The Soviet Sports Training System—

The Yearly Cycle

By

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For many years people have been asking, "Why are the Soviets so successful in sports? Are they using illegal means to develop international class athletes?" These and many other questions are being asked in an attempt to explain the success of Soviet athletes. The answers popularized by the media claim professionalism, illegal drugs, operations to change muscle fibers and tendon attachment sites, and blood doping.

No one, however, asks, "How do they train? Are they doing anything new or different that could be of value to coaches and athletes of the free world?" From my experiences with Soviet teams and coaches, I believe this is where we should be looking for the answers. The key to the Soviet's success in sports lies in their comprehensive training system.

Training athletes under the Soviet system is a multi-year program broken down into yearly, monthly and even weekly cycles. Their system is based on strong scientific data derived from their extensive applied research programs. According to Ozolin (4) "The Soviet System of sports training is the most progressive; it is a very effective and constantly developing system with a high level scientific methodological base." The research encompasses many areas critical to world class performances: technique analysis, game or race analysis, physiologically based conditioning programs, tactical training, psychological training, medical control, injury prevention and rehabilitation, ergogenic aids and means of recuperation (restoration). Each of these factors is very important and plays a major role in training the athlete. However, they will not be discussed in this article because of space limitations but will be covered in future columns. This article will deal mainly with the multiyear and yearly training program—a program which can be used with all sports by making adjustments for the number of competitive seasons or distribution of major meets.

In a multiyear program, goals are established for the gradual development of the athlete from the time he enters the children's sports schools to the time he becomes national or Olympic champion. These are the prime objectives of the Soviet system of training: 1) to develop high level athletes to play in the top leagues and 2) to develop Olympic champions. There are separate routes for the development of these objectives but the paths usually become intertwined.

The multiyear program is based on the data of high level athletes and teams to determine what is necessary to produce a high level athlete. For example, according to Zheleznjak (6) in volleyball it takes between 9-12 years to develop the top players, peaking at 23-25 for women and 25-27 years of age for men. Thus, the necessary skills, tactics and physical qualities for playing volleyball are programmed over each year of development, systematically and progressively.

The yearly program (which means that the athlete is in training year-round!) is broken down in 3 or 4 periods as follows: 1) the preparatory period (sometimes split into the general preparatory period and specialized preparatory period); 2) competitive period and 3) transitional or post-competitive period. The length of each period is determined by the number of competitive periods or the duration of the competitive period. Note how this differs from what we usually use to denote training periods in the U.S.: in-season (when the matches are held) and off-season (when the matches end). We sometimes hear of a pre-season when the team "gets in shape" which usually lasts from 2-6 weeks and is many time dictated by league or conference rules. In many cases the pre-season work is devoted to strategy and only a small portion to conditioning.

In the Soviet training system the general preparatory and specialized preparatory periods usually last from at least 2 months to 6 months. Is it any wonder that their teams are in such great physical condition? According to Ozolin (3), "The greatest role in these stages is played by physical preparation (development of strength, speed, endurance, flexibility and agility)." In other words the preparatory period is devoted mainly to all-round physical conditioning.

In specialized physical training the exercises become more specific to the sport. Elements of the sport are brought in and there is low level competition. There is a gradual transition from general to specialized training. The volume of exercises decreases but the intensity of exercise execution increases
along with the specificity of training. The object here is to gradually prepare the athlete for the main phase—competition. This is done by putting together "all that has been attained in technique, tactics, physical and mental-volitional qualities during the preparatory period with the selected sport in competitive conditions" (3).

As the end of the specialized preparatory (pre-competitive) period approaches, the athlete should be ready for competition, the main goal of which is high athletic achievements. Training in this stage is very specific and is combined with small scale meets and major (more demanding) meets. In general, the schedule is developed so that there is a gradual increase in the "importance" of the competition. However, between major competitions the "athletes take part in less significant ones thus acquiring experience and improving their preparation, at the same time preserving nerve-psychological strength." (3) If this were presented on a graph it would be wavelike, with the waves becoming higher throughout the competitive season.

The competitions and the training during this period should be such that they will maintain the achieved levels of physical and technical preparation. However, if the sport calls for additional development of qualities such as strength in weightlifting or speed in sprinting, then specialized exercises for this purpose continue. In most team sports, however, this should not be necessary. The major purpose of team and dual sports training is to develop additional strategy (tactics) and psychological preparation with the previously developed levels of fitness maintained.

The transitional or post-competitive period of training is used for active rest for those athletes who have had considerable training and who have frequently participated in competition. According to Ozolin (3) the athletes "...need to give muscles work, but nerves rest" and those athletes who did not work out hard and rarely participated in competition must not rest. In other words, the athletes with the greatest physical and mental stress need a break from their sport. But, they must remain active. It is here that other sports become important.

The athlete remains...}

Figure 1. The Soviet Sports Training System
Note: This is an example of the training system used in track and field. However, by substituting other sports in place of track and field, the system remains basically the same.
Trends in Soviet Strength and Conditioning

(From page 21)

the preparation continues and specialization sets in. A preparatory cycle begins. Ratio is 70-30 respectively. In the yearly cycle, 36 weeks are preparatory and 12 are competitive. 3) Senior youth group (3 years) which is considered a transitional period. The ratio of general, specialized and technical: 25:25% respectively. The preparatory weeks are 36 weeks (17-18 years) where the main task is organization of their training, adoption of a new life style after finishing school and taking on new responsibilities. There are now 2 cycles in the year. Autumn-winter—23 weeks, spring-summer—29 weeks. 5) Sub-adult group (19-20 years) in which the major changes are in the areas of increased volume and especially intensity of training. In the preparatory periods, exercises for improvement of technique, specialized physical preparation, rhythm and means of restoration become more important. Tapering-off sessions are included which have at least 50 swimming and gymnastics sessions. The athletes take at least 40 steam baths and from 80-100 general and therapeutic massages.

Other examples of multi-year and yearly training programs are interspersed throughout the issues of the Soviet Sports Review. In them it is possible to see how the same basic system is followed in each sport. However, variations in the sports training system become somewhat distinct when the monthly and weekly training programs and cycles are compared. Because of this, they will be discussed in conjunction with development of specific physical qualities in future articles.

Examination of multi-year and yearly programs may help to show how this sports training system plan is put into practice. In the long range and yearly program to develop a sprinter the following divisions have been established by Bukharina (2). 1) Sub-teen group (12-13 years) where the major objective is all-round (general) physical preparation. In the yearly cycle at least 36 weeks are preparatory and 12 are competitive. 2) Junior youth group (14-15 years) in which all-round physical con-