity (load) and volume (total work or reps x sets) in a systematic manner to stimulate both neural and tissue factors involved with the development of muscular strength and power.

- **Hypertrophy Phase**: 10 repetitions, 3 to 5 sets, 3 to 4 times per week.
- **Basic Strength**: 5 repetitions, 3 to 5 sets, 3 to 5 times per week.
- **Strength-Power**: 2 to 3 repetitions, 3 to 5 sets, 4 to 6 times per week.
- **Peaking or Maintenance**: 2 to 3 repetitions, 1 to 3 sets, 1 to 5 times per week.
- **Active Rest**: take 2 to 4 days off, 2 to 3 weeks other activities or very light technique work.

Variation of stimulus seems to be the key in effecting change in the muscle tissue and neural factors. Proper use of cycling concepts will allow better development of strength and power.