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 Zheleznyak [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 [5], "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
The athlete remains sports different from his specialty. It should be brought here that other sports also play a very important role in the general preparatory period. They are used to help develop various physical qualities. Because of this, most Soviet athletes are very proficient in other sports which they mastered in the early years of all-round preparation.

Athletes who did not compete much or who are in their first years of serious training for a sport must continue work on a year-round basis. They need additional work on the physical qualities, especially strength, and technique (skill) elements. Because the physical and mental stress of the competitive season was not great for these athletes, they can handle the additional loads with no danger of over-training. This extra month (which is the typical duration of the post-competitive period) of training allows the athlete to "catch-up" to his teammates.

This same yearly plan is followed from year to year: the athlete goes through all-round preparation gradually moving into specialized preparation getting ready for the competitive season. After the competitive season he takes a break from his sport and begins the same cycle the following year. However, it is important to realize that the athlete begins each year on a higher level. The gains he achieves in

(Continued, page 22)
Trends in Soviet Strength and Conditioning

(From page 21)

the preparation for competitive period. In the yearly cycle, 36 weeks are preparatory and 12 are competitive. 3) Senior youth group (3 years) which is considered a formative period. The ratio of athletic, specialized and technical: 25:25% respectively. The preparation of preparatory weeks is 36 weeks and competitive weeks are 12. 4) Sub-adult group (19-20 years) in which major changes are in the areas of volume and specifically intensity of training. In the preparatory periods, exercises for improvement of technique, specialized physical preparation, rhythm and science of training 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.

Results of the Soviet system of training are obvious as evidenced by their outstanding athletes. Even in defeat it is clear that conditioning and preparation of these athletes is superb. To better prepare our athletes we could apply many of these training practices with relative ease. The Soviet training principles and practices have been well tested and proven over the last 20-30 years. Putting some of them into practice in our country could immediately raise the levels of performance and allow us to come much closer to our objective of maximum development of the athlete's potential.

In some sports, however, on both the high school and collegiate levels, league rules would have to be changed to allow the athlete to train year-round under the guidance of his coach. In addition, we would need more qualified sports coaches and strength and conditioning coaches. Certification based on high level competency in the scientific aspects of sports training and conditioning may become a must. There may be opposition to this, but consider the level of player ability, the health, the physical ability and the realization of potential if this could be done!

References


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